

METRICI LPR INTEGRATION WITH LAN CONTROLLER FOR BARRIER

Table of Contents

CHAPTER 1 PRESENTATION.....	1
CHAPTER 2 ATS LAN CONTROLLER SETTINGS.....	2
CHAPTER 3.....	4
Metrici LPR INTEGRATION with Barrix Barionet 50.....	4
CHAPTER 4.....	7
SETTINGS FOR TRIGGER WITH AN INDUCTIVE LOOP.....	7
Continuous, without trigger.....	10
Continuous with trigger.....	11
Detection and plate recognition at trigger.....	12

CHAPTER 1 PRESENTATION

The integrated solution **Metrici LPR** can be used for opening a barrier when a license plate is recognized as being in the database.

The versatility of **Metrici** software let the user choose a number of actions depending on the technical solution. The program can be integrated with a **LAN Controller with PoE**, with a **Barix** device or in a **combination with an inductive loop**. In this user guide we will explain the different technical solutions and action settings for a plate introduced in **Action List** database (see LPR User Guide).

For opening a barrier, the software can be integrated with a PoE LAN controller from ATS. The device has a 220V / 10A relay, which can be linked directly to the command input of the barrier.

The settings for this command are to be found in **Metrici LPR Web Interface**. In the menu **LPR menu**, section **Action/ List**, one can set different reactions when detecting a “familiar” plate (Fig1)

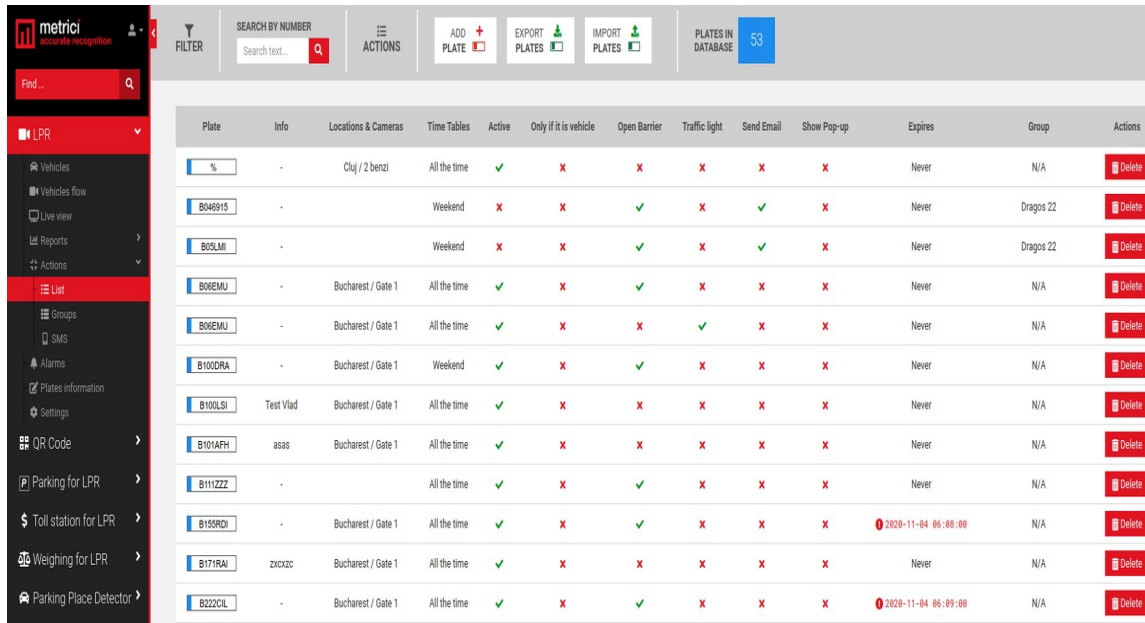


Plate	Info	Locations & Cameras	Time Tables	Active	Only if it is vehicle	Open Barrier	Traffic light	Send Email	Show Pop-up	Expires	Group	Actions
%	-	Cluj / 2 benz	All the time	✓	✗	✗	✗	✗	✗	Never	N/A	Delete
B046915	-		Weekend	✗	✗	✓	✗	✓	✗	Never	Dragos 22	Delete
B05LMI	-		Weekend	✗	✗	✓	✗	✓	✗	Never	Dragos 22	Delete
B06EMU	-	Bucharest / Gate 1	All the time	✓	✗	✓	✗	✗	✗	Never	N/A	Delete
B06EMU	-	Bucharest / Gate 1	All the time	✓	✗	✗	✓	✗	✗	Never	N/A	Delete
B100DRA	-	Bucharest / Gate 1	Weekend	✓	✗	✓	✗	✗	✗	Never	N/A	Delete
B100LSI	Test Vlad	Bucharest / Gate 1	All the time	✓	✗	✗	✗	✗	✗	Never	N/A	Delete
B101AFH	assa	Bucharest / Gate 1	All the time	✓	✗	✗	✗	✗	✗	Never	N/A	Delete
B11122Z	-		All the time	✓	✗	✓	✗	✗	✗	Never	N/A	Delete
B155RDI	-	Bucharest / Gate 1	All the time	✓	✗	✓	✗	✗	✗	2020-11-04 05:00:00	N/A	Delete
B171RAI	zxczxc	Bucharest / Gate 1	All the time	✓	✗	✗	✗	✗	✗	Never	N/A	Delete
B222CIL	-	Bucharest / Gate 1	All the time	✓	✗	✓	✗	✗	✗	2020-11-04 05:00:00	N/A	Delete

Fig.1

In **Action List** you set the license plate, location and camera where a certain action must be executed. Also, a time table will be chosen. Next you will specify what action is to be done when this license plate is recognized: open a barrier, change a traffic light, send an e-mail and the time when this options will no longer be valid (**Expires** option).

