MATE

Thermal Imaging Attachment

THERMFOX

User Manual

MAH50R

V1.0

IMPORTANT SAFETY INSTRUCTIONS

Environmental influences

ATTENTION! Never point the instrument lens directly at intense heat

sources such as the sun or laser equipment. The lens and eyepiece can

act as a light amplifier and damage the internal components of the

instrument.

Risk of ingestion

Warning: do not place this device in the hands of small

children.Improper handling may cause small parts to come loose and be

swallowed.

Safety instructions for use

– Handle the device with care: rough handling can damage the

  internal battery.

– Do not expose the device to fire or high temperatures.

– Do not disassemble the device to get to the battery.The battery is

  not intended to be replaced by the user.

– The battery capacity decreases when operated at low ambient

temperature. This is not a fault and is due to technical reasons.

– The recommended temperature for use of this product is -20° to +50°.

– Otherwise, it will affect the life of the product.

– Do not store the device for long periods of time at temperatures

  below -20 °C or above 50 °C, otherwise the battery capacity will

  be permanently reduced.

– Always store the appliance in a dry, well-ventilated area.

– If the device is damaged or the battery is faulty, please send the

  device to our after-sales service for repair.

– Before using this product in a water environment, make sure the

  Type C cover is tightly covered.

Safety instructions for the power supply unit

– Before use, check that the power supply unit, cable and

  adapter are not visibly damaged.

– Do not use any defective parts.Defective parts must be replaced.

– Do not use the power supply unit in wet or humid environments.

– Only charge the device at temperatures between 0 °C and 50 °C.

– Do not make any technical adjustments.

For further information and safety instructions, please refer to the enclosed instruction manual. It is also available on our website in the download section: www.infirayoutdoor.com.

Disposal of batteries

Directive 2006/66/EC (Battery Directive): this product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. Please refer to the documentation for the specific product for details on the battery. The battery is marked with this symbol, which may contain Cd (indicating cadmium), Pb (indicating lead) or Hg (indicating mercury).

For proper recycling, take the battery to your supplier or send it to a designated collection point. For more information, please visit www.recyclethis.info.

Information for users on the disposal of electrical and electronic equipment (households)

2012/19/EU (WEEE Directive): products bearing this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, take this product to your local supplier when purchasing a new equivalent product or take it to a designated collection point. For more information, please visit www.recyclethis.info.

For legal entities and companies:

Contact your dealer or supplier for disposal of electrical and electronic equipment. They will provide you with further information.

Information on disposal in other countries outside the European Union

This symbol is valid only in the European Union. If you wish to dispose of this product, please contact your local authority or dealer and ask for

the possibility of disposal.

Intended use

The device is designed for heat signatures, hunting and for civilian use to

protect dwellings.This device is not a toy for children. Use the device only

as described in this manual. Neither the manufacturer nor the seller will be

liable for any damages resulting from inadvertent or improper use.

Functionality test

– Before use, make sure that the device is not visibly damaged.

– Make sure the device displays a clear and unobstructed picture.

– Check that the thermal imaging settings are correct.See notes in

the Operation section.

Installing/removing the battery

The MATE series thermal imaging forehead camera is equipped with a battery. It cannot be removed.

1 Specifications

Specifications	MAH50R
Detector specifications	
Resolution, pixels	640 × 512
Pixel size, um	12
NETD, mk	≤ 18
Refresh rate, Hz	50
Optics specifications	
Lens lens, mm	50
Field of view (H x D), degrees	8.8 × 7.0
Field of view (H x V), m @ 100 m	15.4 × 12.3
Magnification，X	Front: ×1
	Monocular mode: ×1/×2/×4
Detection distance, m (target size: 1.7m×0.5m, P(n)=99%)	2600
Display Specifications	
Type	AMOLED
Resolution,	pixels1024 × 768
Power supply	
	Built-in battery + IBP-6 Infiray battery x 2
Max. usage time at (22°C), h External power supply	4 + 2.5*2
Physical specifications	5V (Type-C)
Wi-Fi/Applications Photo and video capture	Supported (InfiRay outdoor)
Microphone	Supported Supported
Built-in storage capacity, GB	32
IP Rating	IP67
Operating temperature, ℃	-20~+50
Weight, g	560
Dimensions, mm	146 × 75 × 73
Connectivity and compatibility	
Maximum recoil in Joules	6000
Recommended magnification of day scope, x	G1/G2: 1X- 5X
	G3/G4: 6X - 10X
Click value@100m, cm	1.6

Adapter ring	M52 adapter
Functions	
Laser rangefinder	Supported, 1200m
Calculation of ballistic values	Supported by

★ Actual operating time depends on the intensity of use of Wi-Fi, VCR and laser rangefinder.

