FORTUNA



MULTIPURPOSE THERMAL VIEWER

FORTUNA

GENERAL MLX

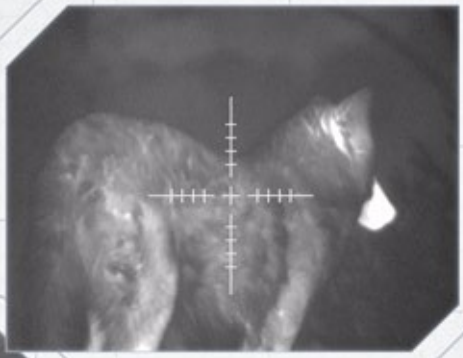
SCOPE | MONOCULAR | CLIP ON

USER'S MANUAL















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MULTIPURPOSE
THERMAL VIEWER
FORTUNA GENERAL MLX

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1. General Information

This manual contains the instructions for use, maintenance and servicing of the thermal imaging device FORTUNA GENERAL MLX.

2. Device Features and Application

2.1. Application

The thermal imaging device is developed:

- to be installed on hunting weapon as a thermal imaging scope;
- to be installed on hunting weapon in front of (on) an optical (collimator) sight as a thermal imaging attachment;
- to be used as a thermal viewer to search, to view and to detect thermally contrast objects.

The device detects passively the thermal (infrared) radiation of objects and landscapes in any conditions including complete darkness or limited visibility as well as mist, light rain, snow, fog and smoke, and does not need additional source of light. Although the device limits the visibility through glass, water, heavy rain or snow.

The micro-bolometer-based device features shutterless technology enabling quick start and continuous image without stops and delays. The specially developed control electronics of the device works without complicated menu.

Ballistic corrections and 4 memory slots enable saving zeroing profiles for different distances and/or different types of ammunition.

The thermal imaging device is reliable, compact and user-friendly. All the main functions are easily controlled with separate buttons. Each device has passed the pre-sale impact and weather-resistance tests.

Attention!
It is absolutely forbidden to point the thermal imaging device at the high-temperature objects (the sun, welding, fire, etc.)

2.2. FORTUNA GENERAL MLX Features:

- observing and aiming at any time of the day and in poor weather conditions;
- 640x480 core, 17 μm, 25 Hz;
- maximal detecting distance up to 1000 m;
- high-aperture (F/1.0) high-quality germanium lens;
- light rubber-coated waterproof enclosure of aluminium alloy;
- impact-resistant design, standing against the recoil of large-caliber weapon;
- color high-resolution OLED display;
- electronic calibration;
- user-friendly digital menu;
- «white - hot», «black - hot» modes; color palettes;
- up to four zeroing profiles to be saved;
- up to four image settings profiles to be saved;
- PAL video output;
- possible connection to external power supply of high capacity and video-recorder to save the image on the SD card.

3. Shipping Kit

The shipping kit of the FORTUNA GENERAL MLX thermal imaging device is listed in table 1.1.

Table 1.1.

FORTUNA GENERAL MLX thermal imaging device	1
Scope eyepiece L	1
Attachment eyepiece A	1
Monocular eyepiece M	1
Power battery CR123A	2
External power supply cable	1
User's manual	1
Pouch (case)	1

4. Accessories

Upon request, the shipping kit can include:

- Weaver/Picatinny rail mount;
- Adapter ring for mounting on the scope;
- 5V external power supply;
- Video cable;
- Video recorder to save image on the SD card;
- Hard case for carrying and storage of the device.

Table1.2. provides the information on physical, electrical, mechanical, optical and performance specifications of FORTUNA GENERAL MLX thermal imaging device.

Table 1.2.

Eyepiece	**M**	**L**	**A**
Thermal imaging core	640x480 17 µm		
Spectral range, µm	7.5 ….14		
Frequency, Hz	25		
Sensitivity, mK	<50		
Calibration	electronic, silent		
Lens	40mm, F/1.0		
Optical zoom	3.4	2.8	1.0
Field of View, deg	15.2x11.5		
Lens focus	Fixed from 10m to ∞		
Pace of corrections, distance 100m, cm	3.5		4.3
Eye relief, mm	25	52	-
Dioptric adjustment	-5 … +5		-
Display	AMOLED 800x600		
Power supply	CR123A x 2 pcs. (RCR123A x 2 pcs.)		
Minimal continuous run time at 25°, h	5		
Protection class	IP67		
Maximum impact load, g	500		
Operating temperature range, ℃	-30 … +50		
Dimensions, mm	55x72x195	55x72x225	55x72x180
Weight with batteries (CR123A x 2 pcs), g	~490	~540	~680

