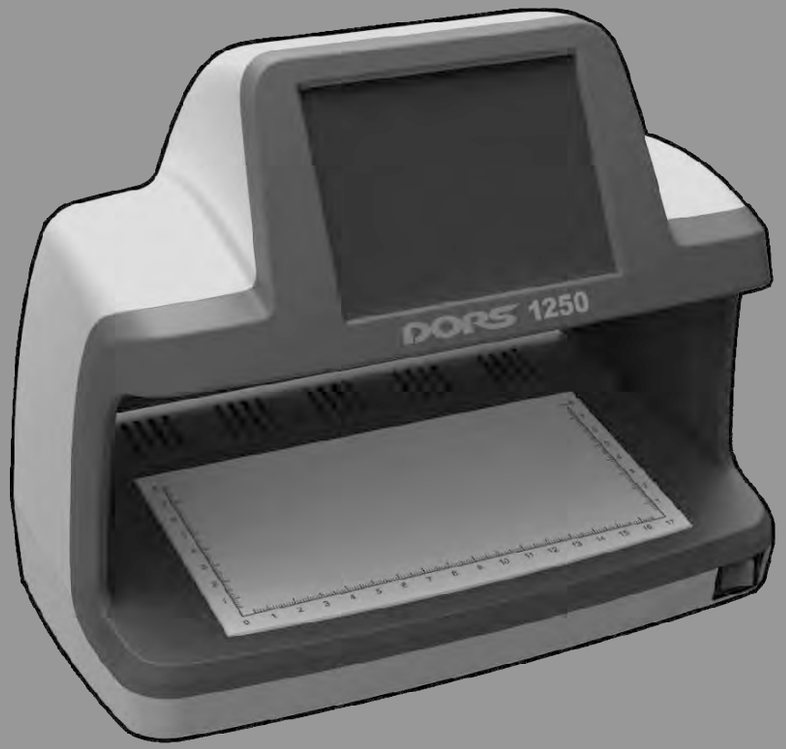
www.dors.com

DORS® 1250

UNIVERSAL COUNTERFEIT DETECTOR



Production date:

USER MANUAL

User Manual
Revision 0En

CONTENTS

We would like to thank you for your choice of Universal Counterfeit Detector DORS 1250.

READ THE MANUAL WITH ATTENTION BEFORE YOU START TO WORK!

PURPOSE

Universal counterfeit detector **DORS 1250** (hereafter – 'the device') shall be used for a visual detection of authenticity of banknotes, securities, excise stamps and other documents with the protective marks that may be verified by the device.

THE DEVICE IS EQUIPPED WITH

- An ultra-violet (hereafter – UV) source consisting of 2 fluorescent lamps (6W each);
- A top infrared (hereafter – IR) light source emitting in the 850-940 nm wavelengths;
- A top white oblique light source;
- A viewing table with a measuring scale and a combined illumination – transmitted IR and white light;
- 5" touch screen display;
- A video camera transmitting at 1:1 scale the image of the document on the viewing table to the display;
- The connectors for video magnifier **DORS 1010**, **DORS 1020**, optical magnifier **DORS 10**, and a detector of magnetic and IR marks **DORS 15**.

THE DEVICE MAKES POSSIBLE

1. Verifying absence of a general visible luminescence in ultraviolet light on a banknote (document).
2. Verifying presence of IR marks in a reflected and transmitted light as well as verify IR blink marks in two-wave lengths mode (940/850 nm).
3. Verifying a luminescence of the specific areas of a banknote (document) in UV light (marks, security threads and fibers).
4. Verifying watermarks and security threads on banknote (document). Verify an authenticity of micro perforations.
5. Examine the surface of banknotes or documents with protection elements in a white oblique reflected light. This way you can verify the relief of printed elements and a tilting effect.
6. Performing an advanced verification under a 10-fold magnification in two bands (white/IR) when using the video magnifier **DORS 1010** or in three bands (white/IR/UV) when using the video magnifier **DORS 1020**. This way you can verify a coincidence of thin multicolored lines of the currency design, a readability of a microtext and the currency design at specific points.
7. Verify a presence of magnetic marks when using the **DORS 15** detector of magnetic and IR marks.

THE DEVICE IS CONTROLLED WITH TOUCH SCREEN MENU. ONCE YOU HAVE READ THE MANUAL, YOU MAY START TO USE THE DEVICE.

IMPORTANT INFORMATION

IT IS PROHIBITED TO LOOK AT THE UV-LAMPS DURING THE DEVICE OPERATION.

IT IS PROHIBITED TO TOUCH THE DEVICE AND THE POWER CORD PLUG WITH WET HANDS. IT MAY RESULT IN AN ELECTRIC SHOCK.

WARNING! TO AVOID ANY DAMAGE OF THE CABLE OR ITS BREAK, UNPLUG THE POWER CORD FROM THE POWER OUTLET BY GET-TING HOLD OF ONLY THE PLUG.

WARNING! TO AVOID ANY POWER CORD DAMAGE AND A SHORT CIRCUIT, MOVE THE DEVICE ONLY AFTER THE POWER CORD PLUG HAS BEEN DISCONNECTED FROM THE POWER SUPPLY.

ATTENTION! THE DEVICE IS TO BE INSTALLED ON A HORIZONTAL PLANE OF A WORKING TABLE. IT IS PROHIBITED TO INSTALL THE DEVICE WITH ITS UV-LAMPS BEING VISIBLE FOR THE OPERATOR.

ATTENTION! IF THE DEVICE HAS BEEN UNDER COLD CONDITIONS FOR A LONG TIME, IT SHALL BE KEPT UNDER ROOM TEMPERATURE FOR NOT LESS THAN TWO HOURS BEFORE ITS SWITCHING ON.