- The design and software of this product may be updated to improve its useful functions. The technical specifications of the device may be updated without prior notice to the customer.

2 Contents of the package

- MATE Series Thermal Imaging Forehead
- Universal adapter with clamp*
- IBP-6 Infiray battery * 2
- Power adapter
- Type-C cable
- Picatinny rail
- Cover
- Remote control packaging
- Target to shoot (x10)
- Cleaning cloth for lens lens
- Brief instructions for use

3 Description

The MATE series is a completely new generation of front sight, designed as a thermal imaging device mounted on a rifle scope. Unlike night vision based image enhancement, the MATE does not need any illumination and is not affected by strong light.It can be used at night or in poor weather conditions such as fog, rain, smog, and can detect objects through obstacles such as branches, tall grass, thick bushes, etc. MATE has a wide range of applications including night hunting, observation and orientation in the field, search and rescue operations. The use of the MATE series front sight has advantages over night hunting with traditional day optics, or even

several advantages with night vision devices. Attaching a front sight to a

traditional rifle scope brings the same convenience of shooting with a day

scope that you are used to, including the existing crosshairs. The MATE

series front sight even allows you to continue to use the variable

magnification of your rifle scope

4 Functions

- Built-in LRF, 1200m

- Calculation of ballistic values

- conversion to "monocular" mode

- Quick assembly and disassembly of the front panel

- 12μm thermal imaging detector

- High-resolution 1024×768 pixel AMOLED display

- No re-shooting required

  - Magnesium contained in the cover

  - Accuracy

- Taking videos and photos

- Support for connecting the device to the phone using the app

- Remote control

- Four display modes - White Hot, Black Hot, Red Hot, Colour

- Three environmental modes - forest, plain - field/arc, city

- Digital zoom for "monocular" mode: ×1, ×2, ×4

- Degree of protection IP67

Components and controls

1. Eyepiece

2. Eyepiece bayonet ring

3. "Down" button

4. Menu button "M"

5. Camera button

6. "Up" button
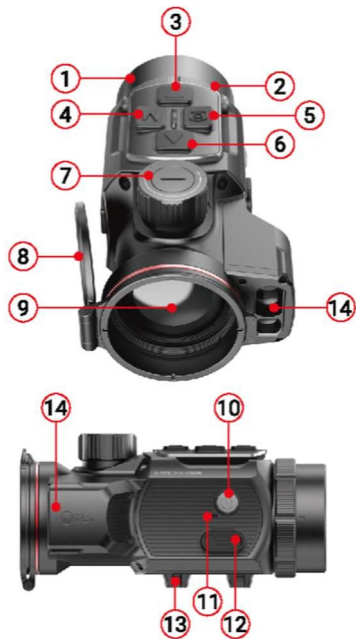
7. The central image

8. Kn weaving lenses

9. lens lens

10. Power button

11. Microphone

12. Type-C input

13. Picatinny rail

14. Laser rangefinder

5 Instructions for operation

The MATE range has been designed for long-term use. Follow these

guidelines to ensure continued performance:

- Before use, make sure that you have installed and set up the

  instrument exactly as instructed in the "Operation" section.

- Store with the lens hood on and in a carrying case.

- Switch off the device after use.

- **Attempts to disassemble or repair the device will void the warranty!**

- The device is designed for use at different operating temperatures.

  However, if the equipment has been brought from low temperatures

indoors, do not turn on

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- 10 -

it for 2 to 3 hours. This will prevent moisture condensation on the outer

optical surfaces.

- To ensure reliable performance, it is recommended to carry out

regular technical inspections.

6 Description of controls

Button	Current status	Short squeeze	Long hold
Power button ⏻	Switched off device	---	Switching on the device
	Home screen	Put the device to sleep.	Shutting down the device
	Sleep mode	Wake up the device.	
	Menu interface	Saving and returning to the interface	
Up button ▲	Homepage	Uniform range	Smooth range
	Menu interface	Moving up	---
	Interface for pixel defect correction	Move up one pixel at a time	Scroll up 10 pixels at a time
Down button ▼	Home screen	Correction	Background correction
	Menu interface	Scroll down	---
	Interface for pixel defect correction	Scroll down one pixel at a time	Scroll down 10 pixels at a time
	Interface for range notification	Switching game type	Background correction

