

PASSPORT READERS & ID SCANNERS

# User's Manual

# Authentication Checker



# Authentication Checker User's Manual

v. 1.9.0.2 and above

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# 1. INTRODUCTION

ADAPTIVE RECOGNITION provides its Authentication Checker application included in the 2.1.9 Passport Reader (PR) software package.

This software offers full-spectrum ID document authentication with a range of security checks and visualization features. After each scanning, the software informs the user about the authenticity of the scanned document in a comprehensive way, with 4 views on one display.

The app works with fixed values to facilitate its use.

It provides:

- images scanned by different illumination sources (white, infra, UV, OVD)
- OCR mode to reach MRZ and VIZ data
- optical and RFID authentications as well as comparison of their results

The main emphasis is on the authentications to maximize the result of the examination.

This guide is going to show you the functions of the app and the methods of the use.

The structure of the manual is the following:

- First, the app overview and its accessing will be discussed.
- Next, a closer look will be taken at the Dashboard of the application.
- Finally, the user will be guided through the Sections of the application.

## Note

By pushing down the F1 keyboard key in the opened application, this user's guide pops up.

## 2. REQUIREMENTS

- An ADAPTIVE RECOGNITION scanner connected to your PC
- ADAPTIVE RECOGNITION Passport Reader Software version 2.1.9 or later
- PC: min. 2GB RAM, full HD display resolution (1920 x 1080)
- OS: 32/64-bit Windows 7/8/8.1/10 or Linux (ask for more information)

## 3. START AUTHENTICATION CHECKER

### Windows

After installing ADAPTIVE RECOGNITION software package on your computer, you will be able to open Authentication Checker from **Windows Start menu > Adaptive Recognition > (Passport Reader) > Authentication Checker x86 or x64** (based on your computer architecture and previous installation).

### Linux

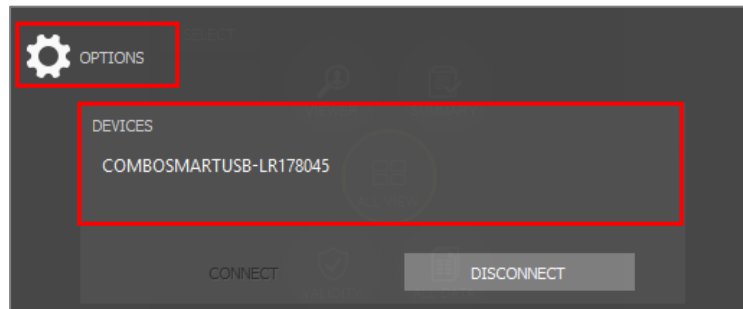
Depending on your distribution, you can open command terminal and insert: **AuthenticationChecker** or use dashboard search bar: **Linux Start menu > Applications > Adaptive Recognition Apps > Authentication Checker 64-bit version** (based on your computer architecture and previous installation).



## 4. CONNECTION

In order to scan with any ADAPTIVE RECOGNITION reader device, you have to make sure that there is an available reader connected to your computer and it is turned on.

You can check the **DEVICES** list in the **OPTIONS** menu.



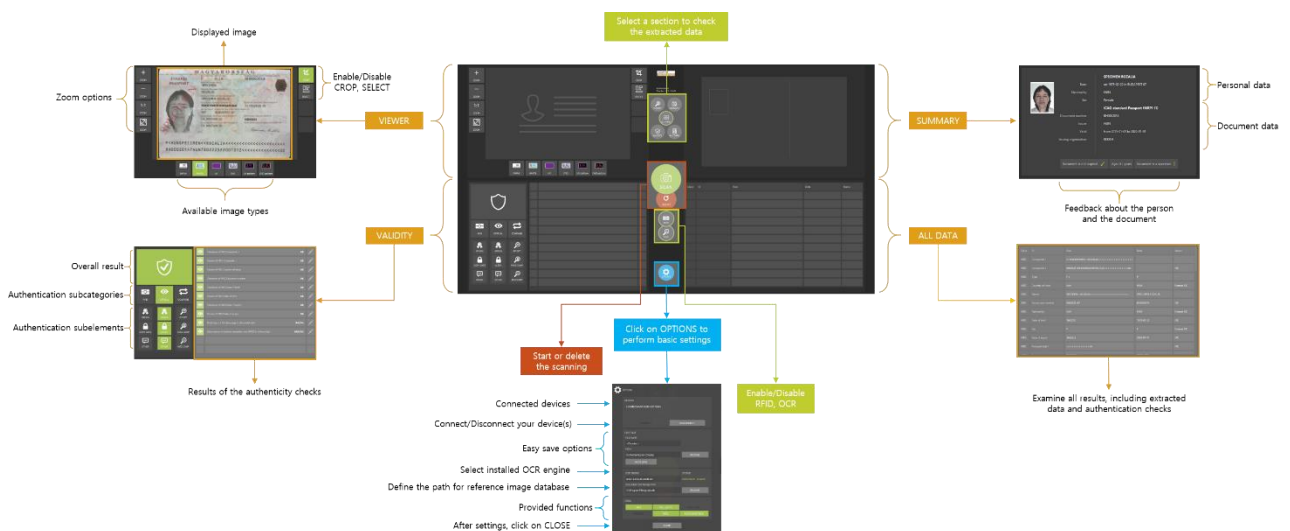
**Note**

By default, the app is connecting automatically to the document reader.

