

User Manual

OCR demo for images



OCR DEMO FOR IMAGES

USER MANUAL

Document version: 2022-12-06

Table of Contents

INTRODUCTION	3
MAIN SCREEN	4
FILE MENU	5
Open Directory.....	5
Open Images.....	5
Close.....	5
EDIT MENU.....	6
Engine Settings.....	6
Demo Preferences	7
PROCESSING MENU	8
HELP MENU	9
OCR RESULT TREE	10
OCR DATA	12
DATA LOGGING	13
CONTACT INFORMATION.....	14



Introduction

The OCR Demo for Images (ODI) is a program that was developed by Adaptive Recognition Hungary to serve as a simple and versatile tool for evaluating our core OCR technology before having to first develop an application.

The goal of the SDK is to allow you to develop a similar or even a more complicated application based on the Carmen® API in order to meet the exact requirements of the particular project where it will be deployed.

The demo can handle both a single image as well as an image directory as an input source.

Supported image formats: **.jpg, .jpeg, .png, .bmp, .jp2**

This application can be found in the following folder:

- On Windows: "c:\Program Files\Adaptive Recognition\CARMEN softwares\Demos\ODI\"
- On Linux: "\opt\gx64\ODI_Demo\"

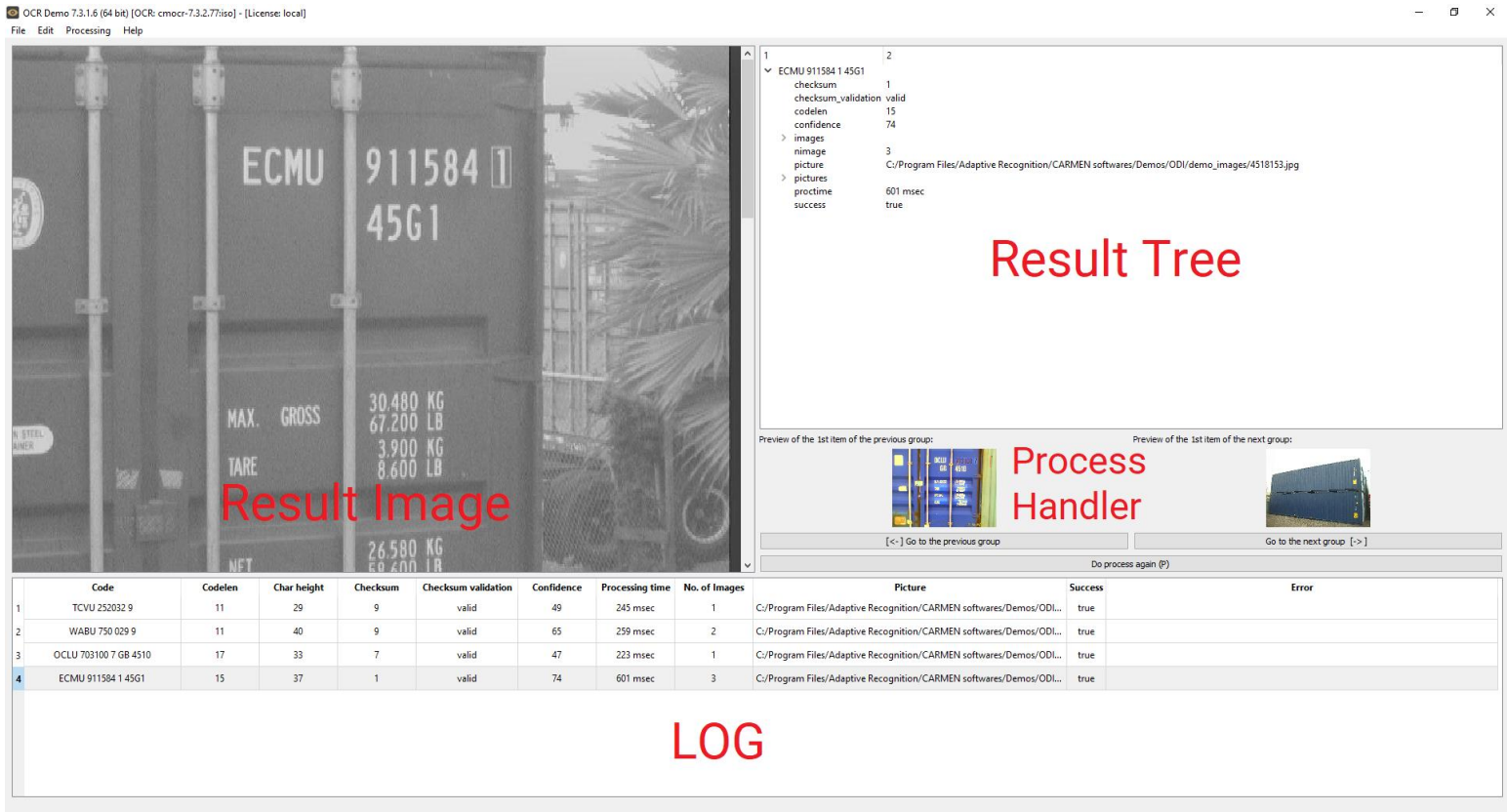
Not all images are adequate for OCR, the input images have to meet a specific set of criteria in order for the engine to be able to recognize them. Please study the following document to learn more about these requirements: [Imaging for Carmen®](#).