Camera button	Homepage	Take a photo	Take a video
📷	Interface for pixel defect correction	Move one pixel to the left each time.	Shift 10 pixels to the left each time
Menu button	Homepage	To open the shortcut menu	Enter the shortcut menu
M	Menu interface	Parameter settings	Save and return to the home screen
	Interface for pixel defect correction	Shift one pixel to the right each time	Shift 10 pixels to the right each time
Up and down buttons at the same time	Interface for firing the device	--	Save and set the zeroing coordinate positions as (0,0).
▲ + ▼	Interface for pixel defect correction	--	Add/remove defective pixels
Camera and menu buttons at the same time 📷 + M	Interface for pixel defect correction	--	Save and return to the home page
Down and menu buttons at the same time ▼ + M	Home screen	--	Mode change - preset / monocular

Installation

The MATE series can be used as a monocular or as a front for daytime Riflescope. The original design allows quick conversion of the monocular to a front sight and vice versa. By long pressing the Down (3) + Menu (4) buttons for 3 seconds, you can quickly switch between monocular mode and

forearms.

Front page

The MATE as a front sight is designed for day and night use in adverse

weather conditions (fog, smog, rain, etc.). When using the MATE as a front

sight, make sure the MATE is in the front sight mode, which displays

G1/G2/G3/G4 on the status bar at the top of the screen.

W 🌲 G1 20:35 🔋

To mount it on a day scope, follow these instructions:

- Before installation, make sure the day device is primed.

- Measure the outer diameter of the lens of your rifle scope.

- Select the appropriate adapter (purchased separately) with M52*0.75

  female thread according to the outer diameter of the objective lens of

  your rifle scope.

- Screw the selected adapter onto the MATE eyepiece.

- Firmly fit the adapter with the MATE together on the lens of your rifle
  scope.

  - You can then use MATE as a front end.

Monocular

- When used as a monocular, you must switch to monocular mode, in

  which the status bar at the top of the screen displays x1/ x2/ x4.

W 🌲 1× 20:35 🔋

- For a better observing experience it is recommended to use the InfiRay
  monocular

  (15) (purchased separately on the InfiRay website).

- Screw the InfiRay monocular attachment (15) onto the MATE
  eyepiece.

- In monocular mode, the MATE supports up to 4x digital zoom and

  with the InfiRay 4x24 (15) monocular you get up to 16x zoom.

7 Operation

- Open the lens cap **(8)**.

- Press and hold the Power button (10) for 3 seconds to turn on the device. Wait for 5 s until an image appears on the display.

- Lens focus adjustment: rotate the lens focus ring (7) to focus on the subject.

- **Calibration:**

  – Shutter correction：calibrate the image by briefly pressing the down button (3) for shutter correction

  – Background correction: Long press the Down button (3)，the display will prompt "Cover the lens during calibration"，then close the lens cover (8) to complete the background correction.

- Image settings: Press the Menu button (4) to enter the Shortcut Menu interface and adjust the electronic zoom (monocular mode only) / picture mode / brightness / ambient mode, scene / sharpness level.

- Switching off: long press the Power button (10) for 3 seconds to switch off the MATE.

- Standby: Press the Power button (10) briefly to put the device into standby mode to save power. Press the Power button (10) again to wake up the device.

8 Shooting (only for the foreground)

When the MATE is installed on the riflescope as an infrared extension (front panel), if the crosshairs are not centered in the infrared image, the image nulling function can be used to move the infrared crosshairs to ensure that the position of the crosshairs and front panel match.

- Before mounting the front sight, first shoot the rifle scope.

- Then aim at the target at 100 meters and fire. Then measure the horizontal and vertical distance between the point of impact and the point of aim.

- From the home screen, press and hold the Menu button (4) to enter

to the Main Menu interface.

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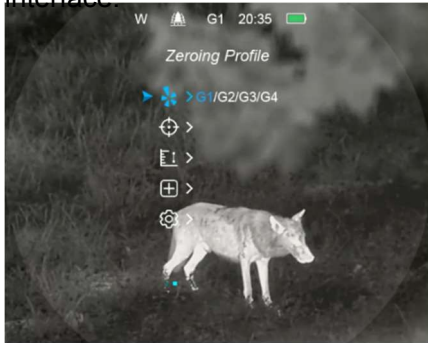
- Press the Up (6) / Down (3) button to select Zeroing Profile and briefly

  press the Menu (4) button to select the Zeroing Profile.

- Then select Zeroing ⊕ and briefly

  press the Menu button

  (4)   Enter   to   the

  Spraying interface.

- In the interface of a short or long

  shot   press   button

  Up/Down/Camera/Menu briefly move the position of the IR image until

  the target on the IR image is aligned with the center of the day sight.