**Note**

If the device is connected properly, the **SCAN** button turns green. If the connection is unsuccessful, the **SCAN** button remains grey.

## 5. OVERVIEW





## 6. DASHBOARD

You can direct the operation of the program, change views, start or delete a scanning as well as perform some basic settings.

### Note

In **ALL VIEW** mode the Dashboard is located in the middle of the opened window, while in the selected view (**VIEWER**, **VALIDITY**, **SUMMARY**, **ALL DATA**) on the right side of the window.

### ALL VIEW

Use the **ALL VIEW** button to check all results (**VIEWER**, **VALIDITY**, **SUMMARY**, **ALL DATA**) on one display.

### VIEWER

Select **VIEWER** to examine the scanned images under several illuminations on full screen.

### VALIDITY

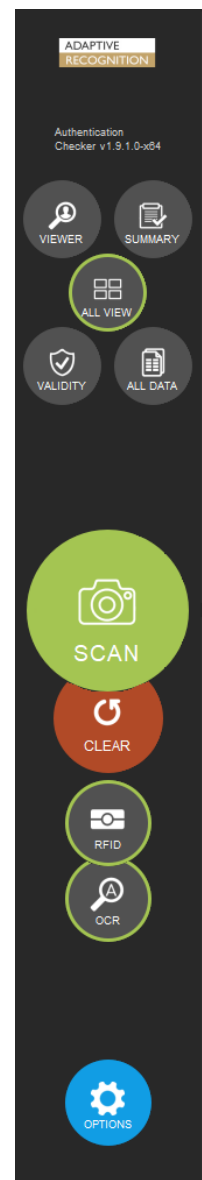
Select **VALIDITY** to view the results of the authenticity checks, including optical checks, digital data verification and comparison checks on full screen.

### SUMMARY

Select **SUMMARY** to look at the selection of the extracted personal and document data on full screen.

### ALL DATA

Select **ALL DATA** to examine all results, including extracted data and authentication checks on full screen.



## SCAN

Click on the **[SCAN]** button to start the scanning process, if the **AUTO DETECTION** mode is not selected. The status signal around the **SCAN** button indicates the progression of the scanning process.

### Note

**AUTO DETECTION** mode is switched on by default, thereby the scanning will start automatically.

## CLEAR

Use the **[CLEAR]** button to delete the extracted data of the previously scanned document.

## RFID

Click on the **[RFID]** button to enable/disable [RFID](#) reading.

### Note

The green outline around the button indicates that the function is turned on.

### Note

The MRZ reading is part of the OCR, but since it is needed for RFID reading in the most cases of the documents, the **RFID** and [OCR](#) buttons impact the enabling of MRZ reading. To turn on/off MRZ reading separately, click on **OPTIONS** and enable/disable **MRZ** by clicking on it at the [TASKS](#).



## OCR

Click on the [OCR] button to enable/disable optical character recognition.

### Note

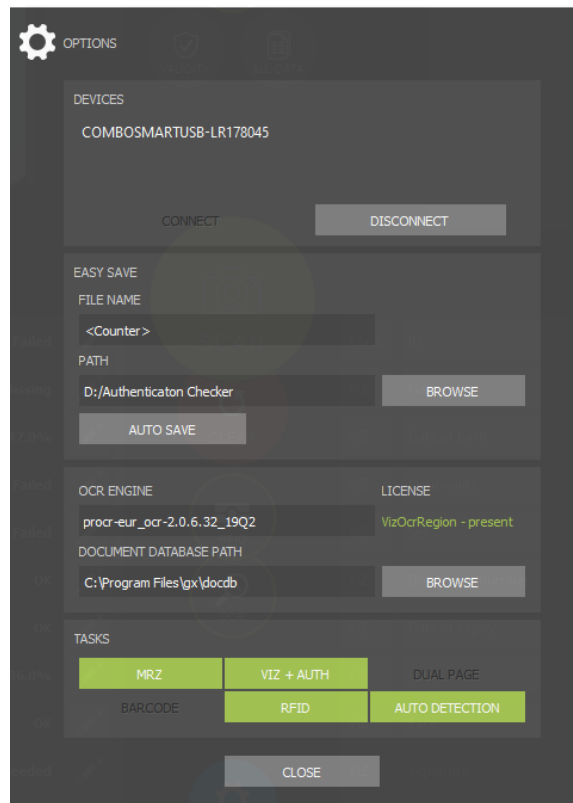
The green outline around the button indicates that the function is turned on.

### Note

The MRZ reading is part of the OCR, but since it is needed for RFID reading in the most cases of the documents, the **RFID** and **OCR** buttons impact the enabling of MRZ reading. To turn on/off MRZ reading separately, click on **OPTIONS** and enable/disable **MRZ** by clicking on it at the [TASKS](#).

## OPTIONS

Click on the [OPTIONS] button to perform some fundamental settings, customize the scanning process.



