

**Honeywell**

**HBL6GR2-LPR**  
**Quick Start Guide**



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## Revisions

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Issue	Date	Revisions
A	10/2019	New document

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# About This Document

This document describes how to configure license plate recognition on Honeywell cameras.

## Overview of Contents

This quick start guide includes:

- Chapter 1, [Pre-requisites](#)
- Chapter 2, [Changing Password](#)
- Chapter 3, [VehicleTrace Application](#)
- Chapter 4, [Camera Installation](#)
- Chapter 5, [Camera Setup](#)
- Chapter 6, [VehicleTrace Setup](#)

## Special Fonts and Symbols

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<i>Italic</i>	Indicates referenced chapter, figure number, page number, etc. In the electronic version, click on italicized text to switch to the corresponding page.
<b>Bold</b>	Indicates a button, or menu item.
<b>Note</b>	Alerts or notes the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

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## How to Use This Document

- Pictures in the manual are for reference only, please see the actual items for details.
- When the products are updated, the information shall not be distributed.
- Please familiarize yourself with this manual before operation and retain it for future use.
- The information in this publication is believed to be accurate in all respects. However, Honeywell cannot assume responsibility for any consequences resulting from the use thereof. If there is any uncertainty or controversy, please refer to the final explanation of Honeywell. Honeywell does not take any responsibility for any consequences caused by the misunderstanding of the manual or incorrect operation by the user.


# 1. Prerequisites

Before you get started, make sure that you have:




- A web browser. (IE 11 is recommended).
- The Honeywell IPC tool which comes with the camera, or can be downloaded from the Honeywell website  
<https://mywebtech.honeywell.com/Systems/DownloadCenterProd?id=55>.

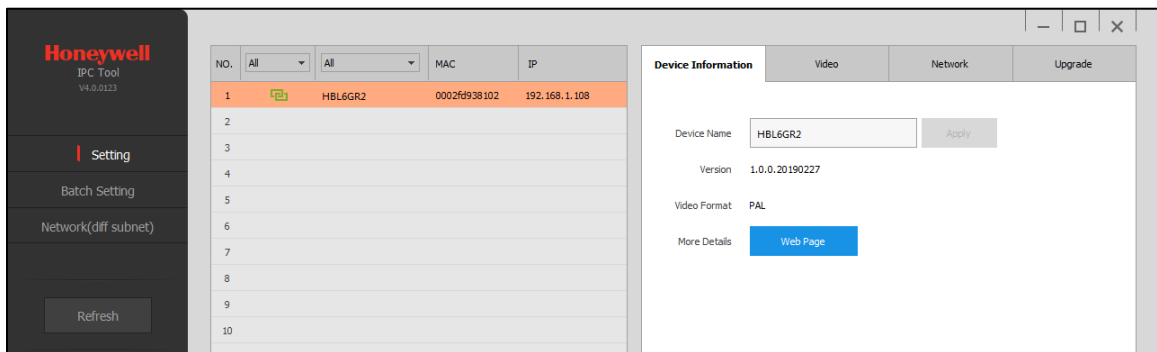
## Installing the IPC Tool Utility

To install the IPC Tool utility and create a desktop shortcut:


1. Insert the included Software and Document disc into your PC's disc drive.
2. Install the IPC Tool utility to your PC. The shortcut  is added to the desktop.

## Discovering Your Camera on the Network

To discover your network camera(s), open the IPC Tool utility , enter the camera's user name and password (the password is printed on a paper in the packing box), and then click **Connect**. Cameras that are online have a green connected icon  next to them. Cameras that are offline have a gray disconnected icon  next to them. To refresh the list, click **Refresh**.