ATTENTION! TO PROVIDE A SUCCESSFUL OPERATION OF THE DEVICE FOR A LONG TIME WITHOUT A SERVICE ENGINEER INTERFERENCE, OBSERVE THE FOLLOWING RULES, PLEASE:

1. THE D EVICE SHALL BE INSTALLED ON AN EVEN HORIZONTAL SURFACE;
2. WHEN INSTALLING THE DEVICE, AVOID ITS EXPOSURE TO DIRECT SUNLIGHT AND DIRECTED ARTIFICIAL ILLUMINATION.

WARNING! TO AVOID AN ELECTRIC SHOCK, APPLY ONLY TO A QUALIFIED SPECIALIST TO REPLACE THE LAMPS.

IT IS PROHIBITED TO DISPOSE THE USED LAMPS IN THE DOMESTIC GARBAGE CONTAINERS. AFTER A LAMP HAS BEEN REPLACED, IT SHALL BE HANDED IN TO THE SERVICE OF FLUORESCENT LAMPS DISPOSAL.

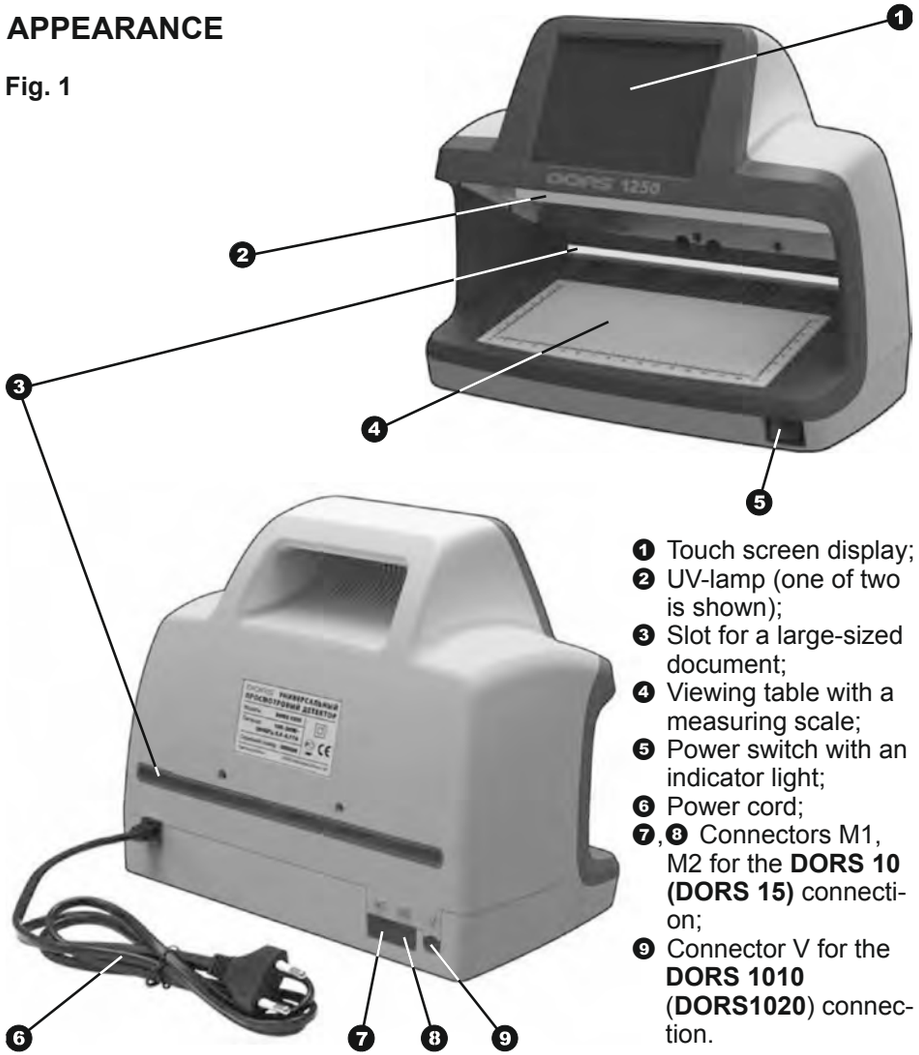
- DEVICE WITH ITS UV-LAMPS BEING VISIBLE FOR THE OPERATOR

DELIVERY SET

Universal counterfeit detector DORS1250 ..... 1 pcs.
User manual ..... 1 pcs.
Brochure of security features of USD and EUR ..... 1 pcs.
Packaging..... 1 set.

APPEARANCE

Fig. 1



❶ Touch screen display;
❷ UV-lamp (one of two is shown);
❸ Slot for a large-sized document;
❹ Viewing table with a measuring scale;
❺ Power switch with an indicator light;
❻ Power cord;
❼,❽ Connectors M1, M2 for the **DORS 10 (DORS 15)** connection;
❾ Connector V for the **DORS 1010** (**DORS1020**) connection.

PREPARING FOR OPERATION

! ATTENTION! BEFORE THE DEVICE OPERATION STARTS, MAKE SURE ABOUT INTEGRITY OF ITS BODY AND THE THREE FLUORESCENT LAMPS ❷.
IT IS PROHIBITED TO CONNECT TO THE POWER SUPPLY THE PRODUCT WITH A DAMAGED BODY, WITH THE DAMAGED UV-LAMPS OR WITHOUT THEM.

When selecting a place for the device installation, the most optimal location (in relation to the viewing angles) is the one when the operator's glance is perpendicular to the screen surface.