## 6.1. OPTIONS

### 1. DEVICES

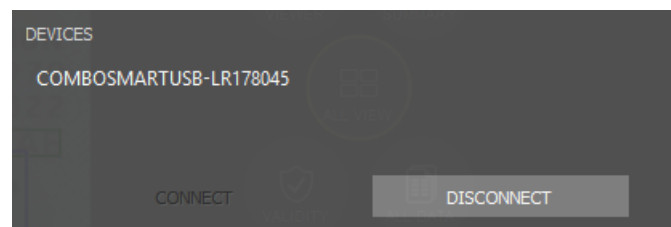
You can see the list of the document scanners connected to your computer.

#### Note

By opening the app, the device is connected automatically.

#### Note

You can work with only one device at a time.



### 2. EASY SAVE

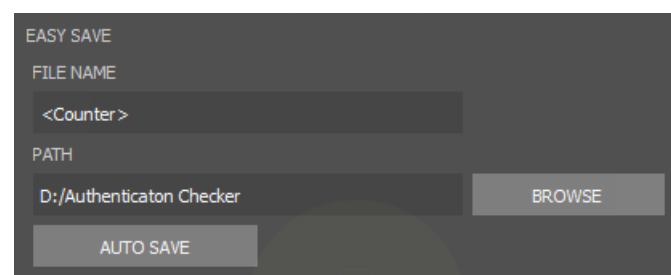
The **EASY SAVE** can make frequent document saving simpler. Turn **AUTOSAVE** on and set the **FILE NAME** and **PATH** to save the results of all scanning process automatically. After that, the software creates the filename automatically based on the configured template, then saves the .zip to the path specified.

#### Note

When using **EASY SAVE**, determine the filename syntax and path before first scanning. This option will save every scanning into the same path.

#### Important!

If the **AUTOSAVE** is not turned on, the saving process is skipped.



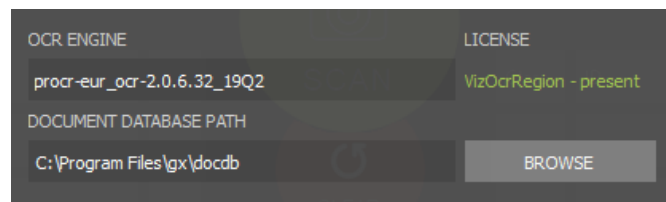
### 3. OCR ENGINE

The optical character recognition process of each document is performed by the **OCR ENGINE**. Select between **installed OCR engines on your computer**, if you have several installed engines. A dropdown list shows your available engine(s). With a left-click you can select your appropriate one. After selection, software displays a status message about the required engine-license and its availability.

The **DOCUMENT DATABASE PATH** is set by default as you install [VIZ](#) OCR+Auth engine to your computer. The purpose of this function is to allow visual comparison of authenticated document sections with images stored in a reference database. If document database is not set or installed, the authentication feature still operates and its results are returned.

#### Note

The non-default settings of the **OCR ENGINE** and **DOCUMENT DATABASE PATH** are not saved. If you close and reopen the app, the default settings will be valid again.



### 4. TASKS

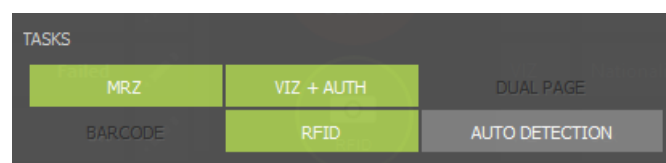
Select between the provided functions: [MRZ](#), [VIZ+AUTH](#), RFID reading and **AUTO DETECTION**.

**MRZ**: Select this task to get the data of the Machine Readable Zone.

**VIZ+AUTH**: Enable this task to read document-specific data and verify the optical authentications from the Visual Inspection Zone of different national documents.

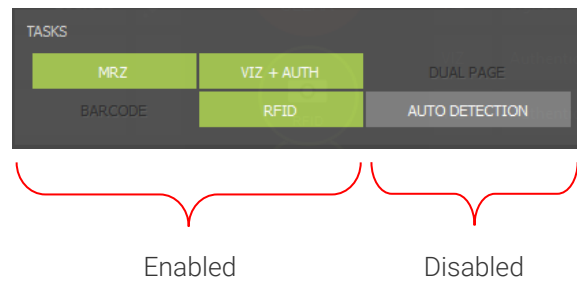
**RFID**: Choose this task to read the data from the document's built-in RFID chip.

**AUTO DETECTION**: Enable/Disable the automatic document presence detection mode (motion detection). This feature senses documents placed on the scanner glass surface. Whenever a document is present, the software captures images of the document.



 Note

Click on the button of the given task to enable (green background) or disable (grey background) it.

