



# Change Log

## For Carmen®



The changelog contains the developments, bug fixes, and new features introduced in the Carmen software versions.

# Change Log for Carmen®

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# CARMEN®

## CARMEN® ANPR 7.3.1.29 / CARMEN® OCR 7.3.1.20

Release date: 2025.07.11

### CHANGES

#### GX

- Fixed memory leak issues.

#### CMANPR

- Integrated *odpaxbelt* engine.
- Fixed handling of negative values in color properties.
- New cloud engine: supports `platetypeinfos_category` property and returns both ANPR and MMR engine info.
- *World engine* is now compatible with all MMR engines, not only with *GEN*.

#### ADI Demo

- Redesigned interface: replaces the previous result tree with a tabbed view, icons, and result tables.
- Result table columns are now customizable.
- Confidence values are now visible wherever applicable.
- Proper handling of negative values for color properties.
- *odpaxbelt* functionality is now displayed in the UI via CMANPR integration.

#### CARMEN Installers

- Bugs fixed as reported.
- Updated images.
- Engine updates:
  - **ANPR:** `cmanpr-world-7.3.18.12_24Q4`, `cmanpr-gen-7.3.19.103_25Q2`
  - **OCR:** `cmocr-iso-7.3.19.107_25Q2`

## CARMEN® ANPR 7.3.1.28 / CARMEN® OCR 7.3.1.19

Release date: 2024.08.12

### CHANGES:

GX, FXMPCIE, FXMCUSB

- Updated drivers
- Bug fixes
- GX works with 12 bit jpeg images again

### DOCUMENTATION

- Installation Guide is updated, can be found [here](#)
- User Manual is updated, can be found [here](#)

### LICENSE SERVER:

- Bug fixes

### LICENSE SERVICE CLIENT:

- It became part of the package, the description can be found in the [User Manual](#)

### ANPR:

- Default engine is updated to the latest available WORLD engine (23Q4) at the release date
- GEN engine is updated to the latest available (24Q2) at the release date

### OCR:

- Default engine is updated to the latest available (24Q2) at the release date

## ENGINE MANAGER PRO:

- Design changes with QT update
- Property description updates
- API Key feature is added to be able to check Carmen Cloud licences
- Stability improvements
- Bug fixes

## LICENSE MANAGER PRO

- Design changes with QT update

## ADI Demo:

- Design changes with QT update
- Bug fixes

## ADV Demo:

- Removed from the package

## ODI:

- Design changes with QT update
- New properties added to results

## CARMEN® ANPR 7.3.1.27 / CARMEN® OCR 7.3.1.18

Release date: 2023.09.15

### CHANGES:

EULA and all documents are updated.

GX, FXMCPCIE, FXMCUSB

- Updated drivers

### DOCUMENTATION

- User Manuals are combined into one document and updated, with the current changes, can be found [here](#)
- Change Logs are combined, can be found [here](#)

### LICENSE SERVER:

- ConfigLSClient application is updated to give more precise STATUS information. Please check the User Manual [here](#)
- Bug fixes

### ANPR:

- Default engine is updated to the latest available WORLD engine (22Q4) at the release date
- GEN engine is updated to the latest available (23Q2) at the release date
- Tensorflow is not required for the MMR engines anymore (after 23Q1) so it is removed from the installer packages (if customers are using 22Q4 or older MMR engines they have to ask for Tensorflow from us)

### OCR:

- Default engine is updated to the latest available (23Q1) at the release date

### ENGINE MANAGER PRO:

- Property description updates
- World engine and cloud engine visibility
- Bug fixes

## LICENSE MANAGER

- Updated User Manual link

## ADI Demo:

- Possibilities to set more ROI/ROU on the images and save them to the properties. Please check the User Manual [here](#).
- Correction of E-ADR and ANPR results on the same image.
- Possibility to use the Cloud engine
- MMR frames are visible on the resulting image with turquoise color
- Works with version 2 and version 4 MMR engines as well
- Show MMR results without ANPR result (times as well)
- E-ADR frames always visible on the resulting image if E-ADR search is turned on
- Updated sample images to show the capabilities of our WORLD engine
- Updated columns in the log (Country/state contains only this information from now on and TypeID is moved to a separate column)
- Logging bugfixing
- Updated User Manual link
- Magnifier on the processed image with right mouse click

## ADV Demo:

- Updated User Manual link

**Known issues:**

- MMR works only from code on Ubuntu (on VirtualBox)
- MMR works only from code on Manjaro (on VirtualBox and on VMware)

## CARMEN® ANPR 7.3.1.26 / CARMEN® OCR 7.3.1.17

Release date: 2022.12.09

### CHANGES:

EULA and all documents are updated.