If it is supposed to use external devices, the latter shall be connected to the corresponding jacks (❼, ❽ or ❾) on the device rear panel (see Fig. 1).
To start the device operation, the power cord shall be connected to the power socket of 110-240 VAC 50/60 Hz. After that press the power switch (❺) to switch on the device (see Fig.1). A built-in red indicator shall turn on to show switching on of the device.

OPERATION

At switching on the device, an operation mode menu containing four buttons, such as **VIDEO, WHITE, IR, UV** appears by default in the upper part of the display (see Fig. 2).

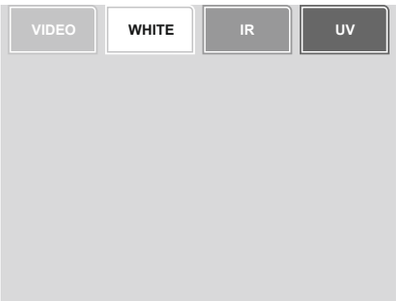


Рис. 2. Operation mode menu

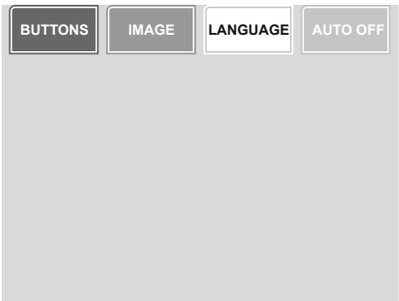
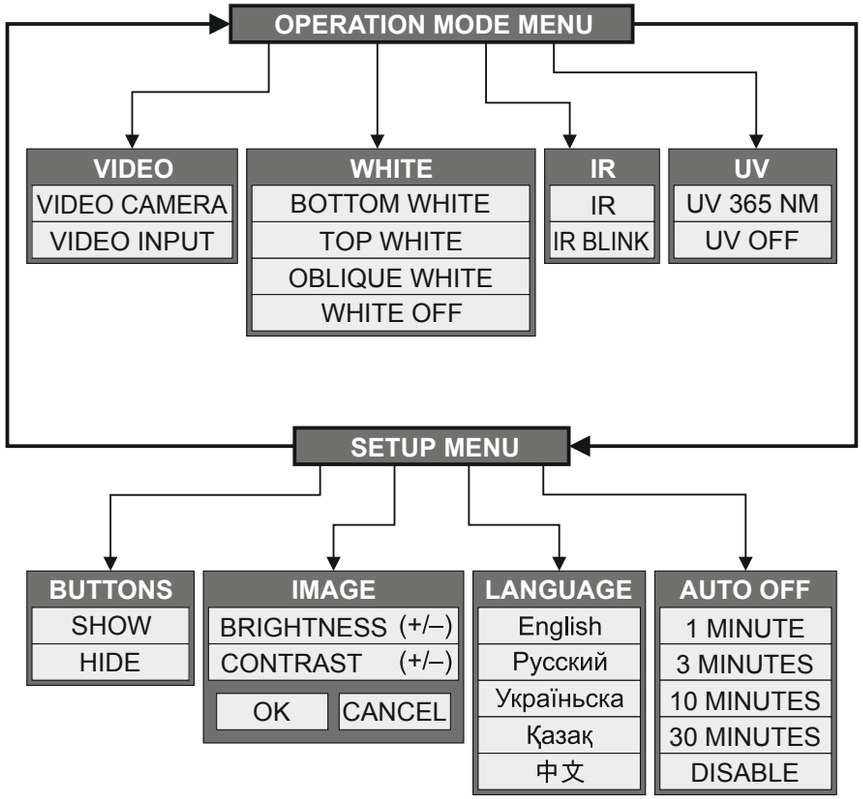


Рис. 3. Setup menu

To enter the setup menu, touch with your finger a free area of the screen. The setup menu consists of the following buttons: **BUTTONS, SCREEN, LANGUAGE, AUTO OFF** (see Fig. 3).

Further touching of the free area of the screen will result in an alternative switching over between the **operation mode menu** and the **setup menu**.

Fig. 4 Shows the menu hierarchy.



MENU

To select a desired mode, choose the required menu item on the screen according to **fig. 4**. Then select the required mode in the chosen menu item. The selected mode will be marked by the check sign in the submenu. **To hide the menu** from the display screen, select the option ***Hide*** in the **BUTTONS** menu (**see Fig. 5**).

In this case, touch the screen to call the menu. In this mode the screen will show the menu during 5-7 seconds since the last touch.

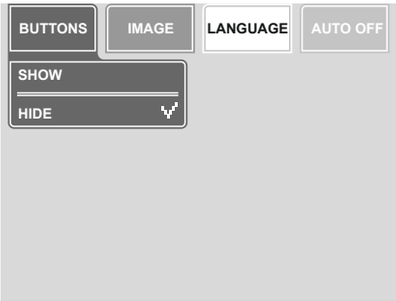


Fig. 5. How to switch on the mode with hidden buttons

ILLUMINATION MODE SELECTION

To select the illumination mode, you shall be in the operation mode menu (see Fig. 2). If it is necessary, call this menu by touching the free area of the screen.

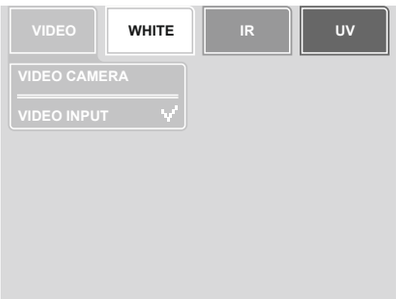
Select one of the menu items: **WHITE, IR** or **UV** (see Fig. 2).

- **WHITE mode** either switches on the top white, or the bottom white light or white oblique light or switches off any white light mode.
- **IR mode** switches on either the infrared light or the IR blink marks mode.
- **UV Mode** either switches on ultraviolet light or switches it off.