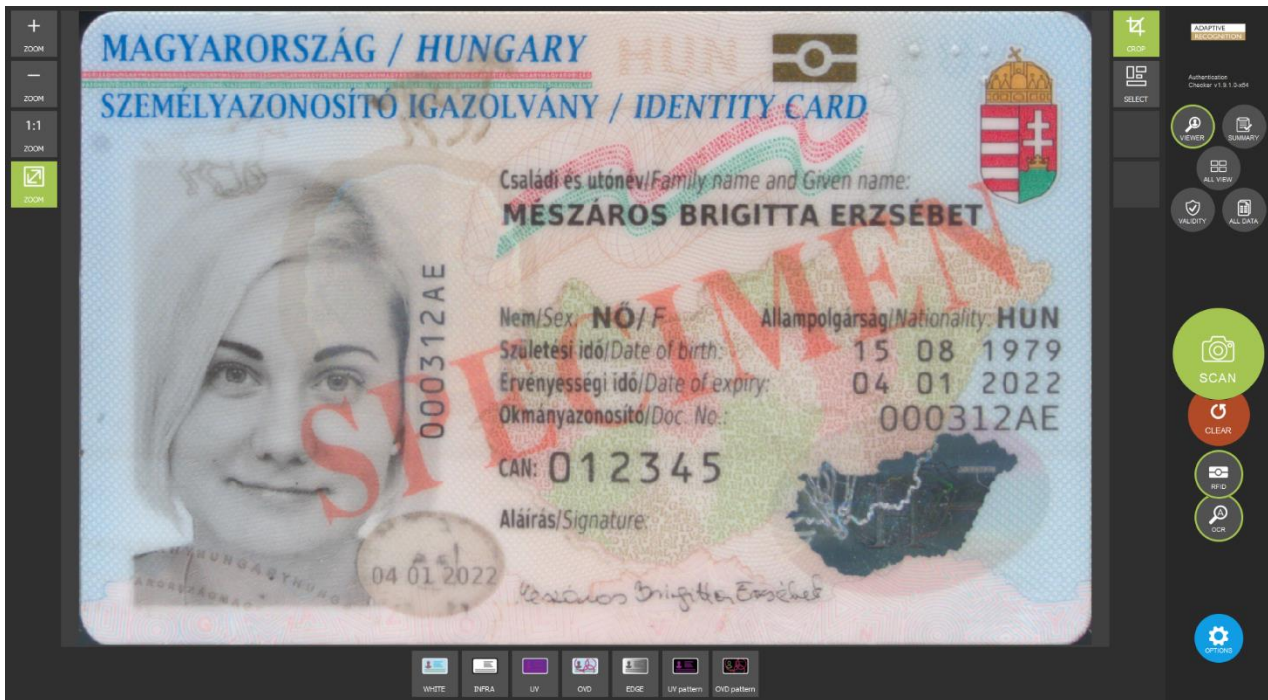
 Note

After performing settings, close the window with the **[CLOSE]** button to start document reading.

## 7. SECTIONS

### 7.1. VIEWER

In the **VIEWER** section the scanned and/or selected images are displayed. Observe the images under various illuminations, zoom in/out, crop and fit the image to screen as well as perform manual security feature checks.



#### 7.1.1. Zoom Options

- Zoom in (+)
- Zoom out (-)
- 1:1 Zoom: shows scanned image in actual size
- Fit Zoom: fits scanned image to screen

#### Note

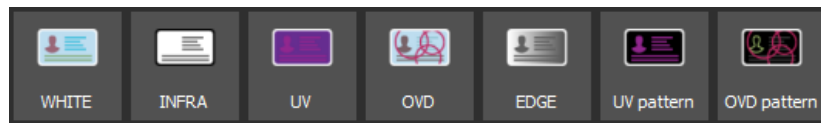
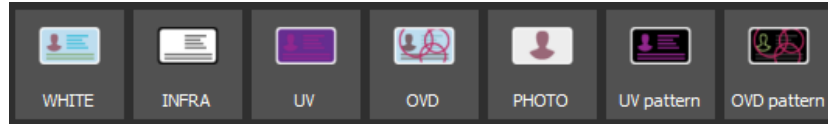
- You can zoom in by left-clicking inside the image and dragging your mouse over the area you wish to enlarge.
- You can use the scroll to zoom in and out.
- To return to the original (fit) view, double-click in the picture.
- When the image is zoomed in, drag the document with the right mouse button to observe the entire document.



## 7.1.4. Image Types

## Note

The number of image types depends on the given scanner's capabilities.



- **WHITE:** visible white illumination (with reflection removal)

Enable/Disable **WHITE** illumination by right-clicking on its button.

An image scanned in white light is a simple photo of the document – as it can be seen by the human eye. It is usable for human inspection and for examination of background pattern or face photo.





- **INFRA:** B900 infrared illumination

Enable/Disable **INFRA** illumination by right-clicking on its button.

In this illumination, the background patterns are not visible, so optical recognition algorithms provide better results.