GX, FXMCPCIE, FXMCUSB

- Updated drivers

LICENSE SERVER:

- Advanced logging
- User manual is ready, can be found [here](#).
- Bug fixes

ANPR:

- Default engine is updated to the latest available (22Q3) at the release date

OCR:

- Default engine is updated to the latest available (22Q3) at the release date

ANPR, OCR on linux:

- JAVA examples codes and \*.jar compilation fix
- SWIG issues fix

Engine Manager Pro:

- Property description updates

ADI Demo:

- Possibilities to set ROI/ROU on the images and save them to the properties
- Correction of E-ADR and ANPR results on the same image
- No MMR search by ADR result

## ADV Demo:

- Show the location from where the application is looking for the licenses

## Known issues:

- MMR works only from code on Ubuntu (on VirtualBox)
- MMR works only from code on Manjaro (on VirtualBox and on VMware)



## CARMEN® ANPR 7.3.1.25 / CARMEN® OCR 7.3.1.16

Release date: 2022.07.15

### CHANGES:

All documents are updated.

GX:

- New driver for 1809 Windows 10

FXMCPCIE:

- New driver for 1809 Windows 10

FXMCUSB:

- New driver for 1809 Windows 10

LICENSE SERVER:

- Advanced logging
- Desktop mode on linux
- User manual is ready, can be found [here](#).

ANPR:

- Default engine is updated to the latest available (22Q2) at the release date
- MMR header file replaced to be able to work with 7.3.4.x MMR engines

ANPR, OCR on linux:

- JAVA examples codes and \*.jar compilation fix
- JAVA package names (gx, cm) have changed: **com.adaptiverecognition.gx**, **com.adaptiverecognition.cm**

Known issues:

- During ARM32 installation sometimes the drivers are not compiled/installed/started automatically - > if this is the case, please use run [make\\_kerneldrivers](#) script (on page 17)
- Drivers are not working on OpenSuse (on VirtualBox and on VMware)
- MMR works only from code on Ubuntu (on VirtualBox)
- MMR works only from code on Manjaro (on VirtualBox and on VMware)

## CARMEN® ANPR 7.3.1.24 / CARMEN® OCR 7.3.1.15

Release date: 2022.05.31

### CHANGES:

All documents are updated.

GX:

- “K” license bugfixes
- Opensource packages updated

FXMPCIE:

- new driver (maximum 40 license on one key)
- bugfixes
- on Linux: PCI card with 4 Atmel chip support (it was already supported on windows)

FXMCUSB:

- new driver (maximum 40 license on one key)
- bugfixes

LICENSE MANAGER:

- new link for the user manual

ENGINE MANAGER PRO:

- new links for the manuals

LICENSE SERVER:

- included in the installer package
- works with 1 client without any additional license
- can run as an application or as a service as well
- User manual is ready, can be found [here](#).

## ANPR, OCR:

- Default engines are updated the to the latest available at the release date
- Linux:
  - New installation script on Linux, which check the CPU features (AVX) and compile, install and start the drivers if the user asks for it
  - The script checks the dependencies and let the user know if something is missing
- Possibility to NOT install CreditInformation and TimeCreditInformation applications

## ANPR:

- VCRedist is included in the installer
- MMR header file replaced (updated categories, colors)
- ADI Demo
  - About window updated
  - User Manual link changed
  - Automatic MMR engine picker function
  - MMR engines related bugfixes
  - Processing buttons changes
  - Warning – if auto process is turned on and the user is trying to change between the results
- ADV Demo
  - About window updated
  - User Manual link changed

## OCR:

- ODI Demo
  - About window updated
  - User Manual link changed

## Linux:

- CentOS6, ARM64, ARM32, X64 version, with updated EngMan and LicMan applications

## Known issues:

- During ARM32 installation sometimes the drivers are not compiled/installed/started automatically - > if this is the case, please use run [make\\_kerneldrivers](#) script (on page 17)
- Drivers are not working on OpenSuse (on VirtualBox and on VMware)
- MMR works only from code on Ubuntu (on VirtualBox)
- MMR works only from code on Manjaro (on VirtualBox and on VMware)

## CARMEN® ANPR 7.3.1.23 / CARMEN® OCR 7.3.1.14

Release date: 2021.04.16

### CHANGES:

ONLY X64 version is available for x86\_64 architecture processors, ARM32 still supported.