! Important

Please note, that this application is not available for ARM and CenOS6 packages on Linux.

Main Screen

After starting the demo, you will be presented with the main screen of the application. This window is split into three separate sections; the **Result Image**, the **Result Tree**, the **Process Handler** and the **Log** sections. All four sections provide information in connection with the scanned image.



Quick overview of the main screen

In the title you can see the following information:

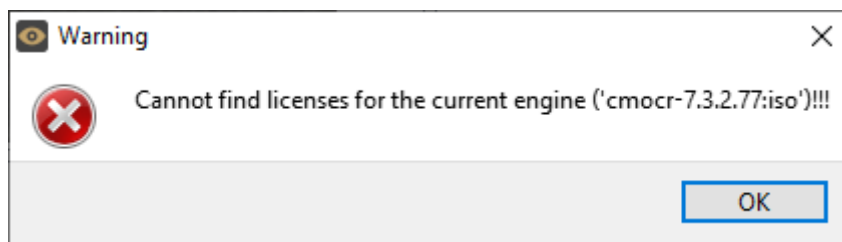
OCR Demo 7.3.1.6 (64 bit) [OCR: cmocr-7.3.2.77:iso] - [License: local]

OCR: the currently used OCR engine type and version

License: showing where CARMEN® is looking for the licenses (local/network)

Note

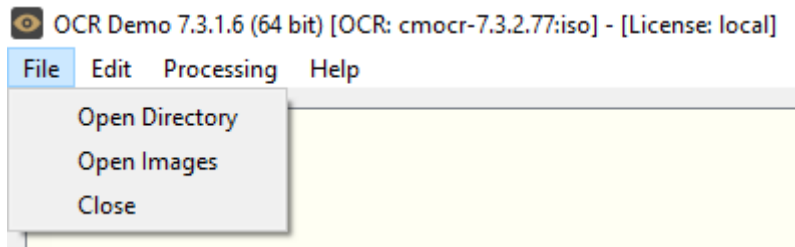
In case of missing hardware key, the following error message will appear:



File Menu

The ODI menu bar consists of four menu buttons, located in the upper left corner of the program window as follows:

File, Edit, Processing, and Help.



The **File** menu contains the following menu items:

Open Directory

Click to specify a directory containing images for OCR processing.

Open Images

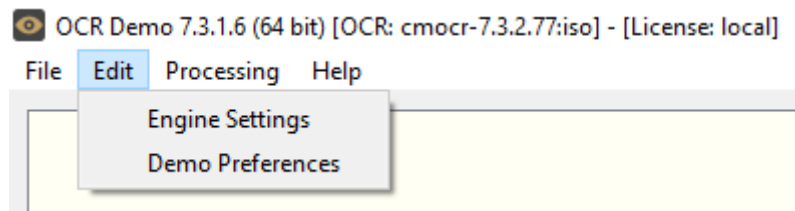
Click to select specific images for OCR processing.

Close

Close the ODI Demo application.

Edit Menu

The **Edit** menu contains the following menu items:



Engine Settings

Contains various configuration options related to the OCR process. The engine used for processing is also selected here.

By clicking this menu item, the following pop-up window will appear:

Current engine: Click the drop-down menu to select an engine from the list of installed engines.