Metrici LPR can also be integrated with **Barix Barionet 50 LAN** controller, in which case the user has more options for setting the detection (see **Chapter 3**).

CHAPTER 2 ATS LAN CONTROLLER SETTINGS

A LAN Controller can be used in combination with **Metrici LPR** for opening a barrier.

To use this device and **Metrici LPR** together, go to **Metrici Control Panel** detection application, in camera **Settings (Fig.2)**

So, if IP address of LAN controller is such as 192.168.1.100, the settings will be as follows:

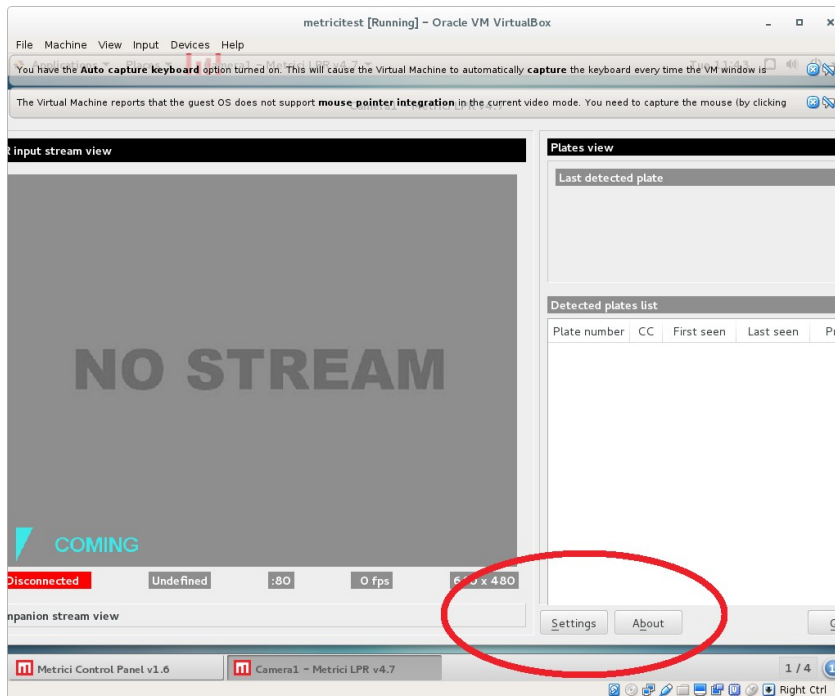


Fig.2

At the **Barrier and Traffic Lights** tab, you fill in the next URL: (Fig.3)

Open Barrier URL: <http://admin:admin@192.168.1.100/outs.cgi?out0=0>

Close Barrier URL: <http://admin:admin@192.168.1.100/outs.cgi?out0=1>

Delay before closing barrier box will be filled in with the time interval, in seconds, in which the barrier to remain open