5. Device Design and Controls

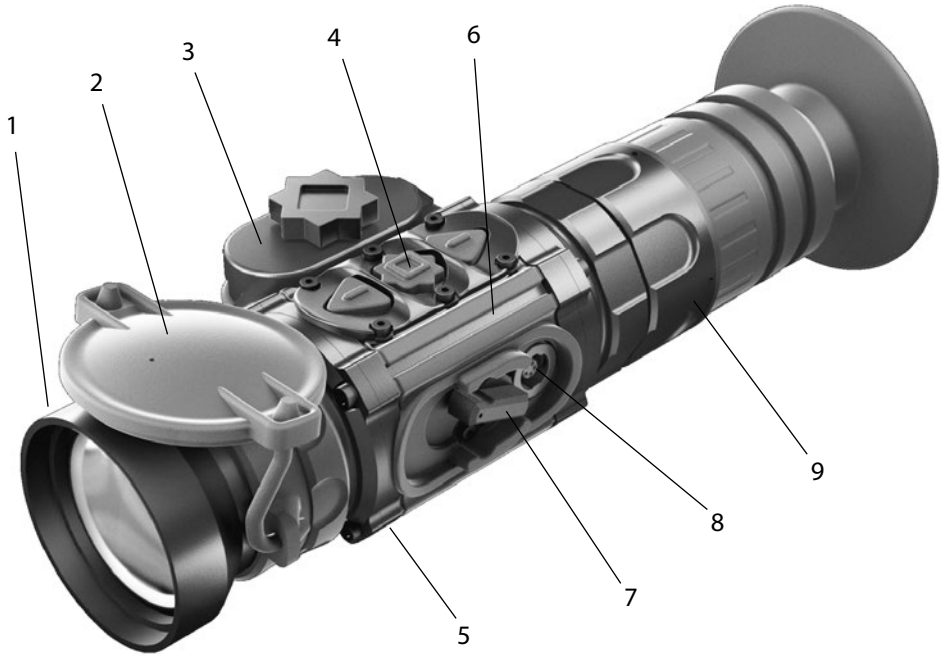
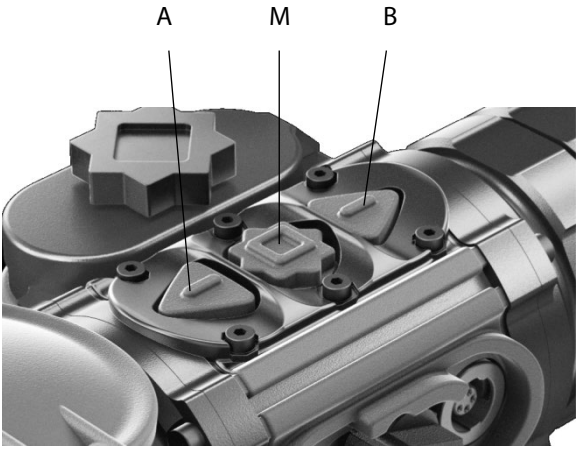


Fig.1. Fortuna General MLX configuration

1. **Lens**
2. **Protective cap**
3. **Battery pack**
4. **Control buttons**
5. **Mount**
6. **Enclosure**
7. **On/Off lever**
8. **Video output and external power supply socket**
9. **Changeable eyepiece**



10. Button A
11. Button M
12. Button B

Fig. 2 Control panel

This button panel controls the device menu, displayed on the screen. The buttons functions change depending on the parameters being adjusted.

The device functions as follows (see fig. 1): High-aperture germanium lens (1) focuses thermal radiation of the object on the sensitive area of the uncooled bolometer core. When not operated the lens is closed with the protective cap (2).

The enclosure (6) contains the whole electronics of the device, which transforms the detector signal into the digital image of the object shown on the color AMOLED display viewed through the eyepiece with eyeguard (10). On top of the device enclosure there is the panel (4) with the mode control buttons. The eyepiece (9) is changeable.

The device is powered with two batteries CR123A placed in the battery case (3). The door of the battery case is locked with the screw.

The device turns on and off with the lever (7). The universal socket (8) covered with the protective cap serves to connect the external power supply and to output video image on the external display or recorder.

The device is mounted on the weapon with the mounting interface (5). The impact-resistant design of the device stands against the recoil of large-caliber weapon.

The device can be used as:

- a thermal imaging scope (with eyepiece L)
- a hand-held monocular (with eyepiece M)
- a thermal imaging front attachment for an optical (collimator) sight (with eyepiece A). The attachment mode needs to be activated in the device menu.

6. Operation

6.1. Unpacking

Prior to unpacking the device, make sure that all the main components listed in table 1.1. are present. If some of the items from the table are missing, please, address the Supplier.

Prior to turning on the device, visually inspect the enclosure, optical surfaces and other parts of the device. Make sure there are no fractures, scratches, caverns, cracks and other faults in the view of the device and its parts. Otherwise, address the Supplier or the Manufacturer of the device.

6.2. Installing the Batteries

Prior to inserting the batteries, make sure they do not have any cracks, caverns, leaks or bubbles. Never insert defective batteries. Do not use together new and old batteries or batteries of different types (of different manufacturers).

The thermal imaging attachment FORTUNA is powered with two CR-123A batteries or rechargeable batteries of RCR-123A (16340) type.

Insert the batteries:

1. Open the battery case cover (**3**);
2. Insert the batteries observing the polarity marked on the outer surface of the device;
3. Close the battery case cover.

Attention!
Li-Ion battery contains SO2 (sulphur dioxide) under pressure. Do not heat, pierce, disassemble, short-circuit, recharge or in any other way put pressure on the battery. Turn the device off if the battery case is overheated. Wait until the battery cools prior to reinstall it.
Do not store or transport the device with the inserted batteries.

6.3. Turning On and Off

The device turns on and off with the lever (7). The switch has two positions: «ON» – the lever in the upper position and «OFF» – the lever in the lower position. The device turning-on takes 5 seconds. During turning-on the device does not respond to the buttons.

Attention!
The device can be used as a scope or a viewer (monocular). The monocular mode allows for turning off the reticle and all its settings (colour, brightness, zeroing etc.). To turn on/off the reticle press and hold (more than 2 sec) button A. The display shows/does not show the zeroing profile number and the reticle.

6.4. Focusing

The device features the athermal lens with fixed focusing. The depth of field of the lens provides sharp image on distance from 10 to 200 meters.