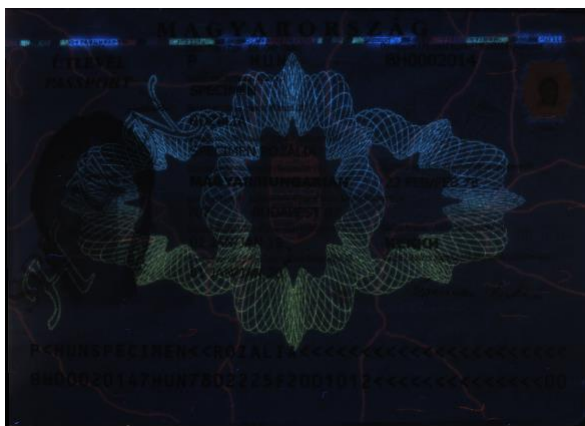
- **UV:** ultraviolet (UV-A) illumination

 Note

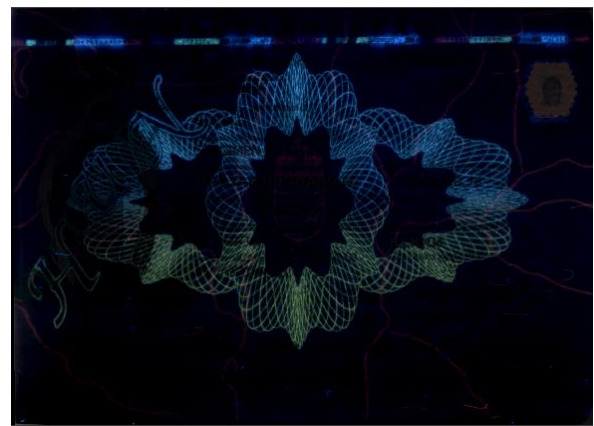
Check if available on your ID/Passport Reader model.

Enable/Disable **UV** illumination by right-clicking on its button.

Images scanned in ultraviolet illumination can be used to check authenticity features (graphics and text printed with special fluorescent ink) which are only visible under UV light. These authenticity features can be observed by viewing the **UV** image or the **UV pattern (clean UV)** image. In the case of the latter one, the background is darker so the authenticity features can be seen more clearly.



UV



UV pattern

- OVD

 Note

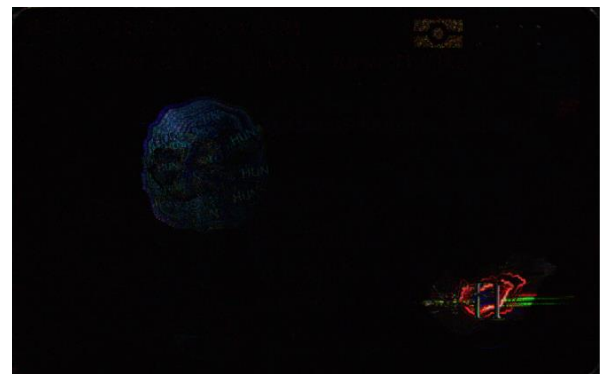
Check if available on your ID/Passport Reader model.

Enable/Disable [OVD](#) illumination by right-clicking on its button.

The Passport Reader system is capable of visualizing and removing simple holograms and most types of [OVI](#) patterns. Holograms can be observed by viewing the [OVD](#) image or the [OVD pattern](#) (clean OVD) image. In the case of the latter one, just the hologram can be seen from the document.



OVD



OVD pattern

- COAXIAL

 Note

Check if available on your ID/Passport Reader model.

Enable/Disable [COAXIAL](#) illumination by right-clicking on its button.

Coaxial light (a.k.a. on-axis light) is used to highlight surface texture: in this case, to examine a special foil. In this light, the various damages (scratches, cuts) of foils can be seen easily. Only a few document types have such foil.

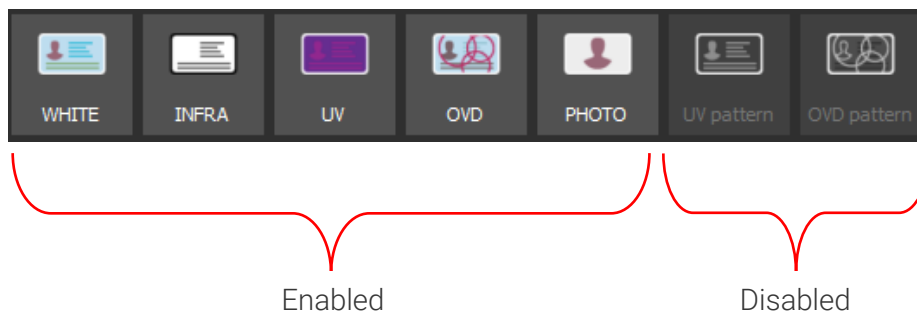




In the **VIEWER** section two image types can be examined alternately. Select one of the required image types by clicking on its icon, then click on the other and continue clicking on it as long as it is necessary. Thereby the two selected images will alternate. This way both lights can be observed without diverting the attention of the operator or moving the mouse.