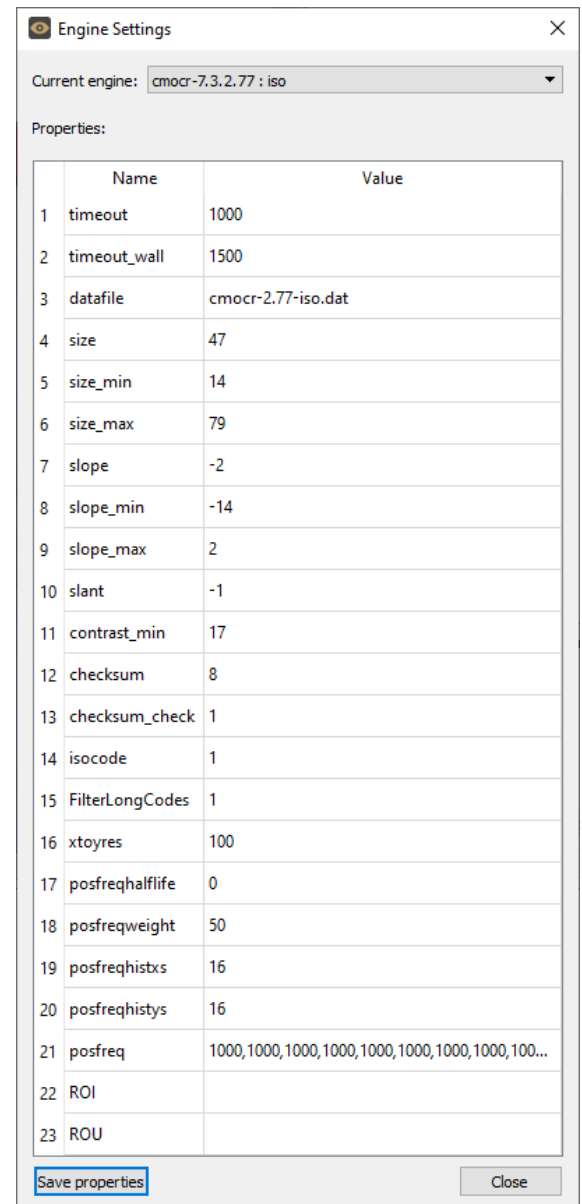
Properties: Lists the property values for the selected engine. To adjust the pre-set values, click on one of the value fields and then input a desired value. A full description of the engine properties can be found in the [CARMEN® OCR Reference Manual](#).

Click on the **[Close]** button to apply your changes. These settings will remain active until the application is closed or until the engine in use is replaced with another one from the drop-down list. When you exit the application, the changes will be lost and the values will revert to the ones saved in the gxsd.dat configuration file.

Clicking on the **[Save Properties]** button will write the current values of each property into the gxsd.dat configuration file. This feature requires write permissions to the gxsd.dat file.

The default values of an engine can be reset by reinstalling

(uninstalling and installing) it, check it [here](#) how to do that. This function works only with ANPR properties as the MMR properties are read only.



Engine Settings

Demo Preferences

Contains various configuration options related to the demo software.

By clicking this menu item, the following pop-up window will appear:

Logging section:

Time Format:

Allow the user to customize the time format.

Log File:

Browse where you would like to save the log files.

Enable Logging:

If you check this box, ODI will save the log files as you set above.

Processing section:

Max. no. of container codes in a picture:

Set maximum how many codes are allowed to return from 1 image.

Max. no. of cached images:

Set maximum how many images can be stored in the queue.

Max. no. of images in group:

Set maximum how many images are allowed in one group of images (Group means that engine will return only 1 time for the same code from the number of images in the group).

Auto Process Delay:

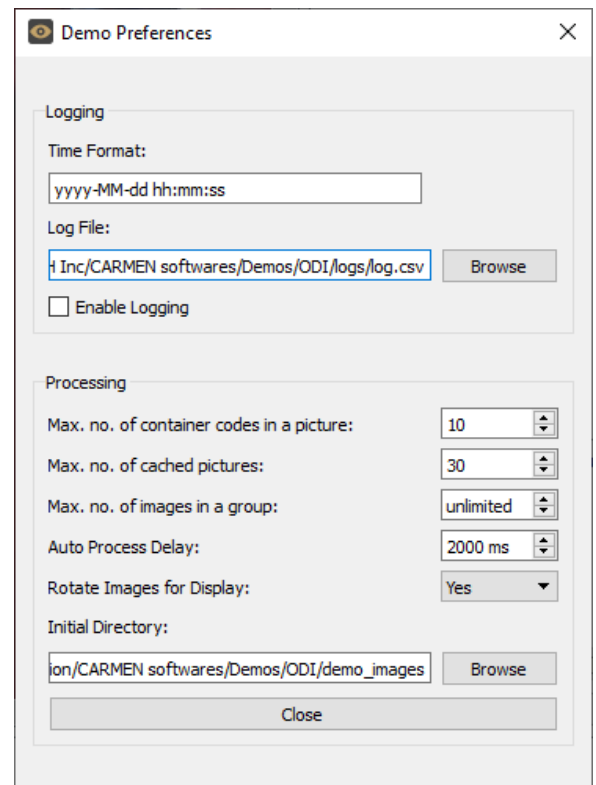
Set how many milliseconds should wait between 2 OCR processes.