VIDEO SIGNAL SOURCE SELECTION

Select the VIDEO item in the operation mode menu. Select the required video signal mode (see Fig. 6) in the pop-up submenu:

Fig. 6. Video signal source selection



- **Video camera mode** calls to the screen the image from the device's built-in camera corresponding to the light mode selected before;
- **Video input mode** displays the image from the connected video magnifier on the device screen.

SETTING OF BRIGHTNESS AND CONTRAST

ATTENTION! BRIGHTNESS AND CONTRAST ARE SET SEPARATELY FOR EACH VIDEO SIGNAL SOURCE. THE SET VALUES OF BRIGHTNESS & CONTRAST ARE STORED IN A NONVOLATILE MEMORY AND USED DURING THE NEXT OPERATION WITH THE THIS VIDEO SIGNAL SOURCE.

To enter the brightness or/and contrast adjustment mode, you shall be in the setup menu (see Fig. 3). If it is necessary, call this menu by touching the free area of the screen.

Press **SCREEN**. It will call to the screen the current values of the image brightness and contrast (see Fig. 7). To set the image brightness and contrast, press **+** (to increase) or **–** (to decrease).

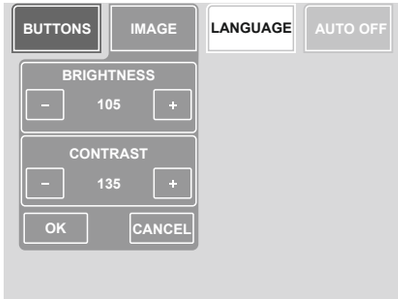


Fig. 7. Setting of brightness and contrast

To save the set values of brightness and contrast, press Yes. To return to the upper level submenu without saving the set values (return to the previous values), press Cancel.

SETTING OF AUTO OFF TIMER

ATTENTION! THE SETTINGS OF THE AUTO OFF TIMER ARE STORED IN A NONVOLATILE MEMORY AND USED THEREAFTER AS THE DEFAULT VALUES.

To set an auto off interval, call the setup menu. Press **AUTO OFF** in the setup menu the current value of the auto off timer will be shown (see Fig. 8). Select the required auto off interval. The selected value is immediately saved in the memory, without any additional pressing. If the auto-off mode is selected, the device goes automatically to the standby mode after the specified period of time (1, 3, 10 or 30 minutes), after the last screen touch. in a standby mode, all the light sources, the display backlight and most of the other power consumers of the device get switched off. To wake from the standby mode, touch the display.

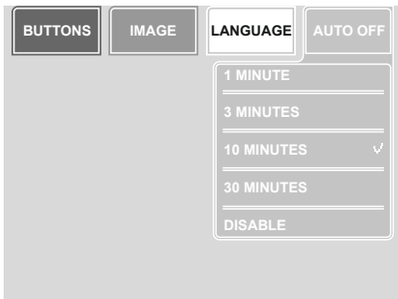


Fig. 8. AUTO OFF timer setting

LANGUAGE SELECTION FOR THE MENU AND INFORMATION MESSAGES

! ATTENTION! LANGUAGE SETTINGS OF THE MENU AND INFORMATION MESSAGES ARE STORED IN A NONVOLATILE MEMORY AND USED LATER ON AS THE DEFAULT ONES.
BE CAREFUL AND AVOID TO SET A LANGUAGE YOU FAIL TO UNDERSTAND. THE NEXT OPERATION WITH THE THIS VIDEO SIGNAL SOURCE.

To select the menu language, you shall be in the setup menu (see Fig. 3). If it is necessary, call this menu by touching the free area of the screen.

Select the **LANGUAGE** item. The currently used language is marked by the check sign (see Fig. 9). Select the required interface language by pressing the corresponding menu item. To return to the upper level menu without change, touch any free area of the screen.

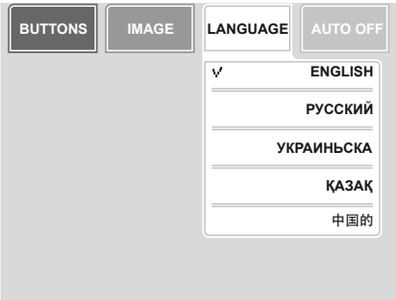


Fig. 9. Language selection menu

UV MARKS VERIFICATION

! IT IS PROHIBITED TO LOOK AT THE UV-LAMPS DURING THEIR OPERATION.

Place a banknote or a document on the device viewing table (❹). Press UV in the operation mode menu (see Fig. 2). Select the UV 365 nm item in the opened submenu (see Fig. 10). The UV-marks on the document surface.

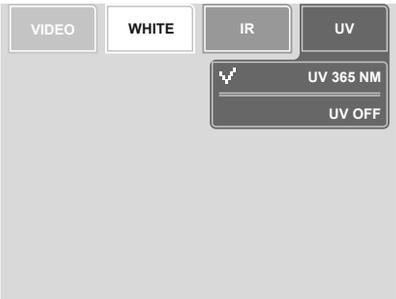


Fig. 10. UV light switching on

IR MARKS VERIFICATION

The device goes to the IR light mode any time when it is switched on or exits waked from the stand-by mode. The IR light does not switch off at switching on the other types of illumination (UV, all types of white light). Therefore, a simultaneous use of several types of control is possible since any type of control is combined with IR verification. If you need the IR-mode only, without any other light, select the **IR** item in the **IR** submenu of the operation mode menu (see Fig. 11).