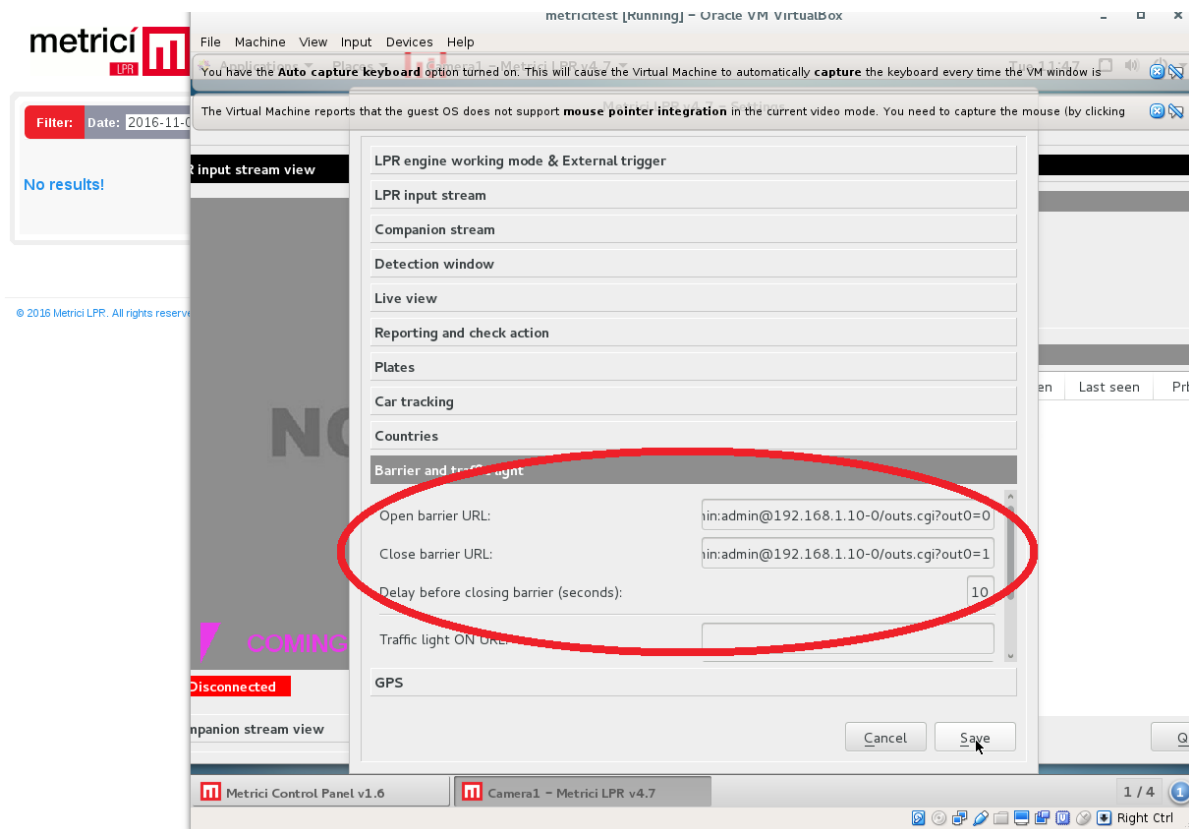


Fig.3

CHAPTER 3

Metrici LPR INTEGRATION with Barrix Barionet 50

Barionet 50 is a LAN controller produced by **Barix**. Together with the **Metrici** software may represent a versatile solution for the user. First of all can be used to open a barrier when a license plate from **Action List** is recognized. Also, it can generate a trigger to launch the plate number detection when a vehicle passes over an inductive loop.

The device has 4 digital outputs with a relay, each one of them can be connected to the command input of a barrier or a traffic light. It also has 4 digital inputs and each one of them can host the output of an inductive loop controller.

One can command up to 4 barriers independently, by using a similar number of LPR applications, set in **Metrici Control Panel**. Any other device can be integrated instead of barrier: for example, Barix can send a signal toward an electronic billboard with available parking spaces. Or can send a signal toward a radar or a weighing device.

For parameters settings, network and functions, login to web interface of the Barix LAN controller (Fig.4)

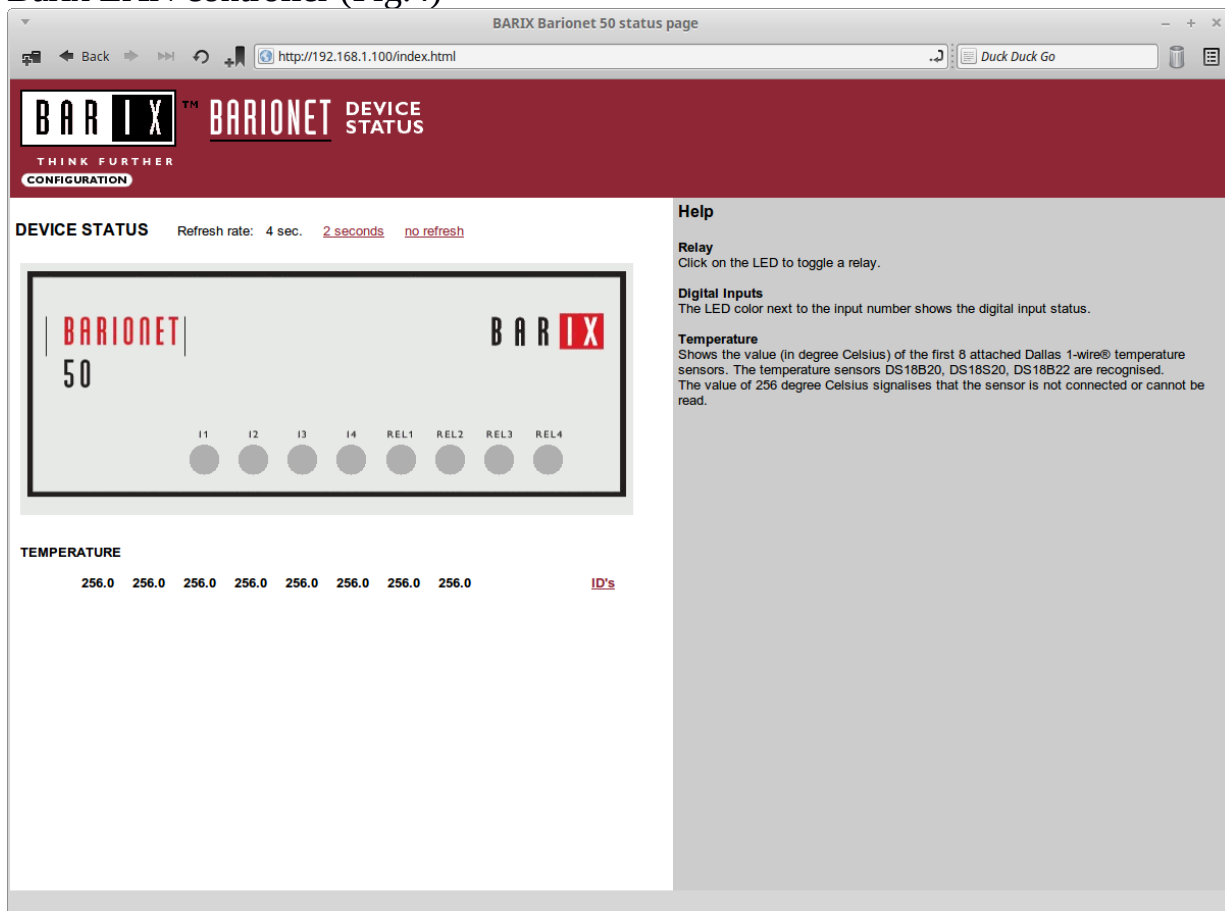


Fig.4

Settings for barrier opening

Connect one of the relay digital outputs to the command interface of the barrier, start **Metrici Control Panel** detection application, **Settings** and **Barrier and traffic light** tab. Here you can set **Open barrier URL** and **Close barrier URL (Fig.4 and Fig.5)**, by using the next formats:

Open Barrier: **http://IP_ADDRESS/rc.cgi?o=ID_DIGITAL_OUTPUT,1**

Close barrier: **http://IP_ADDRESS/rc.cgi?o=ID_DIGITAL_OUTPUT,0**

Where ID_DIGITAL_OUTPUT can take values between 1 to 4

For example, if a barrier is connected to output 2, and the Barionet has the IP address 192.168.1.100, the settings will be as in Fig.5:

Http:// 192.168.1.100/rc.cgi?o=2,1

http:// 192.168.1.100/rc.cgi?o=2,0

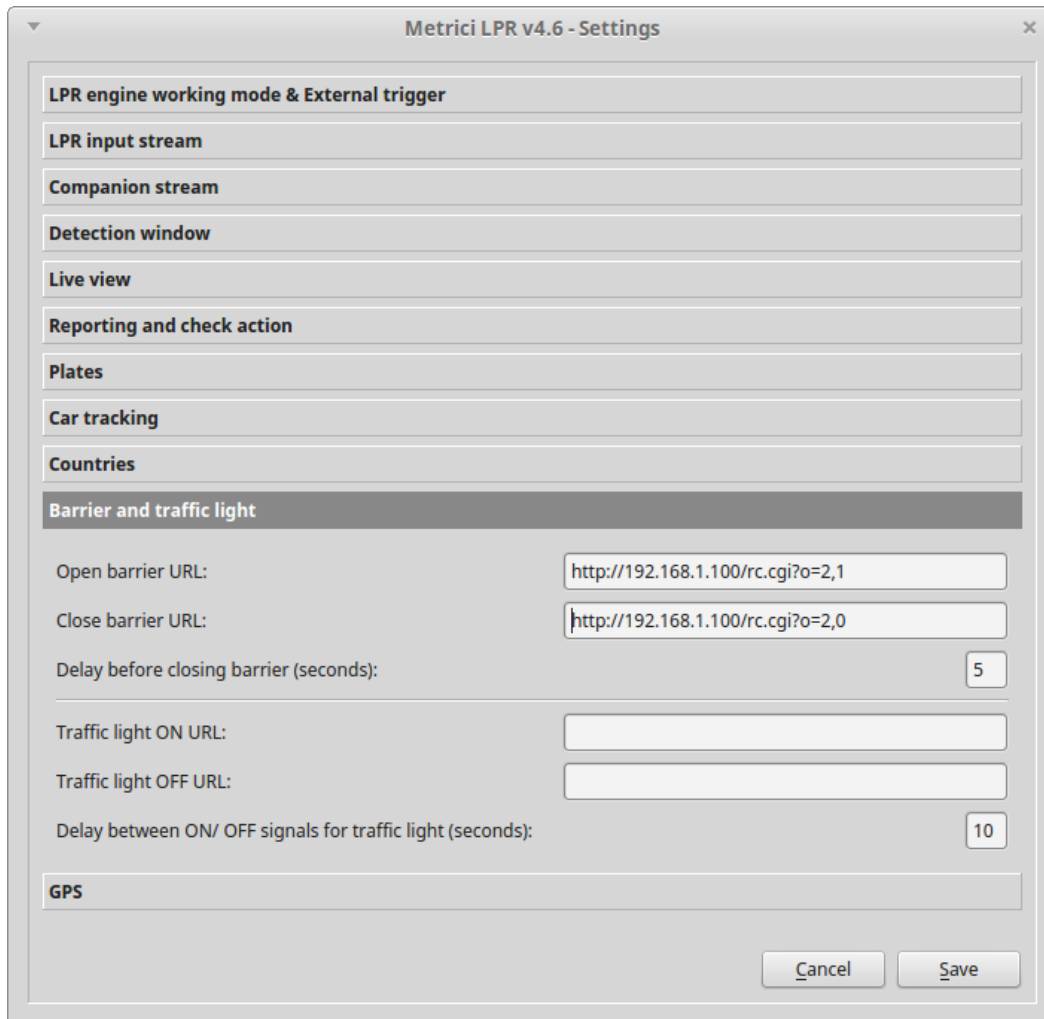


Fig.5

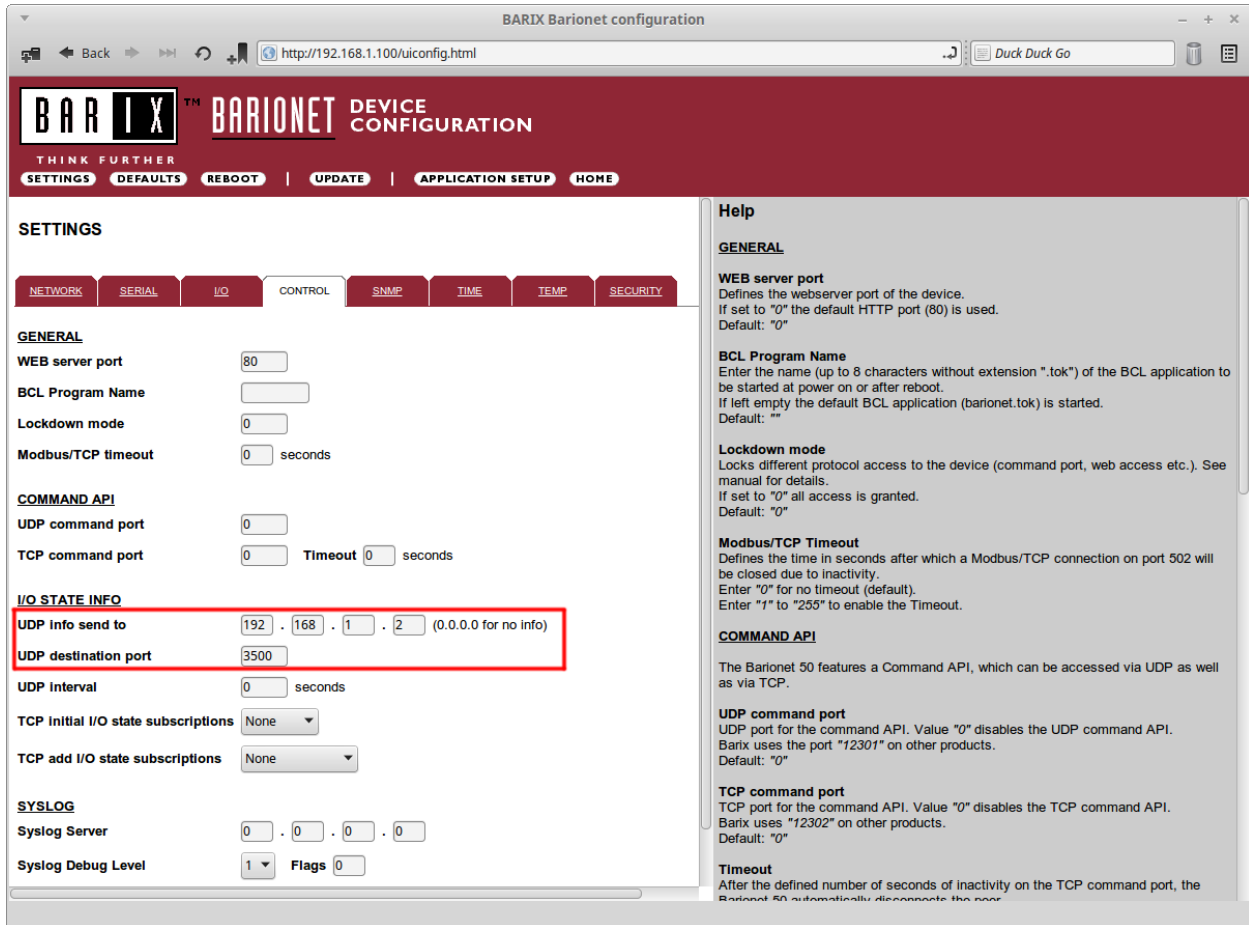
CHAPTER 4

SETTINGS FOR TRIGGER WITH AN INDUCTIVE LOOP

As we explained, Barionet can be used to generate a search (trigger) of a license plate in **Action list** database when a vehicle passes over an inductive loop. This will generate an electric impulse to the Barix.

The impulse toward the Barix that will generate the search for a license plate can come not only from an inductive loop, but also from a laser scanner, an infrared sensor, or a movement sensor.

After you connect the inductive loop controller to one of the digital inputs, login to Barionet web interface, access **SETTINGS**, and **CONTROL** tab.(Fig.6)



The screenshot shows the BARIX BARIONET DEVICE CONFIGURATION web interface. The 'CONTROL' tab is selected under the 'SETTINGS' section. The 'I/O STATE INFO' section is highlighted with a red box, showing 'UDP info send to' as 192.168.1.2 and 'UDP destination port' as 3500. Other settings include WEB server port (80), BCL Program Name, Lockdown mode (0), Modbus/TCP timeout (0), COMMAND API (UDP and TCP command ports), SYSLOG (Server and Debug Level), and a Help sidebar on the right.

Fig.6

Section **I/O STATE INFO** will be filled in with IP address of **Metricri LPR** server, in **UDP info send to** and **UDP destination port** boxes.