- When you have finished shooting, long press the Menu (4) + Camera

  (5) buttons to save and exit the shooting interface, or hold the Up (6)

  buttons

  + Down (3) for 3 seconds to save and set the zero position coordinate

  as (0,0) and go to the home screen.

9 Taking photos and videos

The MATE series has 32GB of built-in storage for taking photos and recording videos. Image and video files will be named by time, so it is recommended to set the time in the main menu or synchronize the time in the InfiRay Outdoor APP settings before using the photo and video recording function.

Photography

- Press the Camera button (5) on the home screen to take a photo.

  The screen freezes for 0.5 seconds and the photo icon appears on the

display.

- Photos are stored in the built-in storage compartment.

- If an exclamation mark icon appears to the right of the camera icon, it means that the memory space is already full. Check and transfer videos and images to other media to free up space.

-

Taking photos

- From the home screen, press and hold the Camera button (5) to start recording video.

- The recording timer is displayed at the top of the screen.The time format is MM:SS (minute:second).

- During recording, you can still take photos by briefly pressing the Camera button (5).

- You can also enter and navigate through the menu while recording a video.

- Press and hold the Camera button (5) to stop and save the recording.

- Video and photos are stored in the built-in storage space.

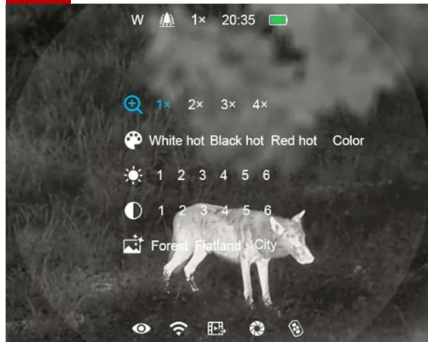- You can open and control the menu during video recording.

- Captured images and recorded videos are stored in the built-in

  memory space in the PIC_HHMMSS.jpg (image) and

  VIDEO_HHMMSS.mp4 (video) format, where HHMMSS

  indicates hour/minute/second.

- The maximum length of a video file is 30 minutes. If the duration is

  longer than 30 minutes, the video is automatically uploaded to a

  new file.

- The number of files is limited by the internal memory space of the

  device. Check the remaining space regularly and transfer videos and

  pictures to other media to free up space on the memory card.

Access to storage space

When you turn on the device and connect it to your computer, the computer

recognizes it as a flash memory card that can be used to access the

device's memory and make copies of images and videos.

- Turn on the riflescope and connect it to the computer using a Type C
  cable.

- Double click on "my computer" on the desktop - double click to open

  the device named "InfiRay" - double click to open the device named

  "Internal Storage" to access the integrated memory.

- There are different folders in the repository named according to the time
  of acquisition.

- The photos and videos recorded on a given day are stored in folders

- Select the files or folders you want to transfer or delete.

Shortcut menu

switch the picture mode from Hot White、Hot Black、Hot Red、Color Mode.

– Screen brightness: briefly press the Menu (4) / Camera (5) button to switch the screen brightness from level 1 to level 6.

– Image contrast: Short press Menu (4) / Camera (5) switch the image contrast from level 1 to level 6.

- From the home screen, briefly press the Menu button (4) to enter the shortcut menu interface. The functions are as follows:

– Space mode: briefly press the Menu (4) / Camera (5) button to switch between Forest, Field and City space modes.

– Digital zoom (monocular mode only): Press the Menu (4) / Camera (5) button briefly to zoom in the range of x1 to x4.

- Press the up (6) / down (3) button briefly to toggle the function options.

– Picture mode：short press Menu button (4) / Camera button (5)

- Press and hold the Menu button (4) to go to the home screen or automatically exit if you do not exit within 5 seconds.

no surgery.

11 **Main menu**

- From the home screen, press and hold the Menu button (4) for 3

  seconds to enter the main Menu interface.

- In the main menu, briefly press the up (6) / down (3) button to switch

  options.

- Press the Menu button (4) briefly to adjust the parameters of the option
  or

go to the submenu.

- Press and hold the Menu button (4) for 3 seconds to go to the home

  screen.

- Press the Power button (10) briefly to save and enter the interface.

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Description of main menu functions

Ultraclear	**Turn Ultraclear mode on/off** - Press and hold the Menu button (4) to enter the main menu. - Press the up (6) / down (3) button to select Ultraclear. - Ultraclear mode is switched on/off by briefly pressing the Menu button (4) along with the calibration sound. - The icon appears on the bottom status bar when Ultraclear mode is enabled. - Ultraclear mode displays more image detail in cloudy skies, rain, fog and other adverse weather conditions.