6.5. Calibration

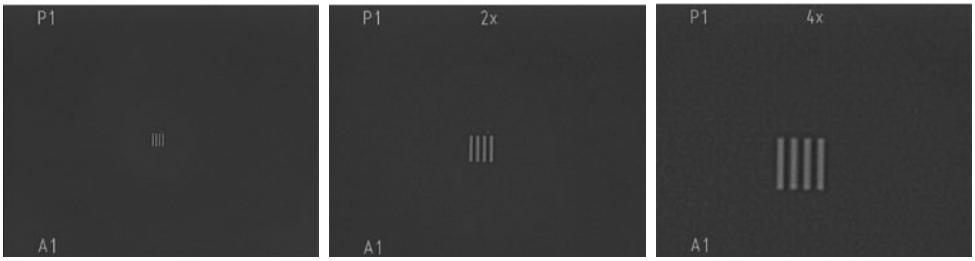
This thermal imaging device features the electronic calibration. The user does not need to calibrate the device while operating it. The device is calibrated automatically as required.

7. Electronic Adjustment of the Device

During the turning-on process the manufacturer's logo is shown, and when the device is loaded the thermal image of the observed object is shown. Use the control panel (fig.2) for adjustment and menu navigation. The display shows:

7.1. In the scope mode:

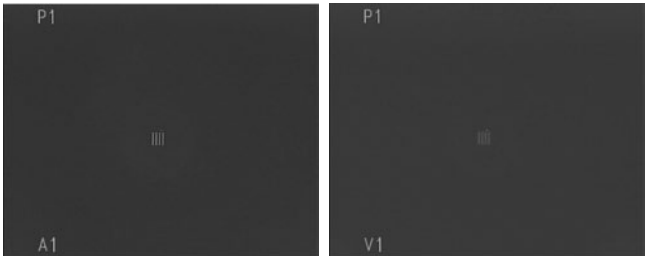
- in the upper part in the center – digital zoom (if active);



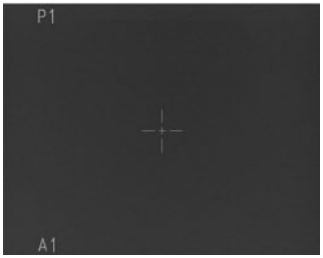
- in the left upper corner – the number of the selected zeroing profile;



- in the left lower corner – the number of the selected image profile;



- the reticle is displayed in the center.



7.2. In the front attachment mode:

In the front attachment mode the device is installed in front of a daylight optical (collimator) scope. When the device is attached to a daylight scope, only the central area of the display is viewed. So in the operation mode no icons are displayed to avoid overloading the view field. Press shortly button A to see the selected image and zeroing profiles. The selected image and zeroing profiles indication will be displayed for a few seconds in the center of the screen.

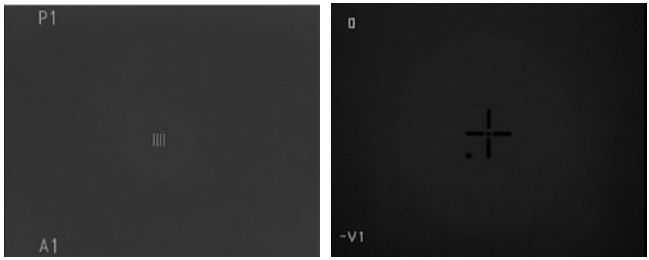


7.3. In the monocular mode:

In the monocular mode the center of the upper part of the display shows digital zoom (if active); in the left lower corner the number of the image profile is displayed.

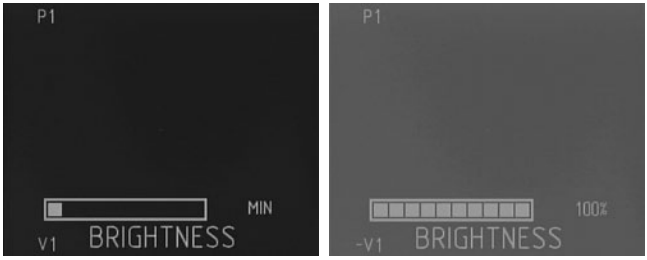
7.4. Selecting "white – hot", "black – hot" image

The device features the adjustable image color mode. Press shortly button B to select "white – hot" or "black – hot" mode.



7.5. Brightness Adjustment

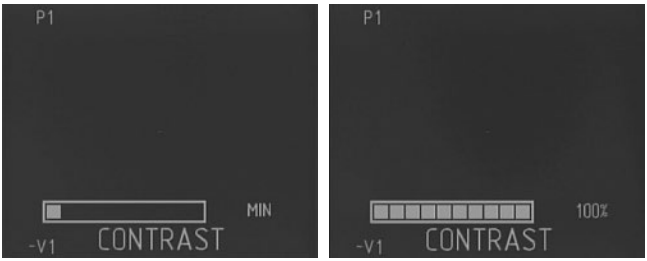
To adjust brightness press shortly button M on the button control panel. The display shows the brightness adjustment menu. Select the required brightness level by pressing button A or B. Press and hold (more than 2 sec.) the button A to enter the main menu or continue the device adjustment and enter the contrast menu by pressing shortly button M.



7.6. Contrast Adjustment

To adjust contrast in the contrast menu select the required contrast level by pressing button A or B.

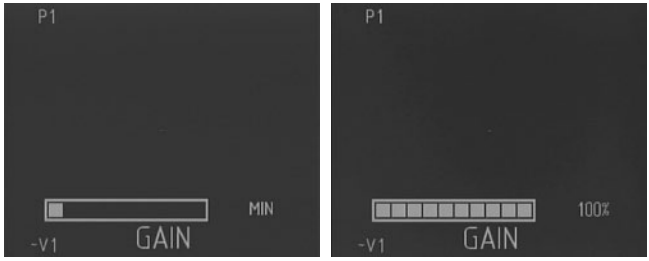
Press and hold (more than 2 sec) button A to enter the main menu or continue the device adjustment and enter the sensitivity menu by pressing shortly button M.