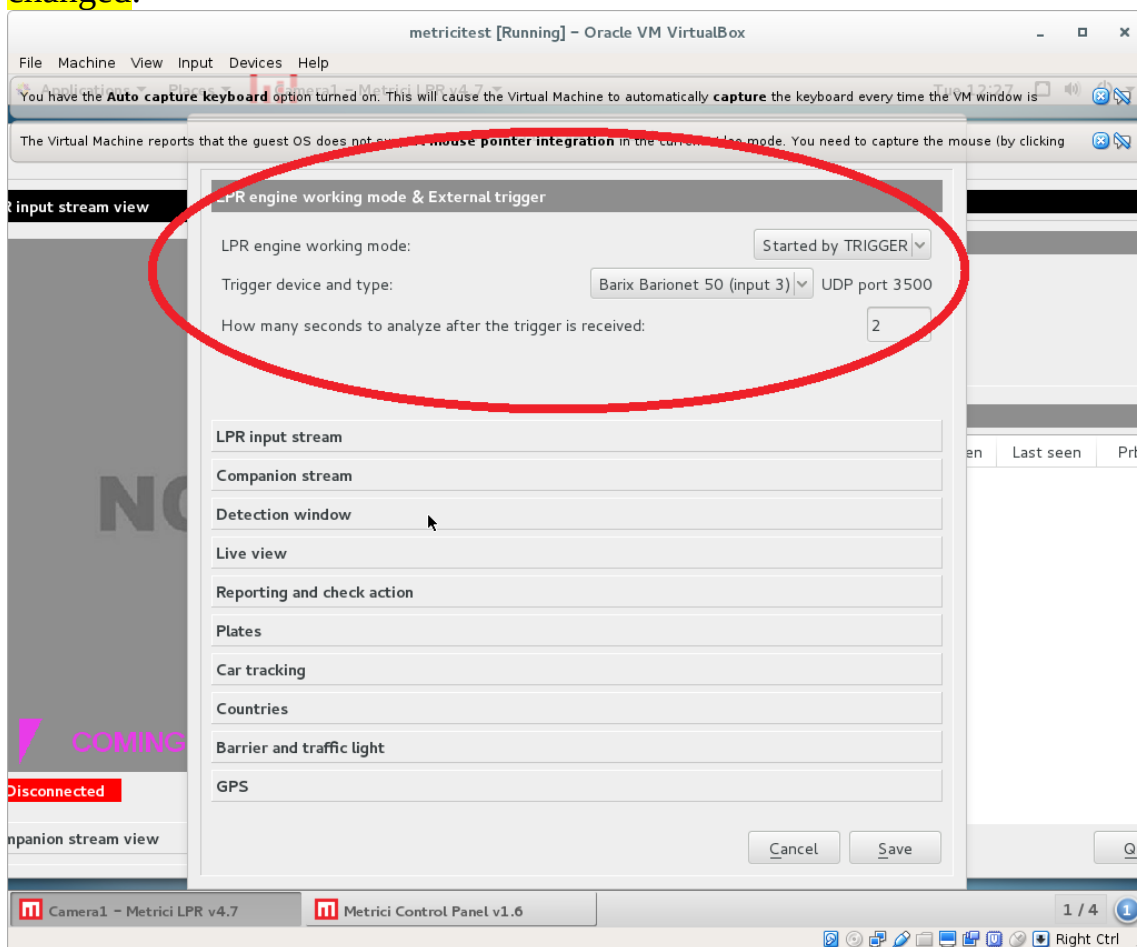
In order to find out the **UDP Destination port**, open **Metricri LPR Control Panel**, choose the camera you want, **Settings** menu. Select **LPR engine working mode & External trigger**.

Select Barix Barionet (input 1, 2, 3 sau 4) in **Trigger device and type** section, and the application will show the UDP port where it can receive trigger from LAN controller.

The number of this port will take the form such as **3500 + id** of the application in **Control Panel**- that means values of **3500 -3509**. (Fig.7).

This value generated by Control Panel will be later filled in UDP destination Port box from Barix menu

NOTE: UDP Port is a number generated by Metrici LPR and can not be changed.