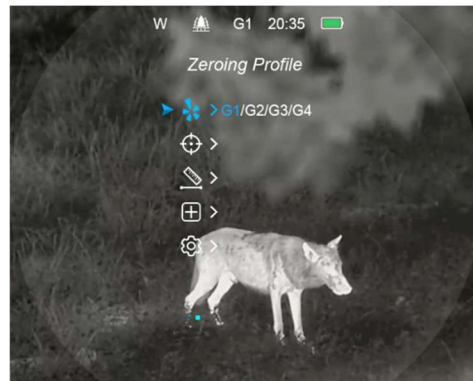|	
Wi-Fi 📶	**Turn Wi-Fi on/off** • Press and hold the Menu button (4) to enter the main menu. • Press the up (6) / down (3) button to select Wi-Fi. • To switch the Wi-Fi function on/off, briefly press the Menu button (4). • The icon appears on the bottom status bar when Wi-Fi is turned on. • When Wi-Fi is on, you can connect to the app on your mobile phone.
Image output	**Switching on/off** • Press and hold the Menu button (4) to enter the main menu. • Press the up (6) / down (3) button to select Video Output. • Press the Menu button (4) briefly to switch the video output on/off. • The icon appears on the bottom status bar when the video output function is enabled. • The video output function allows connection to an external display or recording device.
Automatic calibration	**Enable/disable automatic calibration** • Press and hold the Menu button (4) to enter the main menu. • Press the up (6) / down (3) button to select Auto Calibration. • Briefly press the Menu button (4) to switch the auto calibration mode on/off. • The icon will appear on the bottom status bar if automatic calibration is enabled. • If Auto Calibration is enabled, calibration will automatically start when the image quality deteriorates.

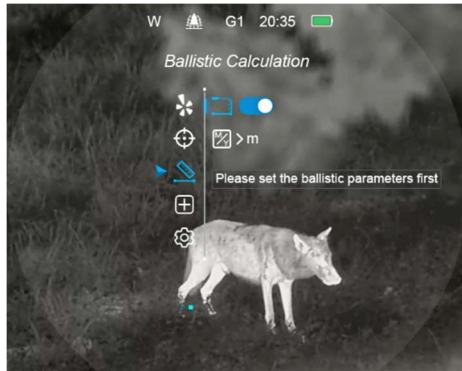|	
Video UI [UI]🎥	**Video UI** • Press and hold the Menu button (4) to enter the main menu. • Press the up (6) / down (3) button to select Video UI. • Press the Menu button (4) briefly to switch Video UI mode on/off. • The icon will appear on the bottom status bar if automatic calibration is enabled. • If Video UI is enabled, the UI information will be recorded along with the video.
Shot profile ✣	**Selecting the shot profile (only for the foreground)** • Press and hold the Menu button (4) to enter the main menu. • • Press the up (6) / down (3) button to select the option Shooting profile. • There are four to choose from: G1/G2/G3/G4. **For MAH50:** - G1/G2: Recommended magnification 1x-5x

– G3/G4: Recommended magnification 6x-10x

For MAL38:

– G1/G2: Recommended magnification 1x-5x

– G3/G4: Recommended magnification 6x-8x

For MAL25:

– G1/G2/G3/G4: Recommended magnification 1x-5x

- Press the Menu button (4) briefly to toggle and select the shooting profile.

Shot ⊕	**Shooting (only for the foreground)** ![Zeroing Profile G3 — X= 30.00cm/100m, Y= 30.00cm/100m] - - Press and hold the Menu button (4) to enter the main menu. - Press the up (6) / down (3) button to select the Shooting option. - Press the Menu button (4) briefly to enter the Shooting interface. - In the zeroing interface, press the Up/Down/Camera/Menu button briefly to move the position of the cross.

- Long press the Menu (4) + Camera (5) buttons to save and exit the zeroing interface or hold the Up (6) + Down (3) buttons for 3 seconds to save and set the cross coordinate as (0,0) and go to the home screen. For details, refer to Section 10 Zeroing.

Ballistic calculation

Ballistic calculation

- Press and hold the Menu button (4) to enter the main menu.

- Press the up (6) / down (3) button to select Range Notification.

- Press the Menu button (4) briefly to enter the ballistic calculation interface.

- Press the Menu button (4) briefly to switch the ballistic calculation function on/off. Before performing the ballistic

  calculation function, the ballistic calculation parameters must be set via the InfiRay Outdoor APP mobile app.

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Note: When setting the ballistic calculation parameters via the InfiRay Outdoor APP , ensure that the zero profile settings (G1/G2/G3/G4) in the APP match the MAH50R.