7.7. Thermal Sensitivity Adjustment

To improve the quality of the observed image depending on the contrast of the observed object and the background temperature the device features the manual adjustment of the core (micro-bolometer) sensitivity.

Select the required thermal sensitivity level by pressing button A or B in the sensitivity menu. Press and hold (more than 2 sec) the button A to enter the main menu or exit the adjustable parameters menu by pressing shortly button M.



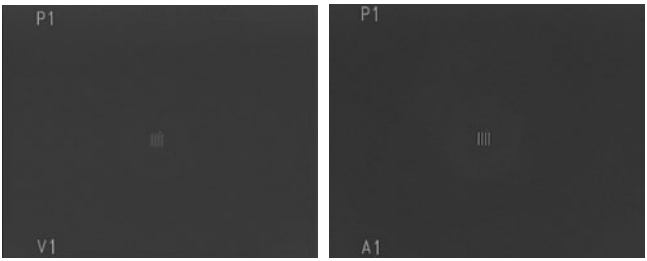
Note:

In image profile A only thermal sensitivity can be adjusted (with brightness and contrast levels preset at medium level – 50%).

7.8. Image Profile

Press and hold (more than 2 sec) button B to select one of the four saved image profiles (V1, V2, V3, V4) or to turn on profile A where brightness and contrast are preset to 50% and only thermal sensitivity level can be adjusted.

When any parameter is changed, the symbol «~» appears before the profile icon indicating that the profile changes are not saved.



7.9. Zeroing Profile

Zeroing parameters are saved in the zeroing profiles. To select a zeroing profile press shortly button M. Select the required profile using buttons A or B, and press and hold (more than 2 sec) button M to load the selected profile. Press and hold (more than 2 sec) button A to exit the menu without loading.

The device has four profiles to save the zeroing parameters, for example, for different types of weapon, for different distances, for different types of ammunition etc.

8. Main Menu

The device menu is navigated with buttons **A**, **M** and **B** on the button control panel (fig. 1.1).

To enter the settings menu press and hold for 2-3 sec button **M**. The menu is navigated with buttons **A** – up, and **B** – down. To enter the menu sub-point press shortly button **M**. The menu sub-points are navigated with button **A** – up, and **B** – down. To save the selected parameter point press and hold (more than 2 sec) button **M**. To exit the menu sub-points press and hold (more than 2 sec) button **A**. To exit the settings menu press and hold (more than 2 sec) button **A**.

The settings menu has the following points:

- IMAGE PROFILE SAVING
- RETICLE SETTINGS
- ATTACHMENT MODE
- CORRECTION
- LANGUAGE
- RESET

8.1. Image Profile Saving

The user's settings of brightness, contrast and thermal sensitivity can be saved into four image profiles V1, V2, V3 and V4. The profile A1 allows the manual adjustment of thermal sensitivity only (the brightness and contrast levels are preset to 50%) and cannot be saved.



To save the image profile:

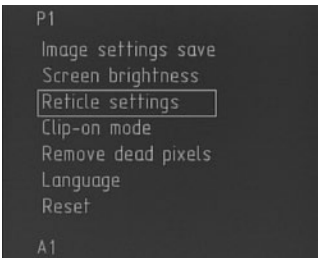
- Set the required levels of brightness, contrast and thermal sensitivity;
- Enter the device menu by holding button M;
- Select the point "Image profile saving" with buttons A or B and enter it by pressing shortly button M;
- Select the image profile number to save using buttons A and B;
- Save the profile by holding button M for more than 2 sec. The saving confirmation appears on the display.
- To exit the menu press and hold (more than 2 sec) button A.

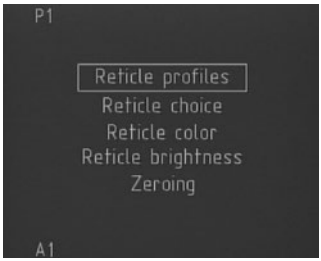
8.2. Reticle Settings

This menu enables the following adjustments:

- zeroing profile;
- reticle type;
- reticle color;
- reticle brightness;
- zeroing.

Attention!
Prior to entering the reticle settings menu, make sure the reticle is active; otherwise, the reminder to activate the reticle appears on the display.

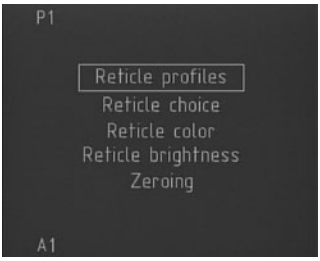


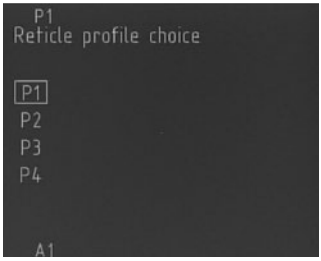


8.2.1. Zeroing Profile

In this menu you can select one of the four previously zeroed profiles.

To enter the menu press shortly button M. Use button A or B to select the required profile. Press and hold (more than 2 s.) button M to load the selected profile. Press and hold (more than 2 s.) button A to exit the menu without loading.



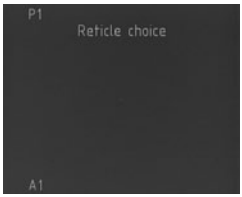


8.2.2. Selecting the Reticle Type

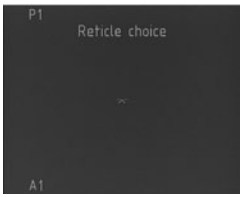
In this menu you can select one of the four types of the reticle. To enter the reticle type menu press shortly button M. Use button A or B to select the required reticle. Press and hold (more than 2 s.) button M to load the selected reticle. Press and hold (more than 2 s.) button A to exit the menu without loading.