**Note**

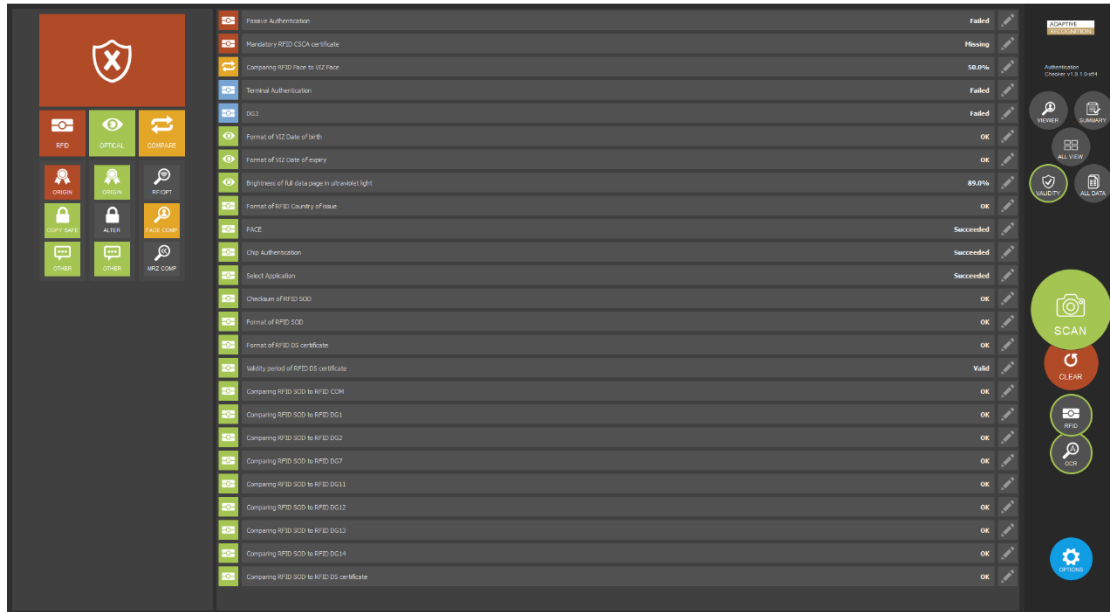
Use the right mouse click to enable/disable the several illuminations of the application. When disabled, the icon is grey. When enabled, the icon is colored.

**Note**




If you click on the **ALL VIEW** button, you will get back to the divided view.

## 7.2. VALIDITY

In the **VALIDITY** section the results of the authenticity checks are displayed, including digital data verification (**RFID**), optical (**OPTICAL**) and comparison checks (**COMPARE**).



### 7.2.1. Overall Result

		
GENUINE	WARNING	FAILED
This document has been found genuine. See confidence rates in the chart.	Questionable authentication results or reading failures. See details in the chart. Manual inspection is recommended.	Unsatisfactory authentication results or reading failure of key data. In-depth manual inspection is recommended.

**Note**  
If you click on the symbol, you will get the results of every extracted data in the chart.

**Note**  
Some tests are not executed by the Passport Reader System, but by this program. The results of these tests currently do not count into the overall result and do not appear in this panel. They only appear in the [SUMMARY](#) section.

### 7.2.2. Authentication Categories

- **RFID:** authentications in relation to e-documents (performing various access control functions and checking data integrity/genuineness of the chip)
- **OPTICAL:** security checks of optical security features, including ink, paper material, pattern matching using various illuminations, etc.
- **COMPARE:** printed vs. digital data comparison checks (including MRZ and face photo)

#### Note

If you click on one of the categories, you will get exclusively its results in the chart.

### 7.2.3. Authentication Elements

Each category has 3 elements:

#### RFID

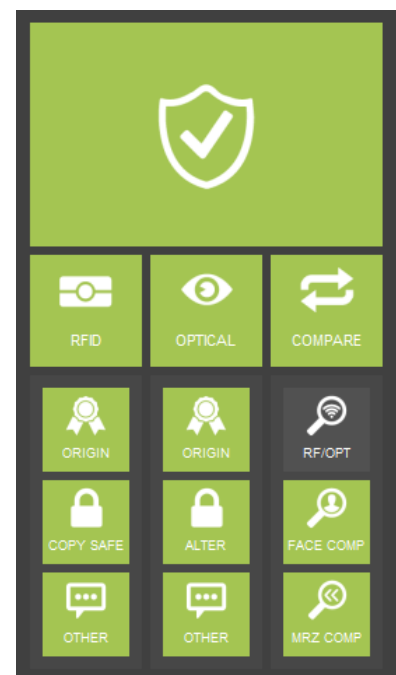
- **ORIGINALITY:** Checks if the data on the RF chip of the electronic document is authentic and unforged
- **COPY SAFE:** Uncovers cloned RF chips
- **OTHER:** Checks which do not belong to the previous two elements

#### OPTICAL

- **ORIGINALITY:** Checks if the physical document is authentic
- **ALTERATION:** Checks if the document data has been tampered with
- **OTHER:** Checks which do not belong to the previous two elements

#### COMPARE

- **RF/OPT:** –
- **FACE COMPARISON:** Compares the VIZ face (the printed face photo on the document) to the RFID face (stored in the chip)
- **MRZ COMPARISON:** Compares MRZ (on the document) to RFID MRZ (stored in the chip)