- Select the unit of measurement. (metric, etc.)

Note： When ballistic calculation is enabled, short press the Up button (6) to perform a one-time range. The distance value and recommended ballistic offset (MOA/CM) will be displayed, which will disappear automatically after 10 seconds.

Pixel defect correction ⊞	**Pixel defect correction** - Press and hold the Menu button (4) to enter the main menu. - Press the up (6) / down (3) button to select Pixels Defect Correction. - Press the Menu button (4) briefly to enter the Pixels Defect Correction interface. - A grid will appear in the center of the screen and the number of corrected defective pixels will be displayed at the bottom of the screen. - And then press the Up/Down/Camera/Menu button to select Defective Pixels by moving the viewfinder. - After selecting the faulty pixels, press and hold the Up (6) + Down (3) buttons simultaneously to correct the blind pixels. When the Add message appears briefly at the bottom of the screen, the correction is successful.
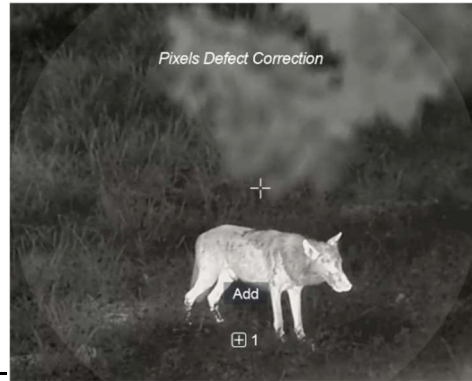
- In the same position, press and hold the up (6) + down (3) buttons again to cancel the correction and the message Del will appear briefly.

- The number of defective pixels changes each time a pixel correction is added or removed.

- Repeat the above operations to continue selecting defective pixels.

- When the correction is complete, press and hold the Camera (5) + Menu (4) buttons until the display shows "Do you want to save these settings?" and the "Yes" and "No" options. Select "Yes" to save the settings and exit, or select "No" to cancel the save and exit.

- Toggle the selection with the Up (6) / Down (3) button and confirm the selection with the Menu (4) button.

| **Settings** | This function is used to set the date, time, language, factory reset and display device information. |
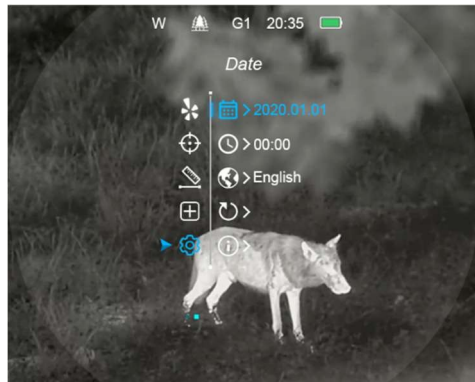
- Press and hold the Menu button (4) to enter the main menu.

- Press the up (6) / down (3) button to select Settings.

- Press the Menu button (4) briefly to enter the submenu.

- This menu item allows you to configure the following settings.

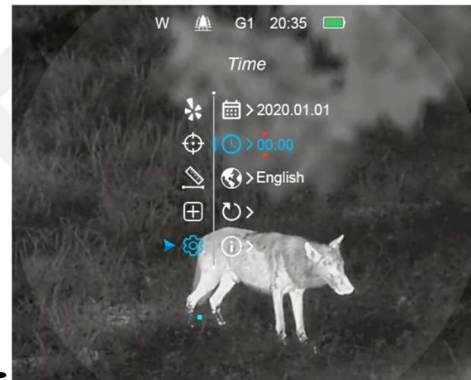| Setting the date	**Setting the date**
📅	- In the Settings submenu interface, select Date using the Up (6) / Down (3) button. The date will be displayed in year/month/day format.
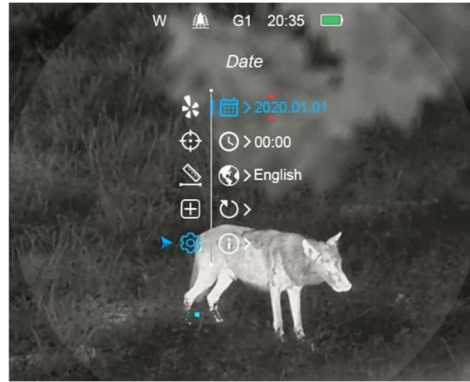
-
- Press the Menu button (4) briefly to activate the date reset function. By default, two small triangular symbols appear above and below the "Year".

- Press the Menu button (4) briefly to toggle between Year, Month, Day and Exit.

- Press the up (6) / down (3) button to set the number.