«CENTER DOT»



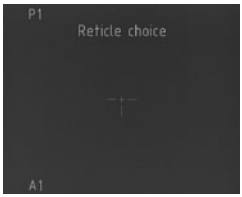
«CHEVRON»



«CROSSHAIR»



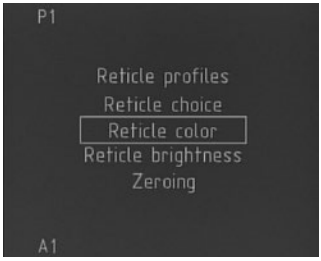
«GERMAN POST»



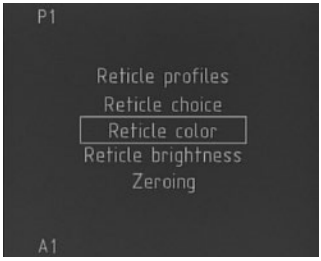
8.2.3. Reticle Color

In this menu you can select the color of the reticle depending on the selected image color mode to make the reticle more distinctive against the background of the detected objects. To enter the reticle color menu press shortly button M. Use button A or B to select the required reticle color. Press and hold (more than 2 s.) button M to save the selected reticle color. Press and hold (more than 2 s.) button A to exit without saving.

> ***.Attention!***
> ***If the reticle color is the same as the background color, the reticle color is automatically inverted.***

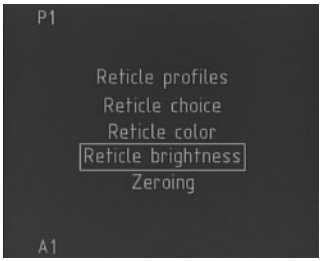




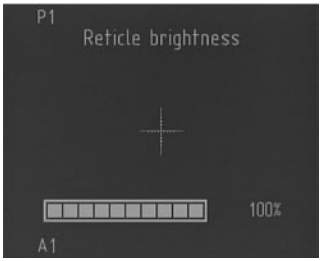


8.2.4. Reticle Brightness

To make the reticle more distinct against the observed objects you can also select the reticle brightness. To enter the reticle brightness menu press shortly button M. Use button A or B to select the required reticle brightness. Press and hold (more than 2 s.) button M to save the selected reticle brightness. Press and hold (more than 2 s.) button A to exit without saving.

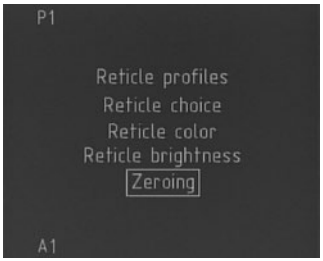






8.2.5. Zeroing

The device zeroing is the alignment of the device reticle and the weapon mean point of impact. Zeroing is performed in a special equipped place using special equipment. The device is zeroed against the targets well detected with the thermal imaging device.



The zeroing is performed as following:

- Turn on the device. Adjust the device to achieve the best target image.
- Set the target at the zeroing distance (depending on the weapon), so that the target is clearly viewed through the device.
- The weapon with the installed device should be fixated with special equipment. Fire 3-4 shots using the standard sight.
- Specify the shooting accuracy and the mean point of impact (MPI).
- Fire a shot using the device.
- If the reticle center does not match the MPI center, make corrections. Select the Zeroing menu and press shortly button M.
- The reticle is moved by pressing buttons A and B. The axis are switched by pressing shortly button M. The active coordinate is framed. The display shows X and Y coordinates with respect to the screen center. Match the target center with the reticle center.
- If MPI deviates more than by the permitted value, re-enter the corrections.



Attention!
When the corrections are entered it is the reticle that moves, not the MPI.

If the zeroing results are satisfactory, select Save option and save the profile by pressing and holding (more than 2 sec) button M, and the window of the profile selection will open.

Using buttons A and B select the profile number and press and hold (more than 2 sec) button M to save the zeroing results, and the display will show the message confirming the profile is saved.



Press and hold (more than 2sec) button M on the Exit option to exit the zeroing.



8.3. Attachment Mode

The device in the front attachment mode can be used as a front attachment for daylight optical or collimator scopes. Prior to install the device on the weapon the eyepiece should be changed. Remove carefully the eyepiece, replace it with the projection lens, screw tightly the lens and tighten the ring.



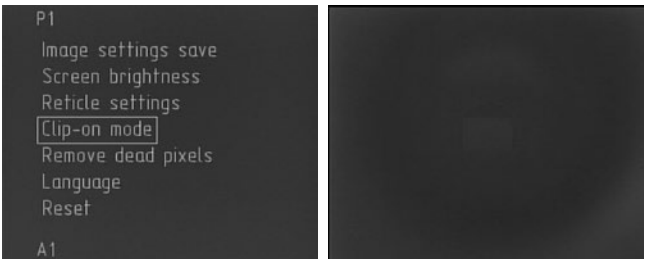
Attention!
When changing the eyepiece, prevent the exposure of external part of the device to foreign contaminants (dust, dirt, drops, etc.) as this can deteriorate significantly the image quality. To switch the device into the attachment mode select the Attachment mode option using buttons A or B and press shortly button M to enter the selected mode.

Attention!
After the device is turned off and turned on again, it remains in the attachment mode. The monocular/attachment modes are switched only via the menu.

Attention!
The attachment mode is independent and features its own settings that differ from the settings of the monocular/scope mode.

Attention!
The device in the attachment mode features 1x optical zoom only, without digital zoom.

When the device is used as the attachment, only the central area of the display is viewed through the daylight scope. So in the operation mode no icons are displayed to avoid overloading the view field.