All documents are updated.

GX:

- License Server bugfixes
- “K” license bugfixes
- Make it work on 5.6 and 5.8 linux kernel as well
- Opensource packages updated

FXMPCIE:

- new driver, bugfixes
- on windows: PCI card with 4 Atmel chip support

FXMCUSB:

- new driver, bugfixes

LICENSE MANAGER:

- mistype correction
- yellow background for expired licenses
- standardized way for license visibility [CARMEN Anpr / Ocr / MMR (region / type) ]

ENGINE MANAGER PRO:

- capability to show the MMR engines/properties (all of them are readonly at this moment)
- all property is visible in EM from now
- all property has tooltip

## ANPR, OCR:

- Sample codes in the SDK are synchronized for different programming languages
- IsPropertiesValid() function to check the syntax of the gxsd.dat file
- New icons and images in the installers, applications
- Default engines are updated the to the latest available at the release date
- New make\_kerneldrivers.sh script on linux to install/start/stop/uninstall/autostart the drivers
- Installation folder changed from “ARH Inc.” to “Adaptive Recognition”

## ANPR:

- MMR dependencies are included into the installer, not in the engines anymore
- MMR bugfixes
- ADI Demo
  - Show in the title which engines (ANPR and MMR) are in use
  - Show in the title where the licenses are looked for (local or IPNNC)
  - New columns in the log section: “Plate Text (ASCII)” ; “Plate category”
  - New columns in case of MMR is enabled: “MMR confidence” ; “MMR Time(ms)”
  - The above new column values are included into the Result Tree s well
  - About window update
  - User Manual opens from our website
  - MMR engines related bugfixes
  - MMR settings are added, but show the properties only, it is not possible to modify them
  - Path is right-aligned
  - In case of no result showing the ANPR time
  - Show the Plate Text (ASCII) to be able to see what unicode\_in\_text property does
  - Possibility to round the exact License Plate (in Demo Preferences)
  - Possibility to highlight E-ADR plates and License Plates on the same image at the same time
  - Name / visible name is changed on linux to be the same as on windows

- ADV Demo
  - About window update
  - User Manual opens from our website
  - Menu items are synchronized with ADI
  - Name / visible name is changed on linux

**OCR:**

- Engines are renamed from “cmaccr” to “cmocr”, which is the default from now
- ODI Demo
  - About window updated
  - User Manual opens from our website
  - Menu items are synchronized with ADI
  - Name is changed, to be the “same” as in case of ADI/ADV; on linux as well

**Linux:**

- CentOS6, ARM64, ARM32, X64 version, with updated EngMan (MMR, OCR engines)

## CARMEN® ANPR 7.3.1.21 (22 ON LINUX)

Release date: 2020.04.27

### CHANGES:

#### GX:

- License Server bugfixes
- License handling improvements (faster allocation – most valuable on License Server side)
- MMR (Make & Model Recognition) capability
  - Possibility to read the vehicle Make, Model and Color data after a successful ANPR
  - Works on front view images
  - 2 way for MMR reading
    - Automatic (right after a successful ANPR, automatically)
    - Manual (if you have an ANPR result with a related photo you can check the MMR manually)
- Bugfixes (“K” license issue)

#### ADI:

- Handling MMR engines in Demo Preferences
- Showing MMR results

#### License Manager:

- Tooltip update (works only from HW version 3.7)

## CARMEN® ANPR 7.3.1.20

Release date: 2019.10.17

### CHANGES:

GX:

- License Server bugfixes
- License handling improvements
- Bugfixes

FXMPCIE:

- new driver, bugfixes

## CARMEN® ANPR 7.3.1.19

Release date: 2019.06.07

### CHANGES:

Setup:

- MSI installers

QT applications:

- Common directory for QT applications

GX:

- gxbmp module: handles bitmaps have width or height is negative value
- API/driver: handling CARMEN Go and time limited licenses
- Querying license information from the engines (anpr, accr)
- Network sharing of the licenses is supported
- Linux:
  - built-in licenses (shown with negative license ID) fixed for cat/proc/gx/devices command
  - kernel drivers work with Linux kernel 5.0.3

CMANPR:

- FindFirstV, FindNextV bugfix (no result case)
- New property: findenginesdepth – the depth of the finding engines

FXMPCPIE:

- supported the Atmel 128k chip

Engine Manager:

- Old Engine Manager removed (from now engines will release in msi format)
- Engine Manager Pro: new style engine manager under Windows and Linux
- EngMan fix (missing license information)

## License Manager:

- LicMan bugfix (invalid command line parameter)
- TimeCreditInfo application to checking remained time limit

## ADV:

- authentication
- Max. image, log dir size overflow fix
- Re-written event / message handling (faster multi thread working)

## ADI:

- Find empty ADR checkbox
- Displays the ADR frame on the image
- Displays the empty ADR type

# CARMEN® GO

## CARMEN® GO 1.5.0

Release date: 2024.09.06

### NEW FEATURES:

- Result upload to GDS
- FTP upload has a built-in Test functionality
- Default engine: World instead of General (returns nationality and syntax)
- Compatible with Freeflow engines from now on
- ANPR: region and location selectors are the default, but it is also possible to use custom property settings via countryfiles
- Stream names can be quick-edited
- Database view can be refreshed with one click, no need to reload the whole UI
- Live View indicates all active streams
- Stream details can be listed with one click (no need to go into the stream editor menu)
- New MMR features supported: "Viewpoint" and "Body type"

### IMPROVEMENTS:

- ONVIF: device name is displayed along with the IP address
- Users: email field was not used, will not be displayed
- Stream settings are more streamlined
- Control Panel design changes, usability improvements
- general design facelift
- Carmen® framework version upgrade to 7.3.1.28
- Carmen® general engine upgraded to 24Q2 version and Carmen® world engine upgraded to 23Q4 version
- REST API documentation redesign: new documentation can be found in the [User Manual](#)

### BUGFIXES:

- Improved display of non-latin characters: always in isolated form, where position in-text could influence the appearance of characters (e.g.: arabic, persian)

**KNOWN ISSUES:**

- Saving quotation marks in string fields breaks functionality. Can only be fixed by manually removing the quotes from the offending line(s) in the affected configuration file.

**COMPATIBILITY CHANGES:**

- "General" and "Stop-and-go" processor removed: "Plate Finder" and "Parking" should cover all use cases
- Discontinuation of C SDK support



## CARMEN® GO 1.4.3

Release date: 2023.02.27

### IMPROVEMENTS:

- Web UI improvements: updates to layout, tooltips, and placeholders, etc.
- Changed default ANPR strategy: will not return plates with unidentified type
- Able to work with Carmen® MMR engines with API version 4
- Carmen® framework version upgrade to 7.3.1.26
- Carmen® General engine upgraded to 22Q4 version
- Results and Database search filters extended with new Carmen® MMR makes, categories, and colors

### BUG FIXES:

- Video uploader: automatically overwrite existing files when attempting re-upload
- Video uploader has not accepted some video formats
- Plate category also displays correctly with most recent engines

### OTHER CHANGES:

- "General video processor" and "Stop and Go" trigger methods are officially deprecated in favour of "Plate Finder"

## CARMEN® GO 1.4.2

Release date: 2022.08.04

### IMPROVEMENTS:

- No need for external country configuration files, the values are now stored internally - config files can still be used optionally (i.e. for customization), but not required
- Optimized usage with remote licenses (needs a License Server)
- Carmen® framework version upgrade to 7.3.1.24
- Unicode characters are now accepted in stream names and URLs

### BUG FIXES:

- Possible memory leak scenarios fixed
- Fail-safe measurements (for preventing detection losses)
- Fixed character escaping of user-defined fields

# CARMEN® VIDEO SDK

## CARMEN® VIDEO SDK 1.2.2

Release date: 2026.04.30

### BUG FIXES

- Fixed an issue that could trigger unnecessary ANPR engine loading because of an uninitialized internal state flag.
- Fixed a Unicode text handling issue in the C# SDK, where UTF-8 strings from the C interface were interpreted as ANSI.
- Fixed Unicode console output in the C++ and C# samples.