#### Note

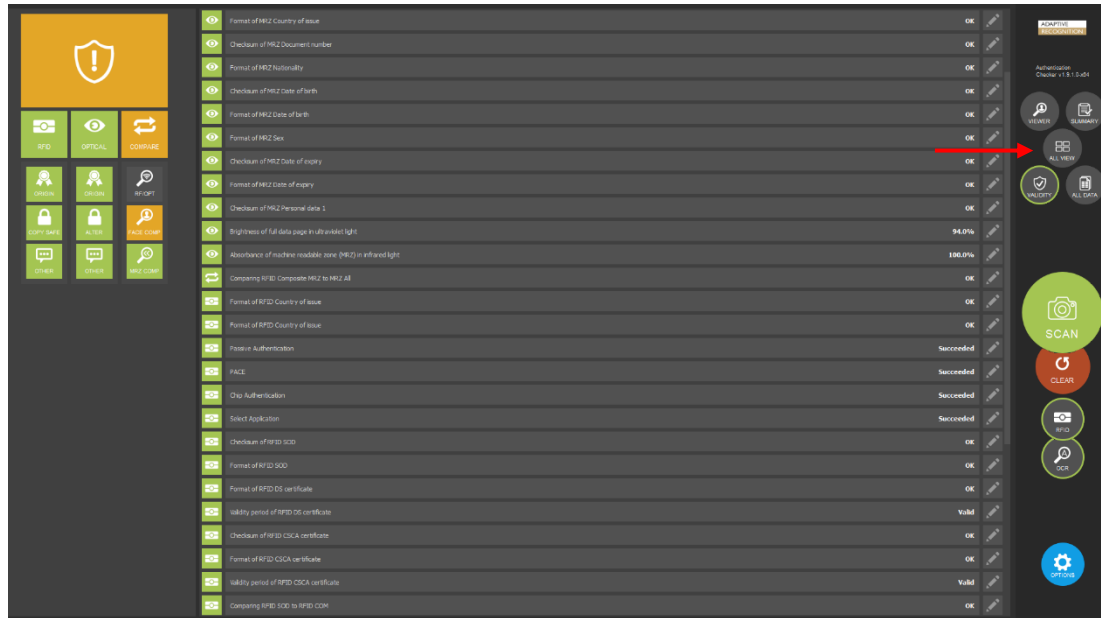
If you click on one of the elements, you will get exclusively its results in the chart.





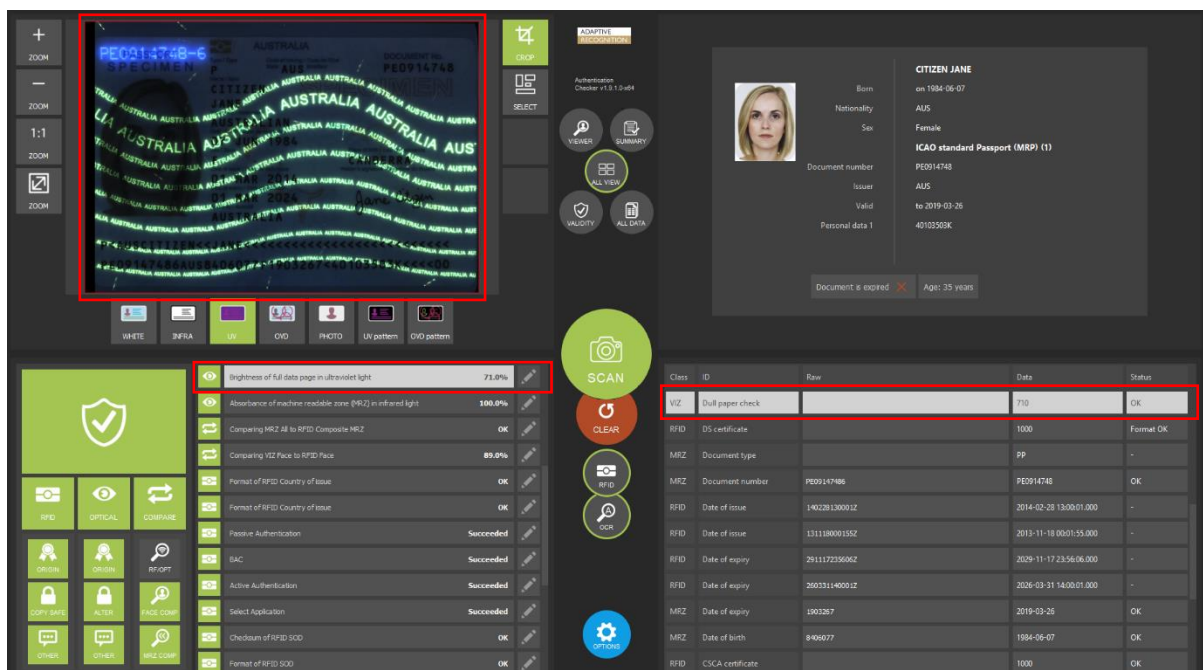
Note

If you click on the **ALL VIEW** button, you will get back to the divided view.