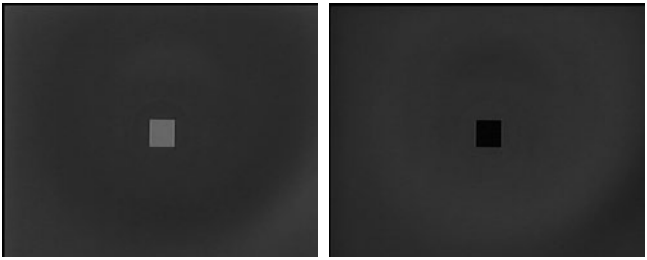
Press shortly button A to see the selected image and zeroing profiles. The selected image and zeroing profiles indication will be displayed for a few seconds in the center of the screen.



The symbol «~» before the profile icon indicates that one of the parameters of brightness, contrast or sensitivity is not saved in the active profile.

8.3.1. Selecting "white – hot", "black – hot" image

The attachment mode features the adjustable image color mode. Press shortly button B to select "white – hot" or "black – hot" mode.



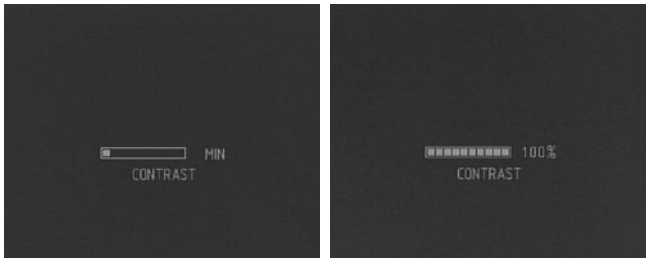
8.3.2. Image Adjustment

The attachment mode features manual adjustment of brightness, contrast and thermal sensitivity level.

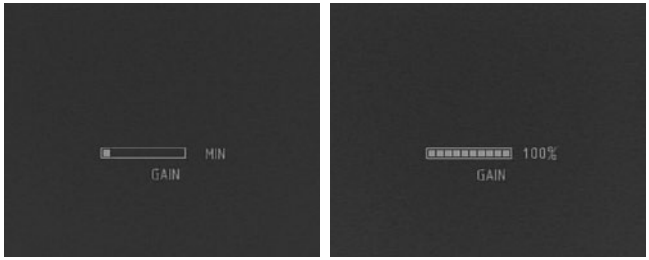
Brightness adjustment. To adjust brightness press shortly button M on the button control panel. The display shows the brightness adjustment menu. Select the required brightness level by pressing button A or B. Press and hold (more than 2 sec.) the button A to enter the main menu or continue the device adjustment and enter the contrast menu by pressing shortly button M.



Contrast adjustment. To adjust contrast in the contrast menu select the required contrast level by pressing button A or B. Press and hold (more than 2 sec) the button A to enter the main menu or continue the device adjustment and enter the sensitivity menu by pressing shortly button M.



Thermal sensitivity adjustment. In the sensitivity menu select the required thermal sensitivity level by pressing button A or B. Press and hold (more than 2 sec) the button A to enter the main menu or exit the adjustable parameters menu by pressing shortly button M.



Thermal sensitivity adjustment improves the quality of the observed image depending on the contrast of the observed object and the background temperature the device due to the manual adjustment of the core (micro-bolometer) sensitivity.

8.3.3. Attachment Mode Menu

The attachment mode menu is navigated in the same way as the device menu in the monocular/scope mode and has the following settings:

8.3.3.1. Image Profile Saving

The user's settings of brightness, contrast and thermal sensitivity can be saved into four image profiles V1, V2, V3 and V4.







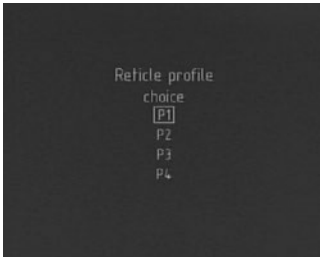
To save the image profile:

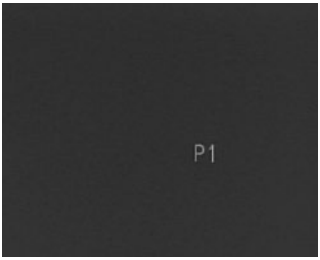
- Set the required levels of brightness, contrast and thermal sensitivity in the attachment mode;
- Enter the device menu by holding button M in the attachment mode;
- Select the point "Image profile saving" with buttons A or B and enter it by pressing shortly button M;
- Select the image profile number to save using buttons A and B;
- Save the profile by holding button M for more than 2 sec. The saving confirmation appears on the display.
- To exit the menu press and hold (more than 2 sec) button A.

8.3.3.2. Zeroing Profile

In this menu you can select one of the four previously zeroed profiles. To enter the menu press shortly button M. Use button A or B to select the required profile. Press and hold (more than 2 sec) button M to load the selected profile. Press and hold (more than 2 sec) button A to exit the menu without loading.







8.3.3.3. Zeroing

The device zeroing is the alignment of the optical (collimator) sight reticle and the MPI of the device in the attachment mode. Zeroing is performed in a special equipped place using special equipment. The device is zeroed against the targets well detected with the thermal imaging device.