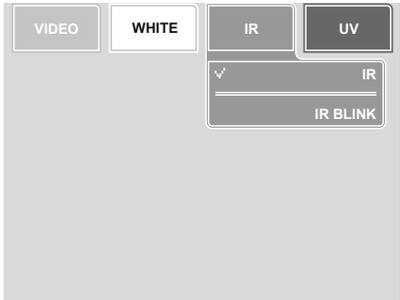


Fig. 11. IR light switching on

Place a banknote or a document on the device viewing table (❹). Use the on-screen menu to set (if required) the desirable brightness and contrast of the image on the display. Observe the image of the IR-marks on the display screen.

IR BLINK MARKS VERIFICATION

Place a banknote or a document on the device viewing table (❹). Press IR in the operation mode menu. Select the IR BLINK item in the opened submenu (see Fig. 12).

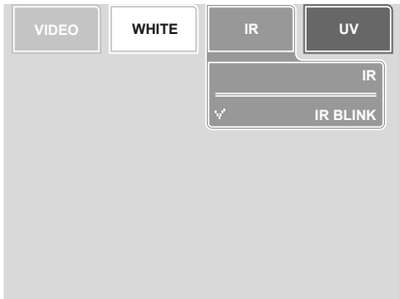


Fig. 12. Switching on the **IR blink** marks mode

The document on the device viewing table shall avoid direct sunlight or the light from the powerful incandescent lamps. Otherwise, it will be difficult to examine IR blink marks. The IR blink marks should clearly blink with an interval of about 2 times per second.

VERIFICATION IN A WHITE REFLECTED OBLIQUE LIGHT

Place a banknote or a document on the device viewing table (❹). Press WHITE in the operation mode menu. Select the Oblique white item in the submenu that opened (see Fig. 13). The mode is convenient, for example, for viewing the tilting effect on notes of different currencies. This mode makes possible to verify the height of the printed elements because they cast a clear shadow in an oblique light. The source of top white light is **LED** with a considerably high brightness, so **PLEASE DO NOT LOOK AT THE TOP WHITE LIGHT SOURCE**.

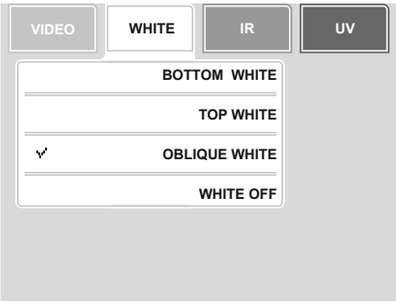


Fig. 13. Switching on **WHITE OBLIQUE** light

VERIFICATION IN A WHITE REFLECTED LIGHT

Place a banknote or a document on the device viewing table (❹). Press WHITE in the operation mode menu. Select the Top white item in the submenu that opened (see Fig. 14) to switch on the illumination. This mode is convenient for control of the protective elements with variable color inks (**OVI**). The source of top white light is LED with a considerably high brightness, so **PLEASE DO NOT LOOK AT THE TOP WHITE LIGHT SOURCE**.

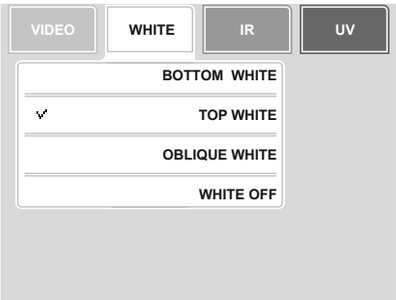
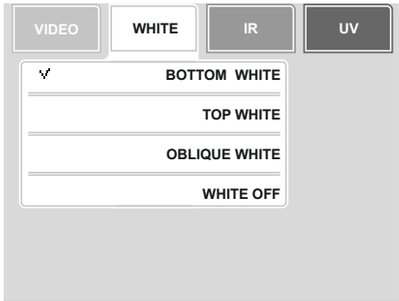


Fig. 14. Switching on the **TOP WHITE** light

VERIFICATION IN A WHITE TRANSMITTED LIGHT AND IR TRANSMITTED LIGHT

Place a banknote or a document on the device viewing table. Using the operation mode menu, switch on the bottom light source of the viewing table by a successive pressing of the **WHITE** and the **BOTTOM WHITE** (see Fig. 15). The source of the bottom light simultaneously emits white light and **IR** light. The mode is convenient for verification of the watermarks and imprinted metalized stripes with pictures etc. The screen shows **IR** image of both sides of a banknote (document). It makes possible to examine watermarks with better contrast as well as the marks on the metalized stripes (this mode is especially convenient to detect Euro banknotes).

Fig. 15. Switching on the **BOTTOM WHITE** light



SIZE VERIFICATION

To check the dimensions of a banknote as whole and accuracy of separate marks location, use the measuring scale applied on a matt glass of the device (see Fig. 1) viewing table (❹).

OPERATION WITH VIDEO MAGNIFIER DORS 1010/1020

Connect the **DORS 1010** video magnifier (see Fig.16) or the **DORS 1020** (see Fig.17) to jack V (❾) (see Fig. 1) on the device rear panel.

! ATTENTION! BEFORE CONNECTING AND DISCONNECTING THE MAGNIFIER CABLE, MAKE SURE THE DEVICE HAS BEEN DISCONNECTED FROM THE POWER SOCKET OR SWITCHED OFF WITH A POWER SWITCH!

❿ «**LIGHT-SELECT**» key

Fig.16. Video magnifier **DORS 1010**

⓫ «**SELECT**» key

Fig.17. Video magnifier **DORS 1020**

Switch on the device. Press the **LIGHT-SELECT** key (❿) (in case of the **DORS 1010**) or SELECT (⓫) (in case of the **DORS 1020**) on the top of a magnifier. The device automatically switches to the mode of image examination with a magnifier. Further pressing of the same key selects a light source. The **DORS 1010** magnifier has two light sources: white and **IR**, and the **DORS 1020** magnifier has three sources: white, **IR** and **UV**. The model of the connected magnifier and its selected light mode are shown in the top part of the screen.

