Application Description

The KobiLPR application in real time automatically detects and recognizes vehicles license plate in the video stream of the IP camera and send the text report with snapshots to LPR Event Server (VMS, NVR производителей ZetPro и Dahua) for each such event. The application also supports the blacklist of plates and can send notifications to Telegram for the blacklist or for all license plate recognition results.

Main Features

- automatic vehicles license plate detection and recognition
- license plates with Latin characters are supported
- constantly expanding list of supported countries
- high recognition accuracy - above 95%
- low detection and recognition time even without using SoC NNU - about 40ms
- integration with VMS, NVRs of ZetPro and Dahua
- integration with Telegram
- plates blacklist support
- alerts to Telegram on every LPR events or plates from blacklist
- easy application configuration via web interface
- camera, application and Telegram bot that is all you need for successful work
- work with cameras of 5 and 7 series (DHOPv2 with NNU) and cameras supporting DHOPv1 (without NNU)

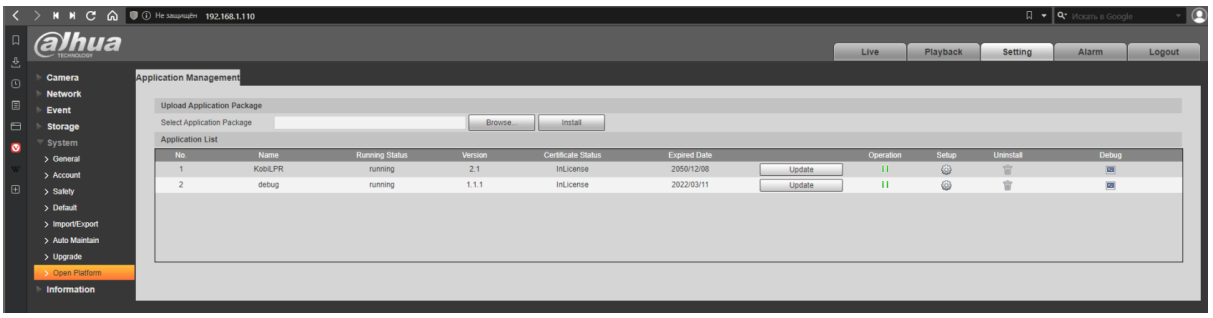
Preparation for work

Using the instructions of Dahua company (one of the possible methods), install the appropriate firmware on your camera with support for the Dahua Open Platform (firmware is different for 5 and 7 series cameras).

For example, for the 5 series, update the camera firmware via the web interface by specifying the DH_IPC-HX5XXX-Volt_MultiLang_PN_Stream3_DHOP_V2.800.0000000.17.R.200620.bin file provided by the application vendor as the new firmware. When the firmware update is complete, your camera will support Dahua's Open Platform technology and you can install and run in the camera the applications from Dahua partners.

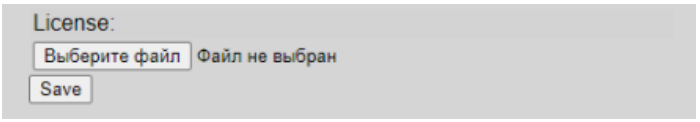
Follow Dahua's instructions to install on the camera one of the two versions of the KobiLPR app (demo or full version). To do this, go to the General-> OpenPlatform menu, click the “Browse” button and select the application file “KobiLPR.bin” and then click the “Install” button.

After installing the KobiLPR app, launch it following the instructions from Dahua.



List of running applications. Example

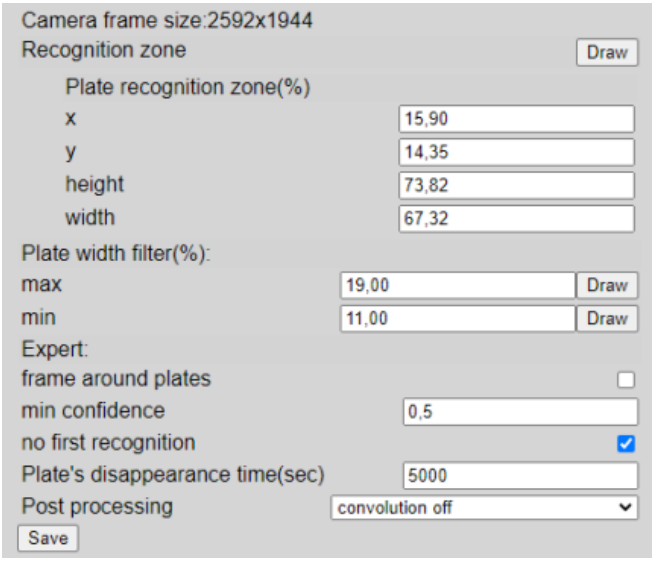
ATTENTION! For the full version of the application you must install a license for this camera in application settings. The license is generated by the application supplier based on the camera serial number (DEVICEID) and its MAC address.