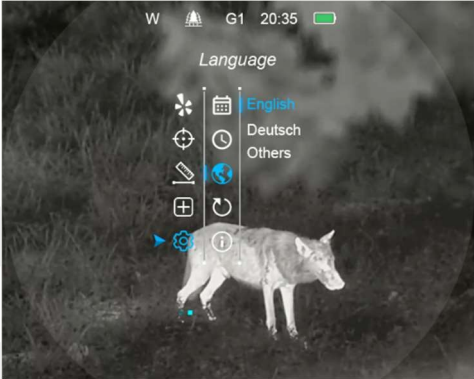|	
Time settings 	**Time settings** - - In the settings submenu interface, select Time using the Up (6) / Down (3) button. Time

		will be displayed in 24-hour format as Clock: Minute. • Press the Menu button (4) briefly to activate the time reset function. By default, two small triangular symbols appear above and below the "clock". • Press the Menu button (4) briefly to toggle between Hours, Minutes and Exit. • Press the up (6) / down (3) button to set the time.
	Language	**Language settings** • In the settings submenu interface, select the Language option using the Up (6) / Down (3) button. • To enter the Language submenu, briefly press the Menu button (4). • • Press the up (6) / down (3) button to select the desired language. • Confirm your selection by briefly pressing the Menu button (4) and you will automatically return to the upper interface.
	Restoration to factory Settings	**Restore to factory settings**

- In the Settings submenu interface, select Restore Factory Settings using the Up (6) / Down (3) button.

- Press the Menu button (4) to enter the Factory Settings interface.

- Press the up (6) / down (3) button to select "Yes" or "No".

- Confirm your selection by briefly pressing the Menu button (4) and you will automatically return to the upper interface.

- If "Yes" is selected, MATE will restore factory settings and reboot. When "No" is selected, it returns to the top menu interface.

Information about the device	**Information about the device**
	- In the Settings submenu interface, select the Info option with the up (6) / down (3) button.
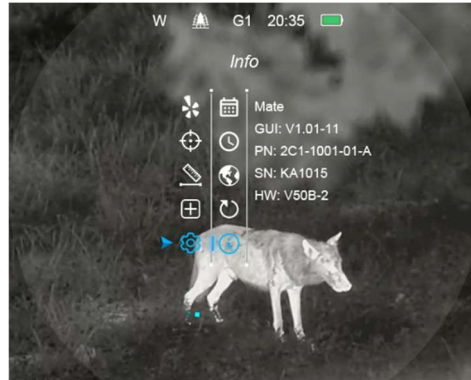
- Press the Menu button (4) to display the relevant information.

- This item allows the user to view the following information: device model, GUI version, PN and

  SN number, Wi-Fi version, and FPGA version.

- Press and hold the Menu button (4) to exit the information interface.

12 Wi-Fi features

The MATE series has a built-in Wi-Fi module that allows the device to

connect wirelessly to external devices such as smartphones.

- Press and hold the Menu button (4) to enter the main menu.

- To switch the Wi-Fi function on/off, briefly press the Menu button (4).

- Obtain a Wi-Fi signal named "XXXXX_xxxxxxxxx" using an external

  device, such as a smartphone, where XXXXX represents the model

and

xxxxxxx represents the SN code of the device.

- Select Wi-Fi and enter the mobile device password to set up the connection.

  The original password is 12345678.

- Once Wi-Fi is successfully connected, you can control the device via

  the InfiRay Outdoor APP.

To set a Wi-Fi name and password

The MATE series allows users to change the Wi-Fi device name and

password in the InfiRay Outdoor APP.

- Once connected to your mobile device, locate the "Setting" icon in the

  InfiRay Outdoor app and click on it to enter the settings interface.

- Enter the Wi-Fi name (SSID) and password in the text box.

- The device must be restarted for the new name and password to take effect.

- Otherwise, you can click Synchronize time in the settings interface to

  synchronize the time on the MATE device with the mobile device.