To switch the device to a built-in camera, select the **VIDEO** item in the operation mode menu and then the Video camera (see Fig. 18). To return to operation with the video magnifier, press respectively the **LIGHT-SELECT** or the **SELECT** key (❿ or ⓫) or select the Video input item in the **VIDEO** submenu (see Fig. 19); a message will appear in the top part of the screen saying about the necessity to set the required light mode of the connected magnifier.

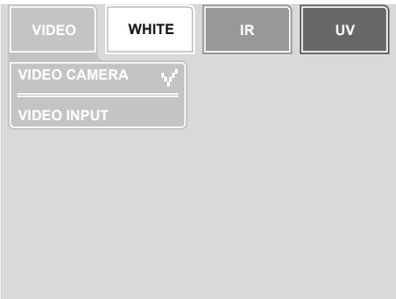


Fig. 18. Switching on the operation mode with the device built-in camera

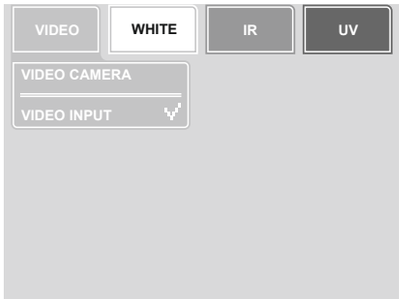


Fig. 19. Switching on the operation mode with a video magnifier

OPERATION WITH REMOTE OPTICAL MAGNIFIER DORS 10 AND DETECTOR VISUALIZER OF MAGNETIC AND IR MARKS DORS 15

Connect the **DORS 10** magnifier and (or) the **DORS 15** detector to either jack M1 or jack M2 (❼), (❽) (see Fig. 1) on the device rear panel. The device itself must be connected to the power supply and switched on or remained in a standby mode. A simultaneous connection of both devices (the **DORS 10** and the **DORS 15**) is also possible. Operation with the **DORS 10** and the **DORS 15** is described hereinafter.

VISUAL INSPECTION WITH THE DORS 10:

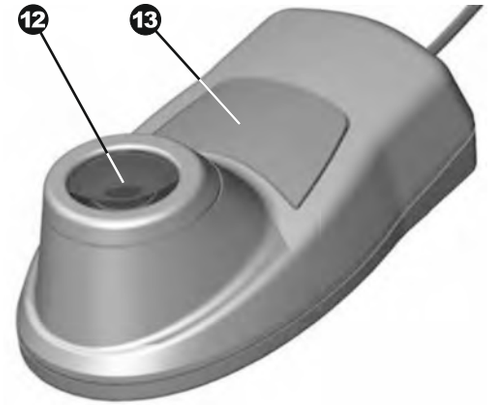


Fig. 20. Optical magnifier **DORS 10**

⓬ Eye-lens
⓭ Lightning ON key

When **DORS 10** magnifier (see Fig. 20) is used, the device itself may be in any operation mode. Place the lens (⓬) of the **DORS 10** magnifier above the area of the banknote to be examined (the banknote shall be on a plane horizontal surface).

MAGNETIC VERIFICATION WITH THE DORS 15:

1. When detector **DORS 15** (see Fig. 21) is in use, the operation mode of the device itself may be any.
2. The device and the banknote to be examined should be on a special mat for verification (included in the delivery set of the **DORS 15**).
3. Press any key (⓮, ⓯) to switch on the **DORS 15**.
4. A short pressing of the **SELECT** key (⓮) selects the magnetic verification mode (built-in LED is lighted in green color).

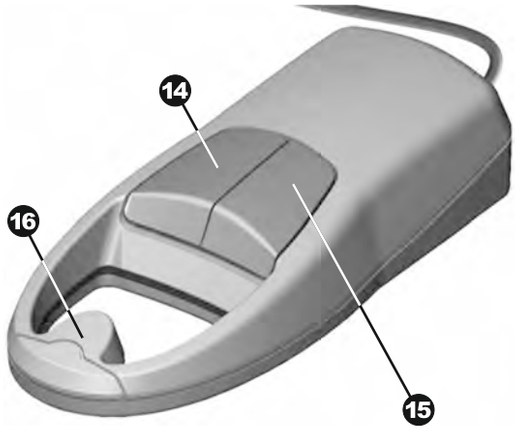


Fig. 21. Detector of magnetic and **IR** marks **DORS 15**

⓮ «SELECT» key
⓯ «VOLUME» key
⓰ Sensor

Put the **DORS 15** on a banknote in such a way that the area to be examined is under the sensor (⑯). Moving the sensor along the area to be examined, determine the places where the sensor is triggering and non-triggering. A sound signal and a glowing indicator inform about the sensor triggering. The sound signal may be switched ON/OFF at any moment of operation. To switch it off, press the VOLUME key (⑮) and

(⑭) SELECT key;
(⑮) VOLUME key
(⑯) Sensor

The places where the sensor is triggering are magnetic, and where it's non-triggering are non-magnetic. Thus, location of the magnetic and non-magnetic inks of the text and the drawings is detected with a high accuracy.

5. The obtained data shall be compared with the location of the magnetic marks on an authentic banknote (this information is usually available on the web site of the appropriate Central (National) Bank).

! ATTENTION! THE MAGNETIC SENSOR OF THE DORS 15 IS DISTINGUISHED WITH HIGH SENSITIVITY; THAT IS WHY ANY SWITCHED ON MOBILE PHONE WITHIN THE RANGE OF 2.5 M FROM THE DEVICE MAY CAUSE THE DEVICE'S ERRORS.