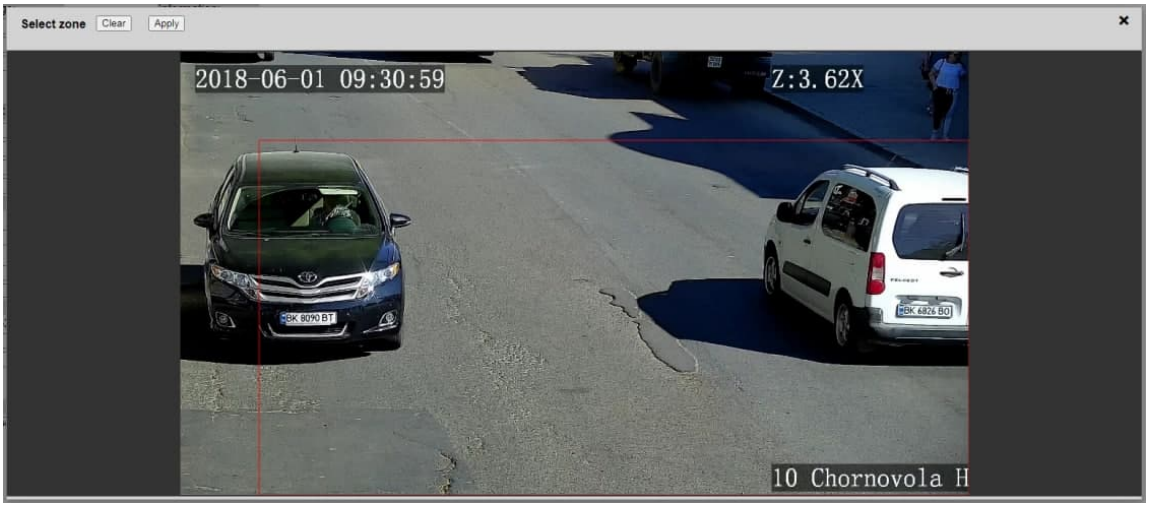


Application setup

Before starting the application, you need to configure it. To do this, click on the Setup button in the line with the running application. Application settings are divided into groups, each of which requires individual saving.

First of all, it is necessary to indicate the recognition area, as well as the minimum and maximum size of the license plate. They can be entered manually or drawn on the frame received from the camera, based on the real sizes of objects.





License plate recognition zone drawing window

Window for drawing the minimum / maximum size of the number

The group of expert settings allows you to:

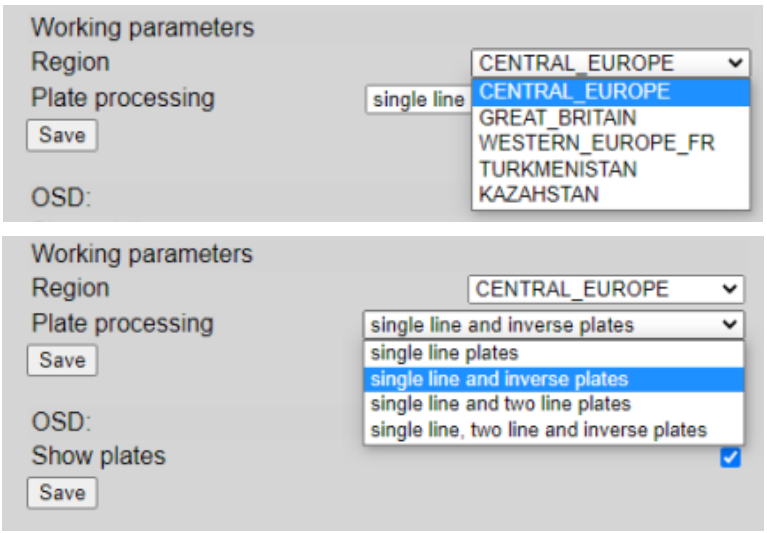
- enable/disable the framing of recognized license plates with a colored frame over the image;
- set the minimum confidence value. Detected plates with validity lower than the specified will be discarded;
- discard/keep the result of the first recognition of each license plate;
- set the value of the plate's disappearance time. This is the time during which the results of recognition of the same license plate will be considered as one final result;
- configure post-processing of license plate recognition results: allow / prohibit the use of convolution for plates.