-

OBJ Remote control

The MATE module can be removed from the flint and installed at any location with

own accessories such as remote control.
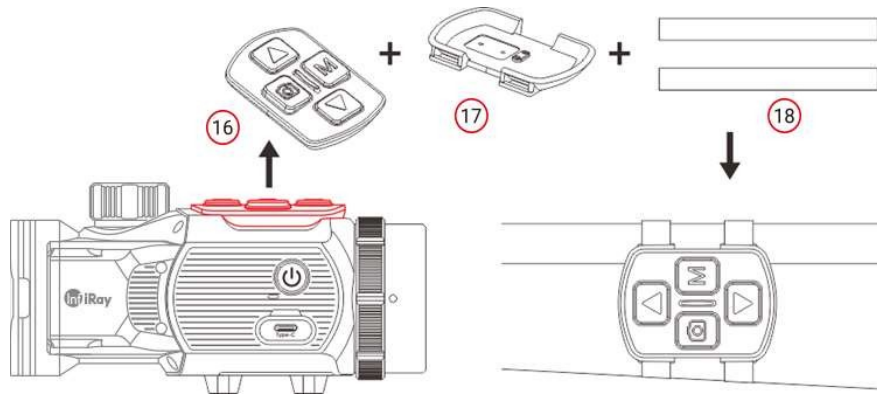
- Remove the button module (16) from the MATE device

- Install the button module (16) on the base (17) included in the

  package.

- String two magic ribbons

  (18) into the base (17) and attach

  the module to the appropriate

  place on the weapon.

- Then you can control the MATE remotely.

- The remote control has a built-in battery that can be used

  continuously for more than 30 days.

-   If the battery runs out, reconnect the button module (16) to the MATE

and charge it automatically with the pogo stick.

14 Updates and applications

better user experience, the software program and device parameters will be constantly updated. Users can go to the official website (www.infirayoutdoor.com) to download and update.

The MATE series supports the InfiRay Outdoor app technology, which can transmit images over Wi-Fi from your rifle scope to your smartphone or tablet and update your device.

Download and install the InfiRay Outdoor app from the official website (www.infirayoutdoor.com) and app store or download it directly by scanning the QR code below.

15 Technical inspection

It is recommended to carry out a technical check of the equipment before use.

- Check the external appearance of the device (there should be no cracks on the cover).

- Check the condition of the lens and eyepiece (there should be no cracks, grease spots, dirt or other deposits).

- Check the condition of the rechargeable battery (it should be charged) and the electrical contracts (no salts or oxidation should be present).

16 Maintenance

Maintenance should be carried out at least twice a year and should include the following activities.

- Wipe the outer surfaces of metal and plastic parts with a cotton cloth to remove dust and dirt. Silicone lubricant can be used for this.

- Clean the battery electrical contacts and battery hole on the unit with a non-greasy organic solvent.

- Check the glass surfaces of the eyepiece and lens. If necessary, remove dust and sand from the lenses (preferably using a non-contact method). Cleaning of the external surfaces of the optics should be carried out with substances specifically designed for this purpose.

17 Troubleshooting

The table lists all the problems that can occur during operation of the device. Perform the recommended checks and troubleshooting steps in the order listed in the table. If faults occur that are not

listed in the table or cannot be repaired by yourself, please contact

us as soon as possible. Private dismantling is strictly prohibited.

Description of the difficulty	Possible cause	Solution
Unable to turn on the device	The battery is dead	Charge or use spare batteries
Remote control does not work	The remote control is dead	Attach the remote control to the body of the MATE and charge it using the pogo pin connector.
The image is blurry, indistinct, with vertical stripes and uneven background.	Long time without calibration	Performing the calibration
The picture is too dark	Reduced image brightness	Increase the brightness of the image
Blurred image with clear graphical user interface	Lens not in focus	Adjust the focus ring of the lens so that the image is Clear.
	There is dust or other dirt on the inner or outer optical surface of the lens.	Wipe the outer optical surfaces with a soft cotton cloth. Allow it to dry by leaving it in a warm environment for 4 hours.
No analogue video output	Video output function is not enabled	Enable the video output function in the main menu
	The data cable does not support data transfer	Replace with a new cable
The point of impact does not correspond to the point of aim	Necessary shooting	Perform the firing according to Section 12 - Firing
	The shooting is incorrectly done	Check shot profiles

Legal information

Wireless transmitter module frequency range:

WLAN: 2.412-2.472GHz (for EU)

Wireless transmitter module power < 20dBm (only for EU)

CE We, IRay Technology Co., Ltd. hereby declares that the radio equipment Mate series is in compliance with the Directives

2014/53/EU and 2011/65/EU

FCC Statement

FCC ID：2AYGT-41-00

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This equipment shall not cause harmful interference and (2) this equipment shall accept all received interference, including interference that may cause undesired operation.

Information for users

Any changes or modifications not expressly approved may result in the loss of the user's authority to operate the equipment.

EMC: Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a

commercial environment. This

the equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions for use, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user shall be required to correct the interference at his own expense. In order to comply with the requirements for exposure to radio waves, a minimum distance of 0.00 cm must be maintained between the user's body and the handset, including the antenna**.**

InfiRoy

IRay Technology Co., Ltd.