Rotate Image for Display:

Set if you would like to rotate the images if the codes are turned on the image.

Initial Directory:

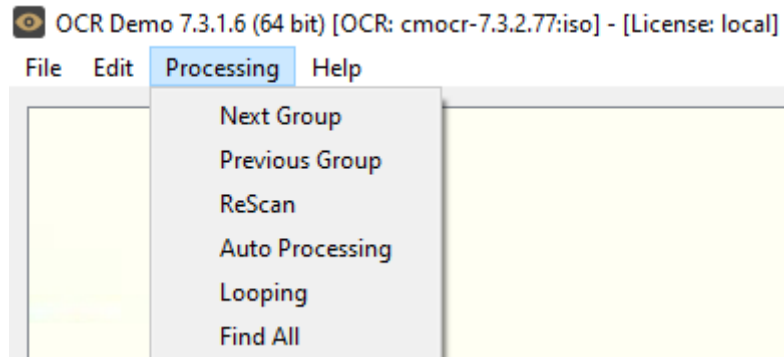
Browse from which directory ODI should search for an image for processing on start-up.



Processing Menu

The **Processing** menu contains the following menu items:

Click **Next Group** (Right Arrow) or **Previous Group** (Left Arrow) to navigate between the images/groups. Alternatively, you may also use the left/right arrow keys on the keyboard.



ReScan:

If you click on this item, ODI will do the OCR process again on the same image/group.

Auto-Process:

If checked, the application plays the images automatically as a slideshow. (You can find related settings in the Demo Preferences menu)

Looping:

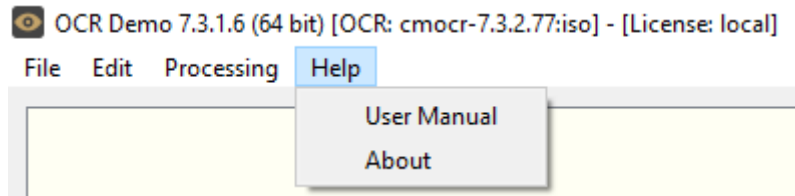
If checked, the program continuously repeats processing of the specified image sequence/folder.

Find All:

If checked, the engine will search for all plates in the image that conform to the set parameters.

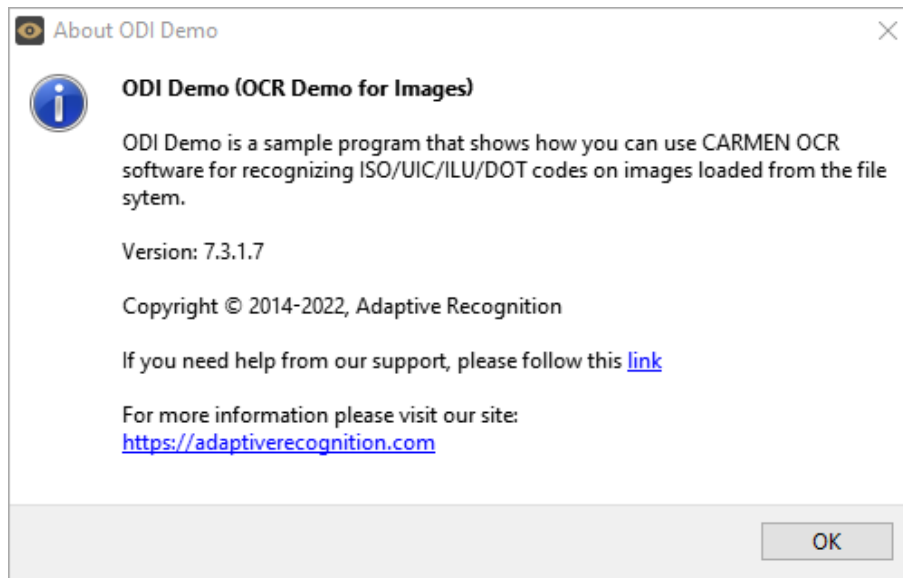
Help Menu

The Help menu contains the following menu items:



User Manual: Opens this User Manual.

About: Provides the license, version, and copyright information for the installed application.