## Accessing the Camera from a Web Browser

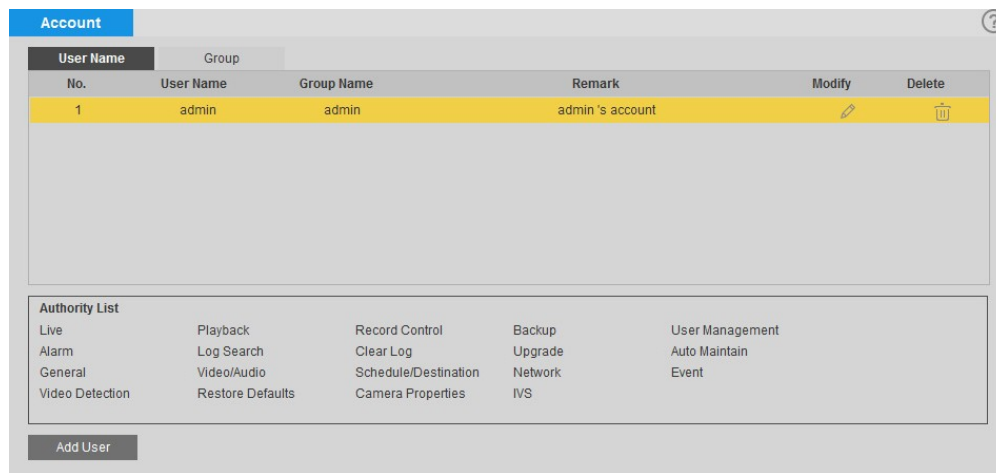
1. Select the camera that you want to access from the devices list. The camera must be online .
2. On the Device Information tab, click **Web Page**. The web client opens in your default browser (IE 11). Use the camera credentials to log in.

# 2. Changing Password

## Changing the Random Password

To change the camera password, follow the steps below.

Navigate to **Setup** → **System Setup** → **Account**, click  to change the password of admin account.



Follow the rules below to generate an 8-character password.

- Password must be at least 8 characters;
- Password must contain both capital and lowercase characters;
- Password must contain at least 1 numerical digit;
- Password must contain at least a special character (The following special characters are not supported: &|:;”、 ).

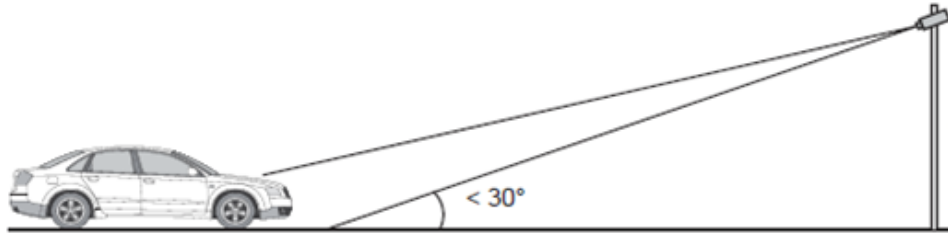
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**Note** Please generate a new one if you come across to the special character (&|:;”、 ) as the camera will not accept these characters in password.

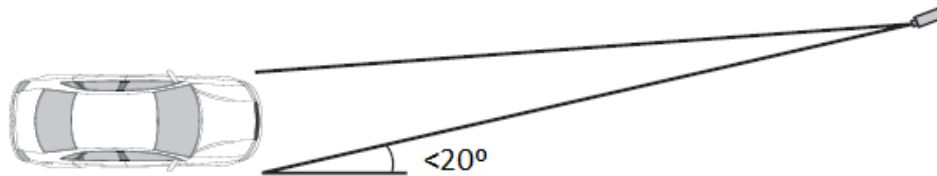
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# 3. Camera Installation

- The camera's vertical setup angle to the license plate should be 30 degrees or less.



- The camera's horizontal setup angle to the license plate should be 20 degrees or less.



- As a guide, set the camera to maximum zoom, and mount it between 4 meters and 8 meters (6 meters is optimal) from the license plate at a height of 2 meters. It should be mounted so that it is outside the headlight beam of approaching vehicles. The camera can be lowered, and brought closer to the vehicle if required, but the zoom lens will need adjusting to get the best results.
- The license plate must be illuminated sufficiently throughout the range of distances over which the camera will read the plate. A light level of 100lux, measured at the license plate, is recommended. The camera's built-in IR may be used but beware that the color of the vehicle will not be recorded. See [Camera Setup](#) section for correct adjustment of the IR illuminator, if used.



# 4. Camera Setup

## Setting Date and Time

The date and time **must** be set. Failure to do so will prevent license activation.

Set the **correct** date and time of the camera as follows.

