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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INTRODUCTION 1.

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)

START AUTHENTICATION CHECKER 3.

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



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6. DASHBOARD

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

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.

(I) 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.

(E) 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 <u>TASKS</u>.

OPTIONS

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

₽	OPTIONS		
	DEVICES		
	COMBOSMARTUSB-LR1	78045	
			DISCONNECT
	EASY SAVE		
	FILE NAME		
	<counter></counter>		
	D:/Authenticaton Checker		BROWSE
	OCR ENGINE		LICENSE
	procr-eur_ocr-2.0.6.32_19	9Q2	VizOcrRegion - present
	DOCUMENT DATABASE PAT		RD OLIVES
	C: Program Files (gx (docdd		BROWSE
	MRZ	VIZ + AUTH	DUAL PAGE
	BARCODE	RFID	AUTO DETECTION
		CLOSE	2 Signature





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6.1. OPTIONS

1. DEVICES

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

By opening the app, the device is connected automatically.

🗐 Note

You can work with only one device at a time.

DEVICES	SUMMARY	
COMBOSMARTUSB-LR178045		
CONNECT	DISCONNECT	

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 <u>VIZ</u> 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.

OCR ENGINE	LICENSE
procr-eur_ocr-2.0.6.32_19Q2	VizOcrRegion - present
DOCUMENT DATABASE PATH	
C:\Program Files\gx\docdb	BROWSE

4. TASKS

Select between the provided functions: <u>MRZ</u>, 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.

TASKS						
MRZ	VIZ + AUTH	DUAL PAGE				
	RFID	AUTO DETECTION				



(I) Note

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



(I) 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.

+ 200M	MAGYARORSZÁG / HUNGARY	
200м 1:1 200М	SZEMÉLYAZONOSÍTÓ IGAZOLVÁNY / IDENTITY CARD	Checker VI 3 1 3 404
2004	Családi és utónév/Family:name and Given name: MÉSZÁROS BRIGITTA ERZSÉBET	ALL VERY VILLOITY ALL GATA
	Nem/Sex, NŐ/F Születési idő/Date of birth: Ervényességi idő/Date of expiry: Okmányazonosító/Doc. No.: CAN: O12345 Aláírás/Signature: 04 01 2022	
	Para and Para any tester	
	UNCETE DIFEA UV OVO ESGE UV patiem Ov0-patiem	

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.

7.1.2. Crop

Enable/Disable **CROP** by clicking on the button. Crops and rotates documents into upright position.

7.1.3. Select

The **SELECT** function shows you the read authentication and OCR fields.

(Q) Hint

If **SELECT** is turned on and the cursor is over the **SELECT** button, at that time the frame of every read field will appear.

If **SELECT** is turned on and the cursor is over the buttons of the different image types, at that time the frames of the read data by the given illumination will appear.

By moving the mouse inside the scanned picture, frames close to the cursor will appear around the read fields. If you click on one of them in **ALL VIEW** mode, in the **VALIDITY** and **ALL DATA** sections the related check(s) to the data in the frame will be highlighted in grey. In these sections you can check the meaning of the given data, how it has been read and the result of the reading.



📳 Note

If you click on the **Dashboard**, the selection will be cancelled.

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7.1.4. Image Types



1				1		
WHITE	INFRA	UV	OVD	EDGE	UV pattern	OVD pattern

OVD

ΡΗΟΤΟ

UV pattern

OVD pattern

WHITE: visible white illumination (with reflection removal)

INFRA

WHITE

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 pattern



• OVD

🗐 Note

Check if available on your ID/Passport Reader model.

Enable/Disable <u>OVD</u> illumination by right-clicking on its button.

The Passport Reader system is capable of visualizing and removing simple holograms and most types of <u>OVI</u> 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.



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PHOTO

(E) Note

Check if available on your ID/Passport Reader model.

Enable/Disable the PHOTO camera on PRMc by right-clicking on its button.

This is a high-resolution camera positioned in a way to see the photo area of passports. This high-resolution image makes it possible to check the details of the passport photo and its immediate surroundings. The images scanned by the Photo camera are required for the JURA IPI security feature.



EDGE

(E) Note

Check if available on your ID/Passport Reader model.

Enable/Disable EDGE light on Osmond devices by right-clicking on its button.

When using Edge light, the document is illuminated at a flat angle in order to make the protruding objects located on the document cast a shadow.



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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.



(I) 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

\bigotimes		$\langle \mathbf{x} \rangle$			
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 <u>SUMMARY</u> section.

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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.



7.2.4. The Chart

In the chart the different checks and their results are displayed. By clicking on a check, a short description about the given check as well as the interpretation of its result, image(s) from the reference database (if the **OCR ENGINE** and the **DOCUMENT DATABASE PATH** are set), picture(s) about the given data on the document (optional) and the read data (optional) can be seen.