Note:

If the marks are not clearly detected during verification, it is necessary to adjust the sensitivity. It is caused by a wide variation of the magnetic characteristics among banknotes of different currencies. Beside this, banknotes of the same type may also differ significantly because of the printing technological peculiarities and due to their wear and tear and blotting during circulation.

If it's necessary to change the sensitivity, press shortly the VOLUME key (⑮) to select the required sensitivity level. The red illumination of the VOLUME key corresponds to the highest sensitivity, yellow to the middle sensitivity and green to the lowest one. Being switched on the detector goes to the mode in which it was before the last switching off.

If the **DORS 15** is activated in the areas devoid of magnetic marks, repeat the examination with the lowest sensitivity mode. If even now the device is activated on the banknote's non-magnetic areas or ceased on the magnetic ones, the banknote may be counterfeited and requires examination according to the other marks. If the problem does not exist any more, the banknote is authentic but it may has some printing defects.

It is recommended to set the highest sensitivity level to verify the worn banknotes with vague magnetic properties: The Euro, US dollars etc.
To avoid false triggering, do not touch either the sensitive element or the metal parts, avoid any mechanical impact on the sensor.

To switch off detector **DORS 15**, press and hold the SELECT key (⑭) during 3 s. If the **DORS 15** is not used during an hour, it switches off automatically.

RETURN TO THE FACTORY SETTINGS

If it is necessary, you may reset all the device settings that have ever been done and return to the factory ones. To do it, touch with your finger the free area of the screen and hold it for 5 s; then there will appear the menu of return to the factory settings that also indicates the current software (firmware) version of the device (see Fig. 22). If you want to return to the factory settings, select Yes, if not, choose Cancel.

Fig. 22. Return to the factory settings

SWITCHING OFF THE DEVICE

Press the power switch key (❺) (see Fig. 1), its backlight will be turned off. It is up to the user to decide whether to disconnect the power cord from the power supply or not. It is certainly worth of disconnecting in case of a long-term (more than several days) standing by of the device.

If it is necessary to install the device on a new place after it was switched off, disconnect the power plug from the power socket. After that you may move the device to a new place.

CARE AND MAINTENANCE

To clean the device surface from dirt, use water-based neutral detergents or the cleaning agent on the base of isopropyl alcohol. Remove carefully an excess of the detergent or the cleaning agent from the device.

! WARNING! BEFORE CLEANING THE DEVICE SURFACE FROM DIRT, MAKE SURE THE POWER PLUG HAS BEEN REMOVED FROM THE POWER SOCKET!

! WARNING! TO AVOID AN ELECTRIC SHOCK, PREVENT A PENETRATION OF THE DETERGENT OR THE CLEANING AGENT INSIDE THE DEVICE!

WARNING! WHEN CLEANING THE SURFACE, USE ONLY A SOFT TISSUE TO APPLY THE DETERGENT OR THE CLEANING AGENT COMPOSITION! IT IS PROHIBITED TO USE A BRUSH, ASPRAYER OR AN AEROSOL SPRAY TO APPLY THE DETERGENT OR THE CLEANING AGENT

Fluorescent lamps are used in the device as the UV light and bottom light sources. If a lamp is failed, it shall be replaced.

Attention! Fluorescent lamps are consumables, and the manufacturer's warranty doesn't cover them.

To replace the fluorescent lamps, please use the lamps of the same type as installed in the device. The suggested type of UV lamp is DORS TL 6W/08 F6T5/BLB. The suggested type of white light lamp is DORS TL 6W/08 F6T5/DL.

WARNING! IT IS PROHIBITED TO REPLACE THE LAMPS WHEN IN THE DEVICE POWER PLUG IS INSERTED INTO THE POWER SOCKET. ONLY QUALIFIED PERSONNEL SHALL REPLACE THE LAMPS IN THE DEVICE.

UV-LAMP REPLACING PROCEDURE

WARNING! BEFORE REPLACING A LAMP, MAKE SURE THE POWER PLUG HAS BEEN DISCONNECTED FROM THE POWER SOCKET!

ATTENTION! TO AVOID CONTAMINATION OF A GLASS BULB, USE COTTON GLOVES DURING LAMP REPLACEMENT.

1. You should remove the failed lamp together with its protection covers (⓳) out of the holders (⓲) (see Fig. 23).

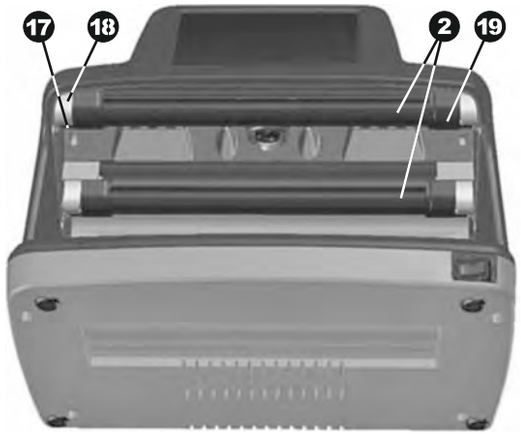


Fig. 23. Removing of the UV-lamp protection cover

❷ UV-lamps
⓱ Protection cover catch
⓲ UV-lamp holder
⓳ UV-lamp protection cover

2. Place the device on the working table covered by soft cloth.
3. Applying no excessive strength, turn the failed lamp around its axis for a quarter of a turn. Doing it, hold the lamp with two fingers of both hands.
4. Remove the lamp protection covers (⓳).
5. Take a new lamp from the package and inspect it: the glass bulb shall be devoid of scratches and chipping, the lamp cap shall not be damaged, and the glass bulb surface shall be not contaminated.

ATTENTION! DO NOT INSTALL IN THE DEVICE A LAMP HAVING MECHANICAL DAMAGES AND BULB CONTAMINATION!