On the **Setup → System Setup → Date & Time** page, click **Sync PC**. Or select the **Synchronize with NTP** check box.

**Note:** If “**Synchronize with NTP**” is checked, make sure the camera is connected to the internet and the camera’s date and time has been synchronized before you license the package.

The screenshot shows the 'Date & Time' configuration page. It includes the following fields and options:

- Date Format: Year-Month-Day
- Time Format: 24\_Hour\_Standard
- Time Zone: GMT+00:00
- Current Time: 2017-02-22 (with a calendar icon) and 02 : 35 : 30 (with a 'Sync PC' button)
- Enable DST
- DST Type:  Date  Week
- Start Time: Jan 1 00 : 00 : 00
- End Time: Jan 2 00 : 00 : 00
- Synchronize with NTP
- NTP Server: time-a.nist.gov
- Port: 123
- Update Period: 10 minutes (0-30)

At the bottom, there are three buttons: Default, Refresh, and Save.

## Configuration

It is important that the camera exposure settings are optimized for license plate capture. This can be performed by importing a settings file, or by manual adjustment using the web interface. As VehicleTrace was pre-installed, the camera settings should already be optimal.

### Importing a Settings File

A settings file is a convenient way to adjust all the camera settings at once. Modifications can be made and saved to a custom file, that can then be uploaded to other cameras at the site.

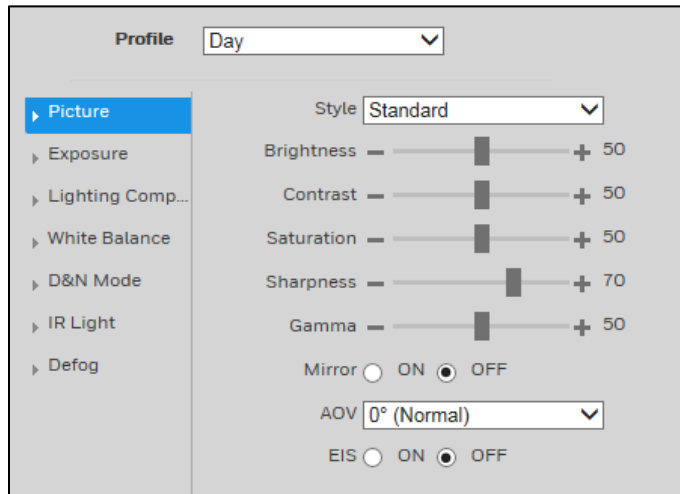
1. Download the recommended camera settings backup file from the MyWebTech site: <https://mywebtech.honeywell.com/Systems/DownloadCenterProd?id=55> (register an account if needed).
2. Using Internet Explorer, browse to **Setup→System Setup→Import/Export**.

3. Click **Import**, browse to the backup file you downloaded and click **Open**. This will configure the camera to the settings contained in the file.

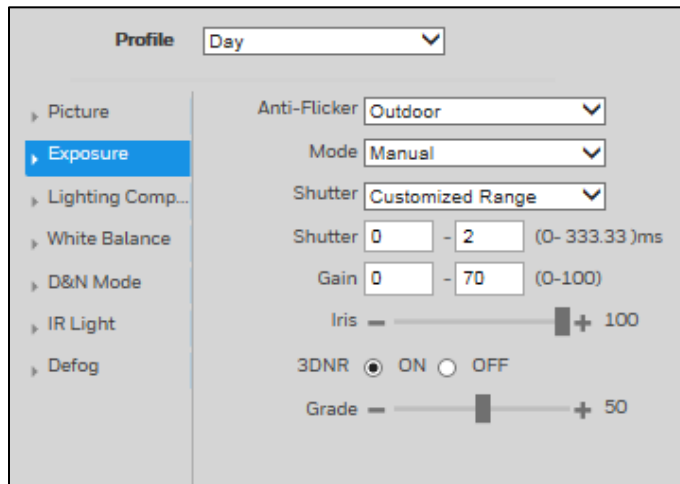
## Configuring Manually

If preferred, camera settings can be adjusted manually as follows.