OCR Result Tree

The OCR Result Tree is located to the right of the input image display area. It is divided into three main sections.

```
▼ ECMU 911584 1 45G1
  checksum          1
  checksum_validation valid
  codelen           15
  confidence        74
  > images
  nimage           3
  picture          C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI/demo_images/4518153.jpg
  > pictures
  proctime         597 msec
  success          true
```


1. Code result:

Provides a detailed summary of the recognized image:


- **checksum:** The result of the checksum calculation from the code characters
- **checksum_validation:** the result of the checksum validation
- **codelen:** length of the code
- **confidence:** the overall confidence of the result
- **nimage:** number of images in the group
- **picture:** path of the first image in the group
- **proctime:** the processing time in milliseconds
- **success:** true or false based on the results

```

v images
  > characters
    checksum          0
    checksum_validation valid
    confidence        99
    imgindex          1
    ncharacter        15

    picture            C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI/demo_images/4518153.jpg

    text              ECMU911584145G1
  > characters
    checksum          0
    checksum_validation valid
    confidence        99
    imgindex          3
    ncharacter        15

    picture            C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI/demo_images/4518258.jpg

    text              ECMU911584145G1
  > characters
    checksum          0
    checksum_validation valid
    confidence        97
  
```

2. Results on the images:

Individual details for each recognized character on every image in the group. Ordered from left to right than up to down.

- **characters:**
 - code: ASCII code
 - code_char: ACSII character
 - confidence: confidence of this character
 - frame: pixel coordinates of the character corners
- **checksum:** the result of the checksum calculation
- **checksum_validation:** result of the checksum validation
- **confidence:** confidence level (%) of the overall plate
- **imgindex:** index of the image in the group
- **ncharacter:** number of characters on this image
- **picture:** resized image, with its path
- **text:** recognized text from the image

```

v characters
  code          69
  code_char     E
  confidence    99
  frame         (243,107)-(262,107)-(262,147)-(243,147)
  code          67
  code_char     C
  confidence    100
  frame         (265,107)-(284,107)-(284,147)-(265,147)
  code          77
  code_char     M
  confidence    98
  frame         (287,107)-(307,107)-(306,147)-(286,147)
  
```

▼ pictures



C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI/demo_images/4518153.jpg

C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI/demo_images/4518196.jpg

C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI/demo_images/4518258.jpg

3. Pictures:

List of resized images in the group with their path.

OCR Data

Results of the OCR process are displayed in the **log** section in the bottom part of the screen. The log contains the following data:

- **Code:** the read code from the image/group.
- **Codelen:** length of the code.
- **Char height:** average height of the characters
- **Checksum validation:** the result of the checksum validation process.
- **Confidence:** overall confidence level of the plate.
- **Processing time:** OCR processing time in milliseconds
- **No. of Images:** number of images in the group.
- **Picture:** path of the first image in the group.
- **Success:** true or false based on the result.

	Code	Codelen	Char height	Checksum	Checksum validation	Confidence	Processing time	No. of Images	Picture	Success
2	TCVU 252032 9	11	29	9	valid	49	237 msec	1	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
3	WABU 750 029 9	11	40	9	valid	65	240 msec	2	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
4	TCVU 252032 9	11	29	9	valid	49	233 msec	1	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
5	WABU 750 029 9	11	40	9	valid	65	242 msec	2	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
6	TCVU 252032 9	11	29	9	valid	49	232 msec	1	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
7	WABU 750 029 9	11	40	9	valid	65	234 msec	2	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
8	OCLU 703100 7 GB 4510	17	33	7	valid	47	219 msec	1	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true
9	ECMU 911584 1 45G1	15	37	1	valid	74	597 msec	3	C:/Program Files/Adaptive Recognition/CARMEN softwares/Demos/ODI...	true

Data Logging

The application saves each OCR process in a log file if you allow it in the Demo Preferences menu.

Naming format of the log file: it is set in Demo Preferences menu

Format of the log file:

UTF16 (LE) encoding

Semicolon separated values

First Line: header with information in the following order:

```
#time;code;codelen;checksum;checksum_validation;confidence;proctime;nimage;picture;success;err  
or
```



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

Service Address:

Adaptive Recognition Hungary Inc.

Ipari Park HRSZ1113/1 HU

2074 Perbál Hungary

Phone: +36 1 2019650

E-mail: rmarequest@adaptiverecognition.com

Adaptive Recognition Technical Support System ([ATSS](#)) is designed to provide you with the fastest and most proficient assistance to get you back to business quickly.

For further technical information about our products, please visit our official website.

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 the 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 email. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to enter the support site securely.

If you need assistance with login or registration, please contact atsshelp@adaptiverecognition.com.