Metrici LPR detection application can work as
Continuous, without trigger

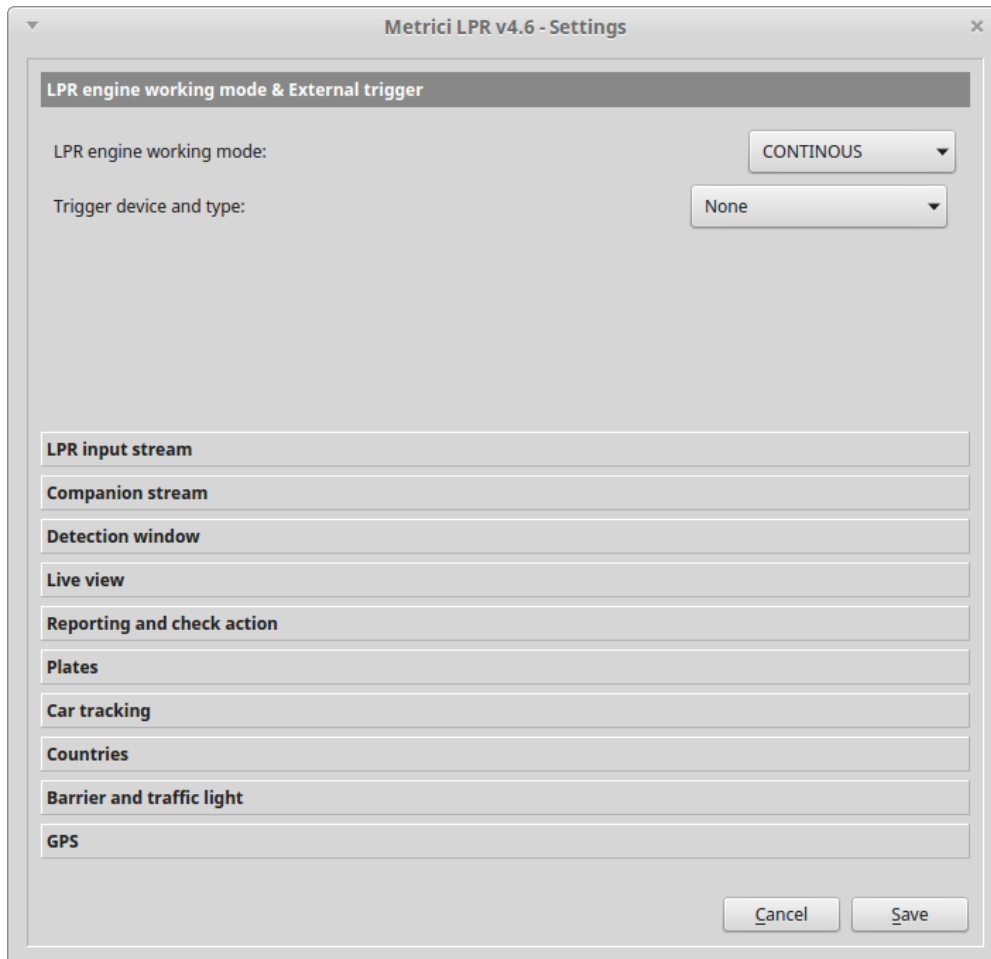
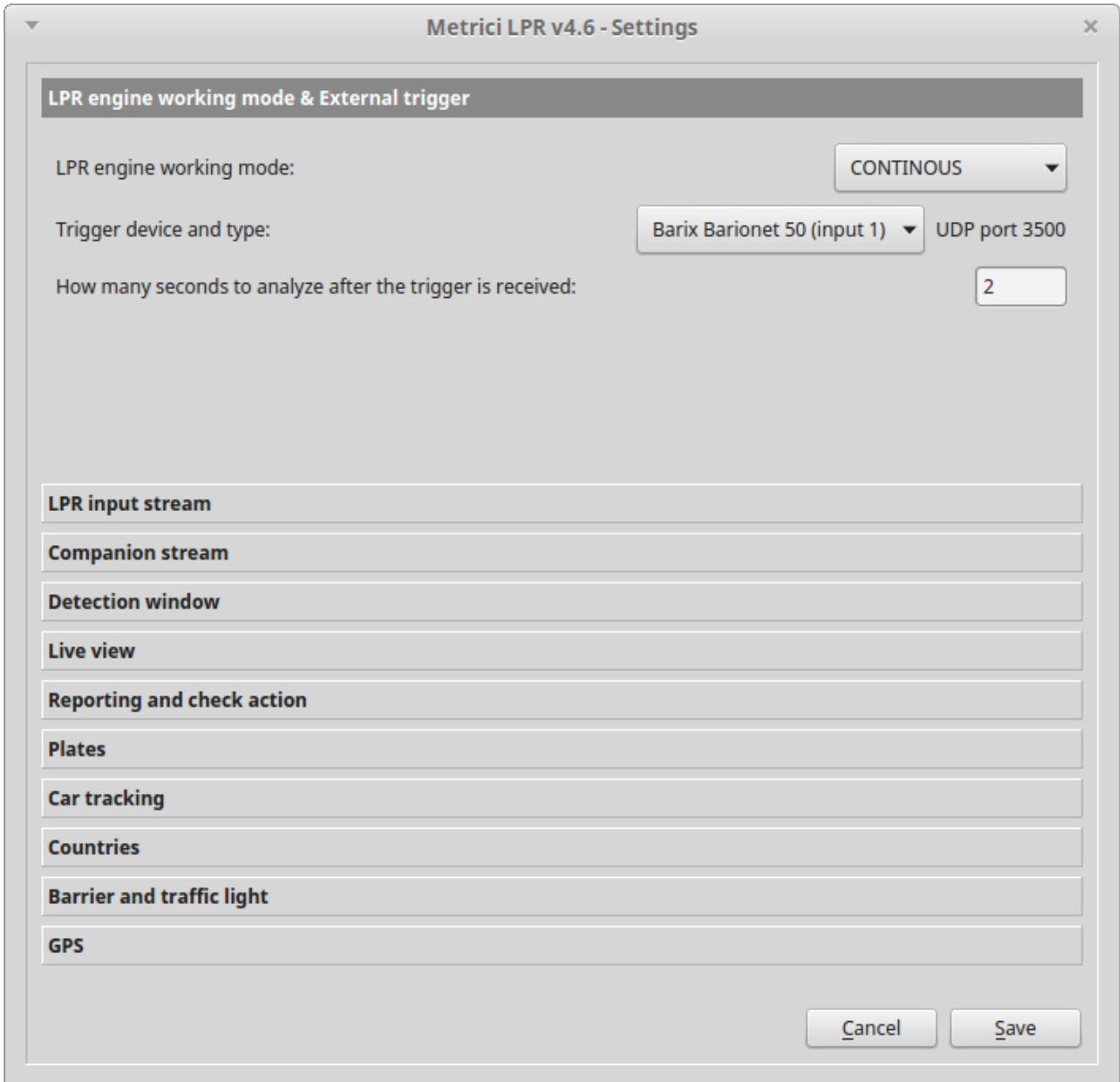


Fig.8

In this mode, **Metrici LPR** tries to detect and recognize license plate in every frame of the videostream from IP camera (Fig.10). For this mode, in **LPR engine working mode & External trigger** choose option *Continuous* and *None*

This working mode is useful especially where it is not possible to install an inductive loop (as on highways)....