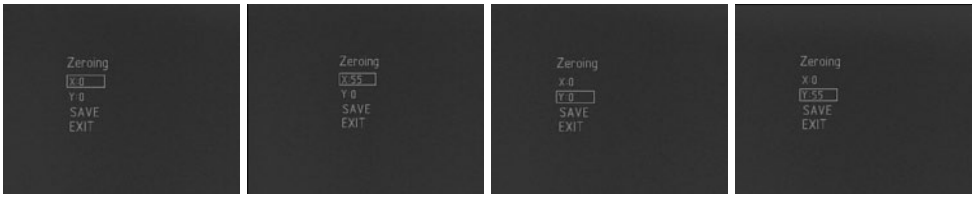
The zeroing of the device in the attachment mode is performed as following:

- Set the test-target at the zeroing distance (for example, 100 m). Turn on the device. Adjust the device to achieve the best target image.
- Point the weapon to the target center with the sight. If the target center does not match the reticle, make corrections. Select the Zeroing menu and press shortly button M.

Attention!
When the device is used with a daylight scope, the scope's reticle is used. So during zeroing it is the image that moves, not the reticle.



The image is moved by pressing buttons A and B. The axis are switched by pressing shortly button M. The active coordinate is framed. The display shows X and Y coordinates with respect to the screen center. Match the target center with the reticle center.



Fire 3-4 testing shots. Specify the shooting accuracy and the mean point of impact (MPI).

If MPI deviates more than by the permitted value, re-enter the corrections.

If the zeroing results are satisfactory, save the profile by pressing and holding (more than 2 sec.) button M, and the window of the profile selection will open.



Using buttons A and B select the profile number and press and hold (more than 2 sec.) button M to save the zeroing results, and the display will show the message confirming the profile is saved.

The device has four profiles to save the corrections (for example, for different distances, for different types of ammunition etc.).

To exit the zeroing menu select the Exit option with buttons A and B.



To exit the zeroing menu press and hold (more than 2 sec.) button M on the Exit option.

8.3.4. Monocular Mode

To return to the monocular/scope mode:

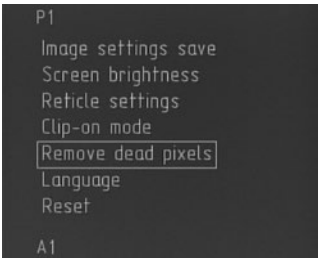
- press and hold (more than 2 sec) button M to enter the device menu;
- select the Monocular mode with buttons A or B;
- press shortly button M to enter the selected mode.

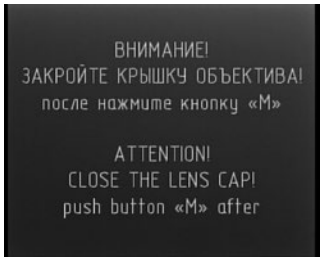


8.4. Pixel Correction

Due to the impact loads, defected or so-called “dead pixels” may appear in the microbolometer. A dead pixel on the display looks like a dot of constant color (black or white). The device features the correction function to correct the dead pixels.

Attention!
Correction shall be performed with the lens cap closed!
To enter the pixel correction menu press shortly button M. The reminder to close the protective lens cap appears on the screen.





Make sure the lens cap is closed and press and hold (more than 2 sec) button M. The Correction menu appears on the screen.



There are two modes of dead pixel removal – manual and automatic.

Attention!
Sometimes after the automatic correction some dead pixels may be left. In this case remove the remained pixels in manual mode. To switch between the modes press shortly button M.

To remove automatically the dead pixels press shortly button M to select the option "Auto", then press and hold button M. The display shows the message confirming the successful removal. If some dead pixels remained, delete them in the manual mode.



To remove manually the dead pixels press shortly button M to switch between X and Y. With X selected buttons A and B move the cursor horizontally, and with Y selected – vertically. Align the cursor center with the dead pixel and press and hold button M for more than 2 sec.



To cancel the dead pixels removal press and hold button M for more than 2 sec with the option "Reset" selected. The display shows the confirmation request.



To confirm, with buttons A or B select option "Yes" and press and hold button M for more than 5 sec. to cancel the correction.

To exit without cancelling the correction, select option "No" and press and hold button M for more than 2 sec.



To save the dead pixel correction results press and hold button M for more than 2 sec with the option «Save» selected. The display shows the message confirming the successful saving.



To exit the correction menu select option “Exit” and press and hold (more than 2 sec.) button M.



8.5. Language

The device features the menu in two languages (Russian/English).



To select the language:

- press shortly button M to enter the Language menu;
- using button A or B select the language;
- press and hold (more than 2s.) button M to save the language selection.
- Press and hold (more than 2 s.) button A to exit the menu without saving.

8.6. Reset

The device settings can be reset to the factory settings.

> ***Attention!***
> ***With this function all settings will be reset, including the zeroing profiles. It is impossible to recover the information after the reset.***

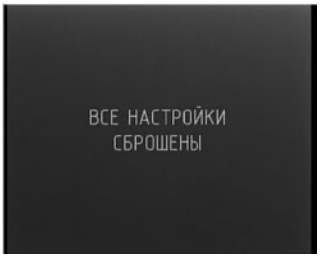


To reset all the settings to factory defaults:

- press shortly button M to enter the Reset menu;
- using button A or B select "Yes" to submit the selection;
- press and hold (more than 5 s.) button M to reset the settings to factory defaults.
- press and hold (more than 2 s.) button A to exit the menu without saving.







After the settings are reset, the display will show the message confirming the reset.

9. Attaching the External Power Supply

To attach the device to an external 5V power supply use the enclosed cable with a USB connector.

Take off the safety cap from socket 8 (fig. 1) and using the cable supplied with the device, connect the external power supply to the device.

The power supply with output voltage out of the operating range may damage the device.

When using the external power supply the installed batteries do not discharge. The device does nor recharge the batteries from the external power supply.

10. Attaching Video-Recorder

To record the process of aiming and observation the video-recorder of Newton CVR640 type (not included) can be attached to save the image on the SD card.