1. Navigate to **Setup**→**Camera Setup**→**Properties** to configure camera settings manually.



2. Set the slowest shutter speed to 1/500s (or 2ms) to prevent motion blur.



3. Ensure the license plate is in focus day and night.
4. Adjust IR brightness and/or lighting to provide good visibility of the license plate day and night (see below).

VehicleTrace Edge Quick Start Guide

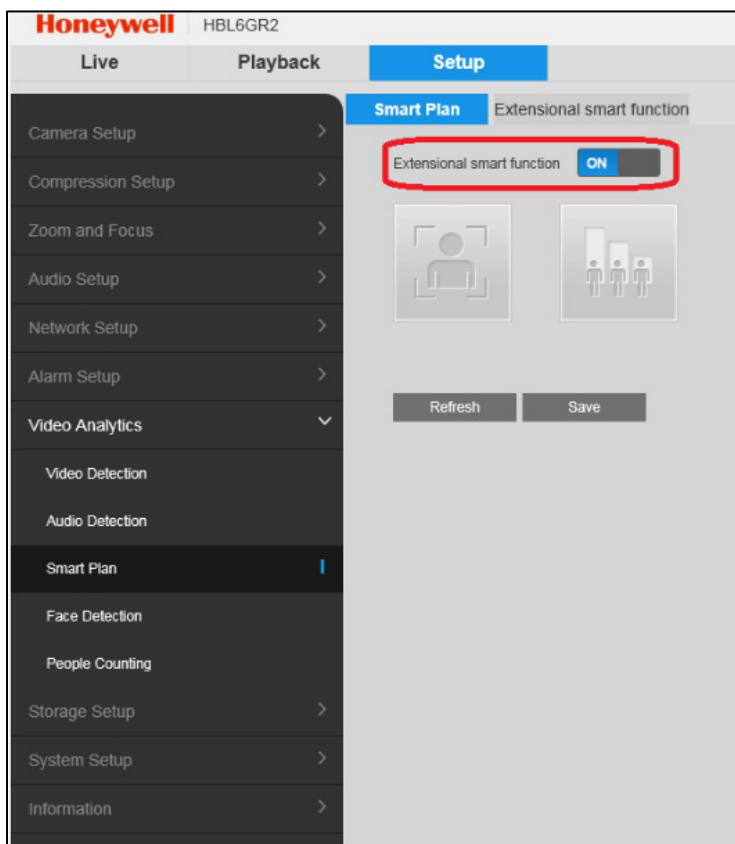


# 5. VehicleTrace Application

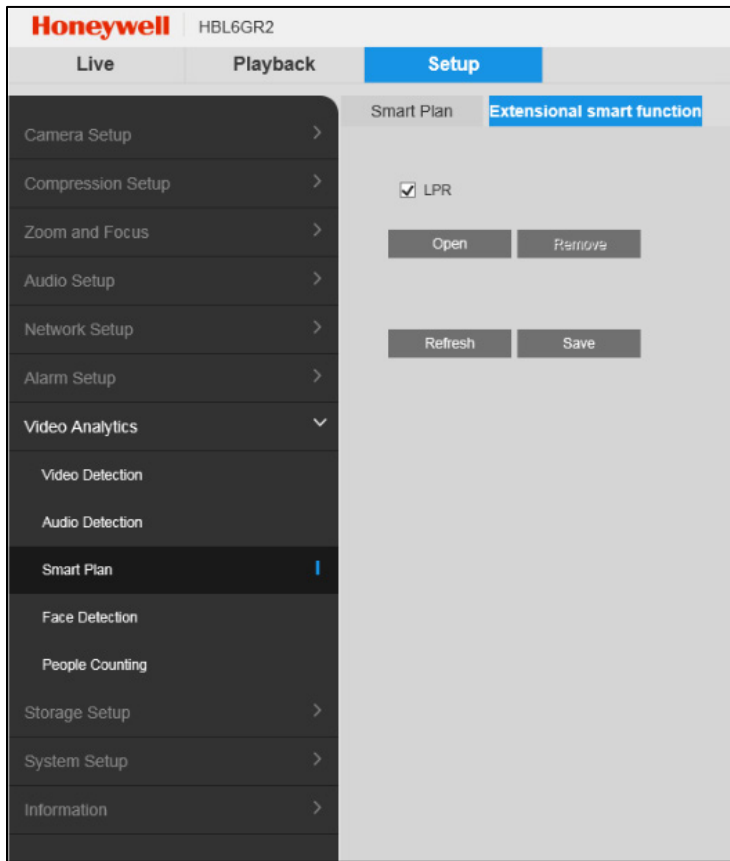
## Login

Follow the steps below to log in the VehicleTrace.