## CARMEN® VIDEO SDK 1.2.1

Release date: 2025.09.04

### BUG FIXES

- Multistage ANPR only worked with FreeFlow licensed engines not with Go licensed
- C++ SDK Anpr::registerProfile function "customProperties" lifetime bug fix: Improper handling of lifetimes caused the application to crash.
- C# SDK: Not all relevant classes followed the IDisposable pattern.
- When processing video files StreamProcessor's statusChangeCallback incorrectly reported FAILURE instead of FINISHED when end of file was reached.
- In some cases, Plate Text Color and Plate Background Color fields were filled with a value even when the cmanpr engine returned that they're unavailable.
- Fixed a CARMEN Cloud compatibility problem which only appeared in certain versions of CARMEN Worker.
- Fixed an event and image timestamp calculation bug, which was more likely to occur on Linux and could produce negative timestamps.

### PACKAGE

- Updated to CARMEN® ANPR 29 in the Linux package
- ANPR engine updates in linux packages: cmanpr-world-7.3.18.12\_24Q4 as part of CARMEN® ANPR 29, cmanpr-world\_go-7.3.18.13\_24Q4 in VideoSDK package

### COMPATIBILITY ISSUES WITH VERSION 1.2.0

- Introduced is\_https flag for cloud connections. Using HTTP-only might be satisfactory / preferable with on-premise CARMEN Worker solutions. This feature involved a minor interface change.

## CARMEN® VIDEO SDK 1.2.0

Release date: 2024.11.08.

### NEW FEATURES

- Supporting Carmen® Cloud as ANPR and MMR service
- Supporting Carmen® GO engines/licenses with LOCAL\_GO ANPR type
- Supporting licensing method selection from the sdk
  - Local HW key
  - License Server (this option should be used for ["License Service Client"](#) solutions too)
  - Cloud
- MMR
  - Vehicle color name in result (provided by MMR engine)
  - Supporting new MMR result fields and their corresponding confidence values
    - viewpoint
    - bodytype
    - generation (from 24Q2 engines)
    - variation (from 24Q2 engines)
- C# SDK support on Linux with .NET 6.0+, and Windows with .NET Framework 4.6+ and .NET 6.0+
- ANPR, MMR profiles
  - Ability to select specific engines, engine versions
  - Multistage ANPR support with ANPR profiles (e.g. call "Local Plus" engine before "Regional")
- Experimental custom image stream support: user can provide the images for the StreamProcessor object
- Introduced StreamProcessorMode selection (Auto, Live, NonLive)

**PACKAGE**

- Linux packages include CARMEN® ANPR 28
- Removed CARMEN® ANPR from Windows MSI, needs to be downloaded and installed manually
- Added Nuget packages to installers

**BUG FIXES**

- MMR make and model confidences were mixed up in the results

**COMPATIBILITY ISSUES WITH VERSION 1.1.0**

- Introduced Color type instead of "int" type in C/C++ SDK for plate and vehicle colors



## CARMEN® VIDEO SDK 1.1.0

Release date: 2023.01.20

### NEW FEATURES:

- Supports Linux for x86\_64 and 64 bit ARM architectures with C and C++ SDK
- New processing method for video file inputs to enable processing without frame drops
- Logger – can modify log levels, and log callback function
- Can work with more than 4 points as ROI parameter

### IMPROVEMENTS:

- Carmen® ANPR Framework version upgrade to 7.3.1.26
- Compatible with Carmen® MMR API version 2 and 4
- Improved sample codes
- Minor processing improvements
- Better error handling
- More precise error and log messages

### BUG FIXES:

- ANPR plate type category result with more than one category

### KNOWN ISSUES:

- All C functions return with error code -1 on failure. Later there will be more specific error codes

### COMPATIBILITY ISSUES WITH VERSION 1.0.0:

- Video SDK modified the category output of MMR engine. Now it returns the same category as the engine. It is documented in [CARMEN® ANPR Reference Manual](#).
- Modified C enum names (which also pollute C++ header only SDK) to be more specific and less likely to cause conflicts like “LOCAL”, “JPEG”.

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