Continuous with trigger



Metrici LPR v4.6 - Settings

LPR engine working mode & External trigger

LPR engine working mode: CONTINUOUS

Trigger device and type: Barix Barionet 50 (input 1) UDP port 3500

How many seconds to analyze after the trigger is received: 2

LPR input stream

Companion stream

Detection window

Live view

Reporting and check action

Plates

Car tracking

Countries

Barrier and traffic light

GPS

Cancel Save

Fig.9

For this type of working mode, the detection and recognition of license plates will be executed frame by frame, as in the first mode, but the application can receive a trigger from an inductive loop. When the trigger is received, if no license plate can be detected, the application will still record the event in database, with an image and plate **UNKNOWN**.

Detection and plate recognition at trigger

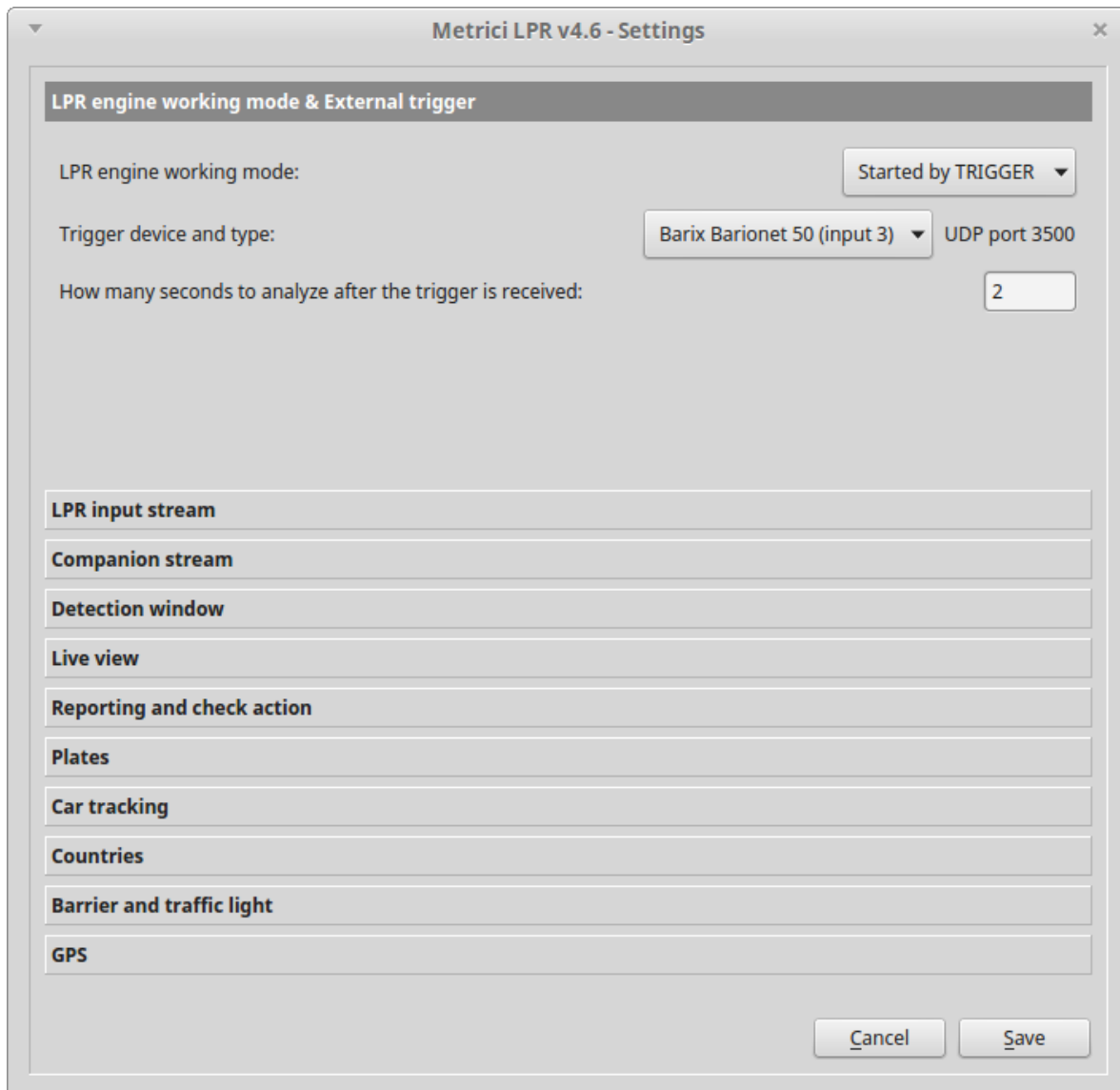


Fig.10

This type of working mode, the application makes the detection and recognition **ONLY** when it receives the trigger and **ONLY** during the time specified in Metricí Control Panel application.

As in the first two types, the software can recognize more plates in the same frame. If no plate can be recognized, an event will be recorded in database, with an image and plate number as UNKNOWN.

This kind of working mode is very useful when inductive loops can be set, so to reduce processing power necessities: detections and recognitions are only made at trigger, during a limited time period (Fig.10).