For reference, the currently set dimensions of the camera image processed by the application are also given.

After making the settings of this group, you need to save them.

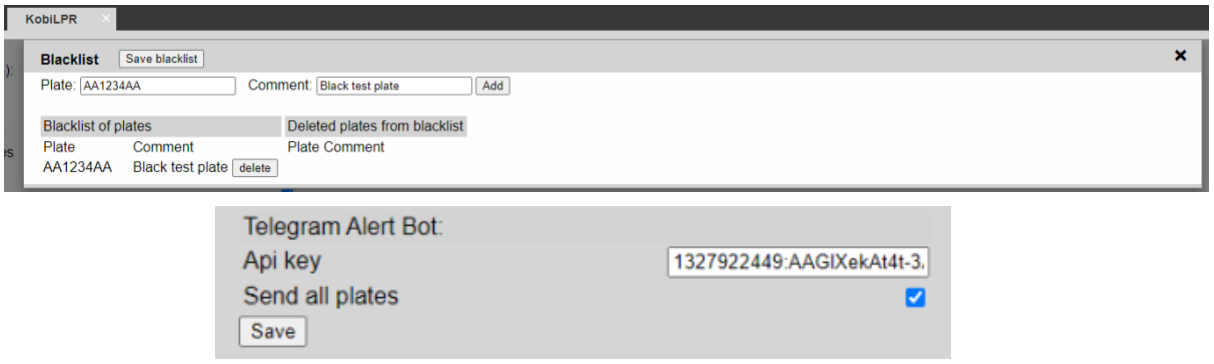
Also, in the group of operating parameters, you need to select the appropriate region (the list is constantly updated) and indicate the type of license plates to be processed: single-line numbers, single-line numbers with color inversion (dark plate, light symbols), one-line and two-line numbers, one-line and two-line numbers with color inversion.

The application also supports of OSD mode, in which the results of license plate recognition are displayed on the liveview image of the camera itself.

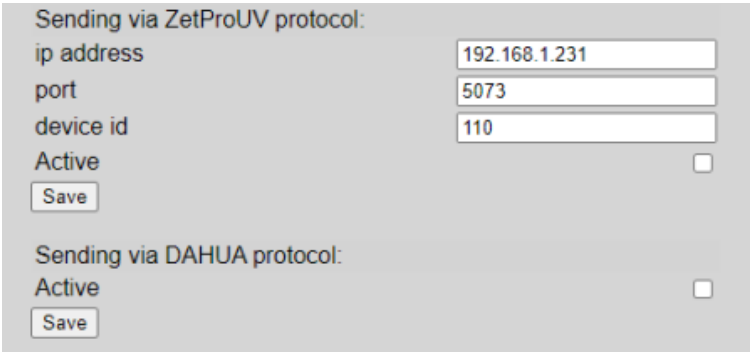


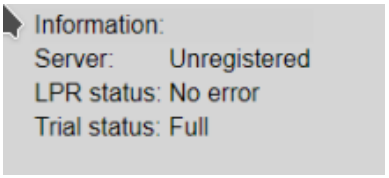
The user can create a "black list" of plates. Using the “black list” allows sending not all events with recognition results to the Telegram messenger, but only events with plates from the specified list. The list editing window opens when you click the button

. For the KobiLPR application to work with the Telegram messenger, you must first create a bot in the messenger itself and specify its Api key in the settings. If necessary, the user can also allow sending all events with the results of license plate recognition to the messenger.



To integrate (transmitting the results of license plate recognition) the application with the equipment (NVRs) and software (VMS) of the ZetPro and Dahua, individual protocol settings are provided.



Application status

The KobiLPR application also displays the status of its work, namely the state of the connection to the LPR event server (integration), the state of the license plate recognition engine and the state of the license.