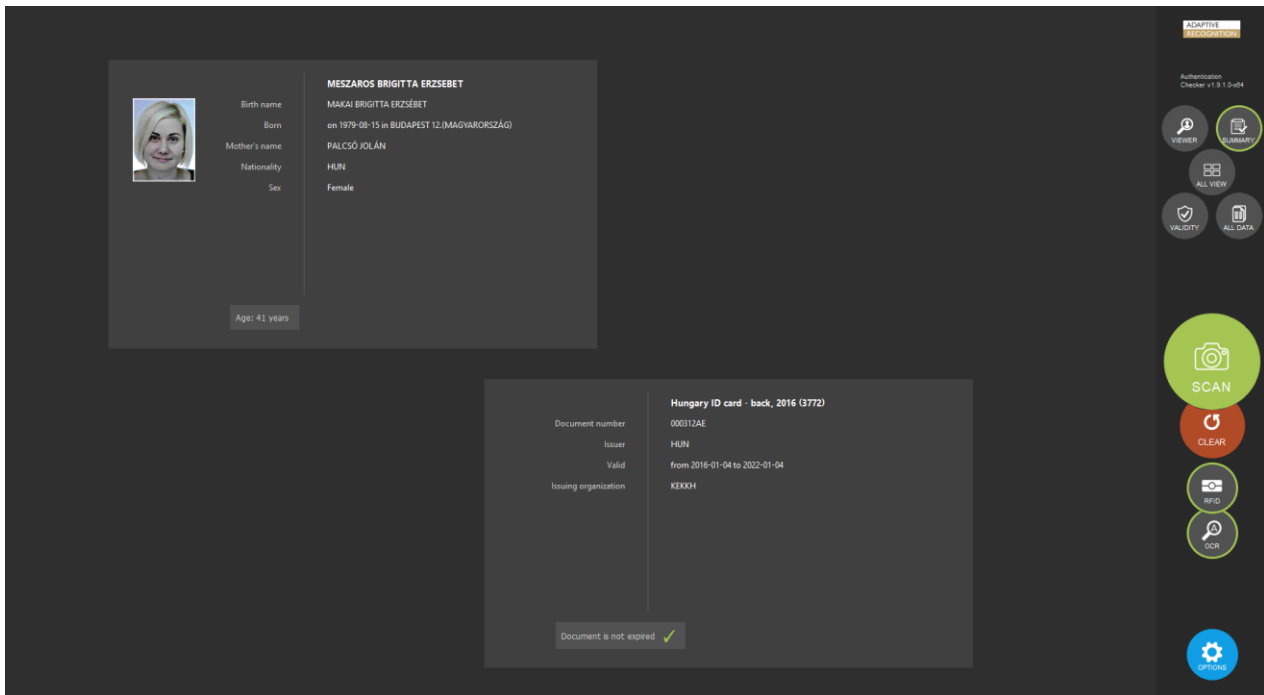
Note

If you click on a certain data in the **VALIDITY** section in **ALL VIEW** mode, a red frame will be displayed around the original location of the data in the **VIEWER** section as well as in the **ALL DATA** section the related check(s) to the data will be highlighted in grey. To cancel the selection, click on the **Dashboard**.



## 7.3. SUMMARY

In the **SUMMARY** section, selection of the essential personal and document data is displayed. The scanned data is displayed in two separate windows depending on the data type (personal or document data).



**SUMMARY** section summarizes the result of the scanning process.

It displays:

- essential personal information: name, birth name, date of birth, nationality, sex, face photo
- essential document information: document type, document number, document issuer country, document validity, issuing organization
- feedback:
  - document is expired/document is not expired/document with a close expiry date
  - age
  - document is a specimen
  - unknown document

### Note

If you click on the **ALL VIEW** button, you will get back to the divided view.





## 8. CERTIFICATES

For successful authentication, the reader needs digital certificates from the document issuer authorities. This software contains these certificates for currently used passports, but in order to support the latest documents, the certificates should be updated from time to time.

### Hint

The Passport Reader software package is implemented with German Master List that includes [CSCA](#) certificates of hundreds of documents.

You may download and use the latest version of this master list from <https://www.bsi.bund.de/SharedDocs/Downloads/DE/BSI/ElekAusweise/CSCA/GermanMasterList.html>



## 9. ACRONYMS AND TECHNICAL TERMS USED IN THE DOCUMENT

### CSCA

Country Signing Certification Authority

### JURA IPI

IPI is encrypted information in the face photo part of the document (passport or ID) that can be made visible either by special lenses or ADAPTIVE RECOGNITION document reader devices.

### MRZ

Machine Readable Zone: Lower part of the travel document. It contains text designed for reading optically with a travel document reader device.

### OCR

Optical Character Recognition: Recognizing characters from a digitalized image.

### OVD

Optically Variable Device: Security feature which shows different information, depending on the viewing and/or lighting conditions.

### OVI

Optically Variable Ink: Printing ink that contains microscopic pigments acting as interference filters, resulting in large color shifts (strong variations in color) depending on the angle of observation or lighting.

### RFID

Radio Frequency Identification: System based on built in chip that contains data and can communicate through air.

### VIZ

Visual Inspection Zone: Upper part of the travel document. It may contain face photo image and textual, human readable data.

## Contact Information

### Headquarters:

Adaptive Recognition, Hungary Inc.  
Alkotás utca 41 HU-  
1123 Budapest Hungary  
Phone: +36 1 201 9650  
Fax: +36 1 201 9651  
Web: [adaptiverecognition.com](http://adaptiverecognition.com)

### Service Address:

Adaptive Recognition, Hungary Inc.  
Ipari Park HRSZ1113/1 HU  
2074 Perbál Hungary  
Phone: +36 1 2019650  
E-mail: [rmarequest@adaptiverecognition.com](mailto:rmarequest@adaptiverecognition.com)

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All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.

If you need assistance with login or registration, please contact [atsshhelp@adaptiverecognition.com](mailto:atsshhelp@adaptiverecognition.com) for help.