6. Insert the lamp into the holders up to the stop. Holding the lamp by two fingers of both hands, turn it around its axis by a quarter of a turn. Make sure the lamp has fixed in the holders.
7. Put on a protection cover (⓳) on each lamp holder (⓲) (no tool is required).
8. Install the device in a working position and make a trial turning on UV light, make sure that the failure is recovered.
9. Pack the failed lamp and hand it over to a specialized disposal service.

WHITE LAMP REPLACING PROCEDURE

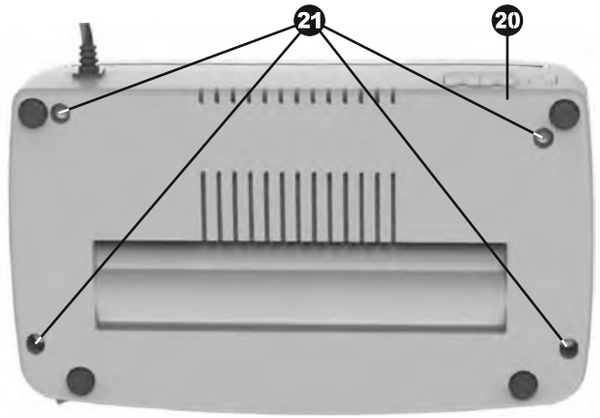
WARNING! BEFORE REPLACING A LAMP, MAKE SURE THE POWER PLUG HAS BEEN DISCONNECTED FROM THE POWER SOCKET!

ATTENTION! TO AVOID CONTAMINATION OF A GLASS BULB, USE COTTON GLOVES DURING LAMP REPLACEMENT.

1. Place the device on the working table covered by soft cloth (as shown on Fig. 24).
2. Unscrew 4 screws (㉑) fixing the bottom cover (⓴) (see Fig. 24) on the device bottom surface. Remove the cover.

Fig. 24. Removing of the bottom cover

⓴ Bottom cover
㉑ Screws fixing the cover



3. Applying no excessive strength, turn the failed lamp around its axis for a quarter of a turn. Doing it, hold the lamp with two fingers of both hands.
4. Remove the failed lamp out of the lamp holders.
5. Take a new lamp from the package and inspect it: the glass bulb shall be devoid of scratches and chipping, the lamp cap shall not be damaged, and the glass bulb surface shall be not contaminated.

! ATTENTION! DO NOT INSTALL INTO THE DEVICE A LAMP HAVING MECHANICAL DAMAGES AND BULB CONTAMINATION!

6. Insert the lamp into the holders up to the stop. Holding the lamp with two fingers of both hands, turn it around its axis by a quarter of a turn. Make sure the lamp is fixed in the holders.
7. Install the cover in its place and screw in the screws up to their stop.
8. Install the device in a working position and make a trial turning on of UV-radiation; make sure the failure is recovered.
9. Pack the failed lamp and hand it over to a specialized disposal service.

TROUBLESHOOTING

TROUBLE: The device fails to switch on (the power switch key doesn't light).

SUGGESTION: Check the device connection to the power supply. If the device is connected, a fuse F1 (2.0A, 250V) on the CPU power board has failed. Apply to your supplier (or authorized service center).

TROUBLE: There is no picture from an external video magnifier / there is no switch to the corresponding video input by pressing the **Select key** on the magnifier.

SUGGESTION: The magnifier connector might be not completely inserted in the V jack (❾) of the device (see Fig. 1). Insert the connector into the jack till it stops.

SPECIFICATIONS

Supply voltage .....100 – 240 VAC, 50/60 Hz
Current consumption .....0.4 – 0.17 A
Weight (not more than) .....2.3 kg
Overall dimensions (Width x Depth x Height): .....264x155x222 mm
UV-radiation source total power .....12 W
UV-radiation peak wavelength .....365 nm
IR-radiation operating range .....800 – 1000 nm
Two wavelengths in IR blink mode .....850/940 nm
Video signal standard.....PAL
Linear magnification on display:
at the use of the **DORS 1010** 11x
at the use of the **DORS 1020** 22x
Operating temperature .....+5 to +40°C

TRANSPORTATION, STORAGE AND DISPOSAL

The device shall be transported in a standard package by sea (in containers), railway (in closed wagons), air (in a pressurized baggage or a cargo compartment) and motor (in an enclosed body or in a container under a water-resistant canopy along the public paved roads) transport. The transportation conditions: temperature – 30 to + 50°C, relative humidity up to 95 % without water condensation at +25°C, atmosphere pressure 84 to 107 kPa (630 to 800 mm Hg). The device shall be stored in the package, in a heated warehouse at tempera- ture +10 to +25°C, at a relative air humidity not exceeding 80%.

The device meets the requirements of the European Union RoHS directive which results in decrease of the environmental pollution by hazardous substances.

! ATTENTION! BEFORE DISPOSAL, REMOVE ALL THE THREE FLUORESCENT LAMPS FROM THE DEVICE IN COMPLIANCE WITH THE ITEMS 1 – 4 OF THE SECTIONS «UV-LAMP REPLACEMENT PROCEDURE» AND «WHITE LAMP REPLACEMENT PROCEDURE». THE REMOVED LAMPS SHALL BE HANDED OVER TO A SPECIALIZED DISPOSAL SERVICE*.

* – The device without its lamps may be disposed as a domestic waste.

SUPPORT AND WARRANTY

The manufacturer guarantees a 12 month of the device operation since the moment of its purchase. The manufacturer by means its local dealer is obliged to repair the failed device if the user has observed all the requirements of this User manual.

Failure of the fluorescent lamps is not covered by warranty since they are consumables. The device damage caused by its improper use, falling, applying of an excessive physical strength and ingress penetration of liquid and foreign objects into the device.