Take off the safety cap from the socket 8 and using a cable adapter (not included) connect the device to the video-recorder.

The record is performed according to the user's manual of the video-recorder used.

11. Troubleshooting

The device does not start.	1. No batteries. 2. The batteries are low. 3. Poor contact.	1. Insert the batteries. 2. Replace the batteries. 3. Clean the contact pads.
Poor image quality. Blurred image.	1. Dirty inlet objective lens or eyepiece. 2. The lens is not focused. 3. Low contrast due to rough conditions of observation; heavy rain, heavy fog, low temperature gradient of the observed objects.	1. Clean the optics with spirit - ether mixture. 2. Focus the optics.
Diagonal lines on the monitor.	The batteries are low.	Replace the batteries.
No image.	1. Contrast and brightness are not adjusted. 2. The batteries are low.	1. Adjust contrast and brightness. 2. Replace the batteries.

12. Maintenance and Storage

12.1. Maintenance

The maintenance of the device includes visual inspection of its parts, cleaning and installing standard and optional accessories.

12.2. Cleaning

A) Cleaning the device.

1. Remove carefully the dirt from the device enclosure with clean and soft cloth.
2. Wet the cloth with water and wipe thoroughly the device surface (except optics).
3. Wipe the wet and clean enclosure with dry and clean cloth.
4. Using a soft brush remove carefully dust, sand and dirt from the optical surfaces.
5. Wet soft woolen cloth with the spirit-ether mixture and clean the optical surface of the lens and eyepiece with light twisting movements from the center edgewards. Change the cloth after each wiping cycle. Repeat the actions until complete cleaning of the optics.

B) Cleaning the accessories.

Wipe the accessories with a brush or cloth wetted with soapy water (if required).

Attention!
Prior to put the device in the pouch or the case for storage, dry thoroughly each item from the device kit.

12.3. Preparing for Storage

1. Check the condition of the device.
2. Remove the batteries.
3. Clean the device and its accessories.
4. Put the device and the accessories in the case (the pouch).

12.4. Storage

After usage and maintenance the scope should be stored in the factory package. This ensures that the device is kept ready to use for the whole guarantee period of storage and usage.

13. Warranty

Guarantee service life of the device is 24 months from the delivery date. Without the note on the delivery, the guarantee period begins on the manufacturing date from the factory.

The warranty is effective only with the correctly filled user's manual with the serial number, delivery date and clear stamps of the supplier and manufacturer.

The guarantee repair is performed free of charge (including the cost of work, materials, and, if required, transportation) on the manufacturing factory or in the service company.

Any complaints about the item quality are considered after the quality inspection on the manufacturing factory. The decision on replacement or repair of the item or its parts is within the competence of the specialists of the manufacturing factory or the service. The replaced parts and units become the property of the manufacturer or the service-center.

After the guarantee service the warranty period is not renewed but continues.

The liability under this warranty is limited with the liabilities specified in this document unless otherwise specified by the applicable law.

If during the usage of the item it is revealed that the parameters of the item do not correspond with the user's manual, please consult immediately with the manufacturer on the address and the phone numbers specified in the user's manual.

Within the whole guarantee period the owner has the right to free repair of the item's defaults resulting from the manufacturing faults.

The acquired item requires special installation (adaptation) on the weapon.

The items are accepted for the guarantee repair in set with the factory mount.

The manufacturer is released from all the warranty obligations in case of unassisted (unauthorized) installation of the item on the weapon or usage of self-made mounts (bars).

Remember!
The competent item adaptation on the weapon influences significantly on its following correct function and warranty service.

The manufacturer's warranty does not cover the following:

- Loss of the user's manual for the item;
- Alterations of the user's manual text, damage and alteration of the serial number or in the manual in case of their mismatch;
- Mechanical damage, damage due to the chemicals exposure or misuse;
- Usage of the item for improper applications;
- Damage or malfunctioning due to exposure to fire, corrosive substances, actions of animals or insects;
- Defaults due to force-majeure (fire, natural disasters etc.);
- Incompetent repair, disassemble or adaptation to the weapon and other interference of unauthorized persons not provided for by the manual;
- Damage resulting from disregard of rules of usage, storage and/or transportation by the fault of the owner, the transport company, service firm, persons or firms authorized for adaptation;
- Unauthorized alteration of the item's design including the adaptation on the weapon or installation on the item of the adapters (mounts) of other design.

Warranty and post-warranty service and repair are performed at:

Fortuna Optics EOOD
Damyanitsa str. 2
Office 1, section «G»
1619 Sofia
Bulgaria
info@fortunaoptics.com
+359 88 2399915
+359 89 6682176

14. Acceptance Certificate

The thermal imaging device **FORTUNA GENERAL MLX** _____

Serial number _____,

complies with the design documents of the manufacturer and is considered ready for operations.
This type of products is not under mandatory certification.

Date of sale _____

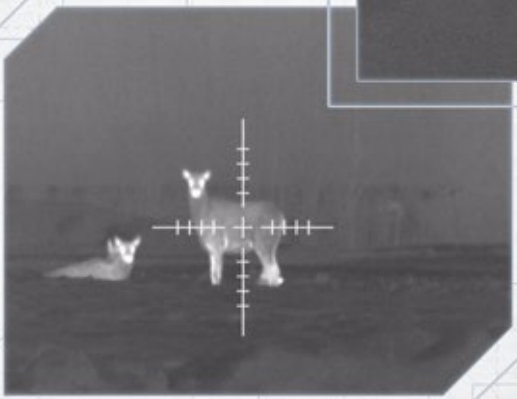
Seller _____

Seal









Manufacturer of thermal imaging devices Fortuna
Fortuna Optics EOOD

FORTUNA

www.fortunaoptics.com

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