On the left side of the chart the authentication categories' symbols can be seen, that shows you which category the given check belongs to. The background colors of the symbols indicate the given check's result, except blue, which means test results unrelated to document security. On the right side of the chart the given check's result can be seen.

The display of the results can be filtered by the following:

- displays the results of every extracted data (by clicking on the symbol of the overall result)
- displays just the results of a chosen category (by clicking on a category)
- displays just the results of a chosen element (by clicking on an element)

🗐 Note

More checks may be highlighted at the same time in the chart, if on the given data can be performed different inspectorial processes.

0	Checksum of MRZ Composite 2	ОК	
0	Format of MRZ Composite 2	ОК	
B	100020147HUN7802225F2001 BH00020147HUN7802225F2001012<<<<<<<00	01	2<
	Format check tests if data hts to or differs from what is expected in terms of da format (e.g. letters instead of numbers) or field format (e.g. date of YYYY-MM-D is expected YY-MM-DD is received). In some cases, results are validated based (a dictionary (e.g. country code).	ta)D on	
۲	Format of MRZ Country of issue	ок	
•	Checksum of MRZ Document number	ОК	"
•	Format of MRZ Nationality	ок	×
•	Checksum of MRZ Date of birth	ок	×
•	Format of MRZ Date of birth	ок	
•	Format of MRZ Sex	ОК	
۲	Checksum of MRZ Date of expiry	ок	

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(E) 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.



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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).

Birth name MISZAROS BRIGITTA ERZSERET Birth name MAAAU BROTTA ERZSERET Birth name NAAAU BROTTA ERZSERIET Birth name PAAAU BROTTA ERZSERIET Michael's name PAACSÓ DILAN Nationality HAN Sox Female	RORSZÁG		
Agat 43 years		Hungary ID card - back, 2016 (3772)	VKÖTY ALDIA SCAN
		0001124E HEIN from 2016-01-04 to 2022-01-04 KEXKH	

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.

7.4. ALL DATA

The ALL DATA section displays all available data retrieved from the document.

🖲 Note

More details (e.g., more columns) can be found in the ALL DATA panel than in the ALL VIEW mode.

		Formatteo	Standardized	Status	TOIM OF	ne source	RECOGNITION
	7908150F2201049HUN<<<<<<<4						
							Authentication Checker v1.9.1.0-x8
	MESZAROS< <brigtta-gr2sebet<<<<< td=""><td></td><td></td><td></td><td></td><td></td><td>88</td></brigtta-gr2sebet<<<<<>						88
							ALL VIEW
							Ø (🛙
							ആ
							SCAN
							CLEAR
	1+HLN000312AE<8<<<<<<<<<<<<<<<<<<<<<<<<>>908150F2201043HLN<<<<<<<<<<<<<<<<<<<<<>>088150F2201043HLN<<<<<<<<<<<<>>088150F2201043HLN<<<<<<<<>>088150F2201043HLN<<<<<<>>088150F2201043HLN<<<<<>>088150F2201043HLN<<<<>>088150F2201043HLN<<<<>>088150F2201043HLN<<<<>>088150F2201043HLN<<<<>>088150F2201043HLN<<<<>>088150F2201043HLN<<<<>>088150F2201043HLN<088150F2201043HLN<<<<<<>>088150F2201043HLN<						\smile
					*		
							1
							OFTIONS

🗐 Note

If you click on the header of the columns, the data order will be reversed as well as the aspect of the order can be modified because the app categorizes the related ones.



🗐 Note

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

Chur	10	b	Formatted	Quadratized	Status	0		have formers	
class		7.0m		Standardized			Tomin U	ner source	ADAPTIVE RECOGNITION
MRZ		7908159F220104UHUN<<<<<<<+						Infra	
MRZ									Authentication Checker v1.9.1.0-x84
MRZ									
MRZ									
MRZ									88
MRZ									ALL VIEW
MRZ									Image: A state of the state
MRZ									
MRZ									
MRZ									
MRZ									
MRZ									
MRZ									
MRZ									SCAN
MRZ									G
MRZ									CLEAR
MRZ									
RFID									
RFID									
RFID									
RFID									
RFID									
RFID				2026-01-30 17:44:49.000					
RFID								EF.CertDS	options
REID									
and									

🗐 Note

If you click on a certain data in the ALL DATA 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 VALIDITY section the related check(s) to the data will be highlighted in grey. To cancel the selection, click on the Dashboard.



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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.

(Q) 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/GermanM asterList.html



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9 ACRONYMS AND TECHNICAL TERMS THE USED IN 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

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AR Technical Support System (ATSS) is designed to provide you the fastest and most proficient assistance, so you can quickly get back to business.

Information regarding hardware, software, manuals and FAQ are easily accessible for customers who previously registered to enter the dedicated ATSS site. Besides offering assistance, the site is also designed to provide maximum protection while managing your business information and technical solutions utilized.

New User

If this is your first online support request, please create an account by clicking on this link.

Returning User

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 <u>atsshelp@adaptiverecognition.com</u> for help.