1. Navigate to **Setup**→**Video Analytics**→**Smart Plan**, and ensure that neither **Face Detection**, nor **People Counting** are enabled, and that **Extensional smart function** is **ON**. The icons of **Face Detection** or **People Counting** are orange if enabled. Click on any orange icons to disable them.



2. Select the “Extensional smart function” tab and check the **LPR** checkbox. Click **Save** and wait for the camera to reboot.



3. After the reboot, browse to the same page, click **Open** and a credential window for LPR Page will pop up. Give the same credentials as camera's to log in to LPR page.

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**Note** It is normal that the camera may timeout and request you to log in again during the procedure.

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# 6. VehicleTrace Setup

## Configuring VehicleTrace

License plates differ substantially around the world, so VehicleTrace must be configured for the location it is being used in. VehicleTrace settings can be loaded from a file, or adjusted manually.


### Uploading a Region File

A region file is a convenient way to adjust all the VehicleTrace settings at once. Modifications can be made and saved to a custom file, that can then be uploaded to other cameras at the site.

1. Download the recommended settings file for your region from the MyWebTech site: <https://mywebtech.honeywell.com/Systems/DownloadCenterProd?id=55>
2. Click  at the top right of the interface, select **Upload**, and browse to the region file you downloaded. Click **Open** to configure VehicleTrace to the settings contained in the file.
3. Select the countries you wish to read license plates from, with the most likely first. Up to six countries can be added.

### Configuring Manually

If preferred, VehicleTrace settings can be adjusted manually as follows. The following settings are recommended as a general guide for a vehicle arriving at a gate or barrier.

Setting	Value
<b>Country Options</b>	
Countries (1-6)	Select a country from the drop-down list and click the  button to add it. You can have up to six countries. Start with the most likely country.
Grammar Strict	Check this if you <u>only</u> want to detect plates from the specified countries
Multiple countries balanced	Check this if all selected countries should be considered. If not checked, then the countries will be considered in listed order and the first country to match will be used.
<b>Plate</b>	
Background Mode	Both
Minimum Number of Plate Characters (3 to 12)	5 unless you need to support shorter license plates
Maximum Number of Plate	9 unless you need to support longer license plates

Characters (5 to 12)	
Video Resolution	The maximum video resolution is 1920 x 1080.
Minimum Character Height (14-70 pixels)	20 default for UK and US and 23 default for Kuwait (see note)
Maximum Character Height (14-70 pixels)	60 (see note)
<b>Environment options</b>	
Same Plate Delay (seconds)	10
Same Plate Max Chars Distance	0
Maximum Slope Angle (0-40 degrees)	40
Enable Slant Correction	Normally checked
Enable Contrast Enhancement	Normally not checked
Send Image	Normally checked
Compression Level (0-100%)	50
Multiplate Recognition Timeout (0-10000 milliseconds)	500 (time before the same plate can be recognized again)
Multiplate minimum number of occurrences	1
Multiplate maximum number of occurrences	Set to 1 for moving vehicles. Set to 2 for stopped vehicles
Plate reported	First Capture, <b>Middle Capture</b> , Last Capture
<b>OCR Options</b>	
Minimum Global Confidence (0-100)	95
Minimum Character Confidence (0-100)	90
LPR Complexity	High
Plate depth	Set to Maximum for stopped vehicles, Medium for speeds up to 10km/h, and Minimum for speeds above 10km/h

**Note:** The analytics engine uses a 1920x1080 image. A value of 20 pixels is therefore 2.8% of the image height, and 40 pixels is 5.6% of the image height. The camera position and zoom must be chosen so that the license plate character heights lie within this range at the desired detection distance.

## Configuring Region of Interest

VehicleTrace can detect license plates throughout the image. A region of interest can be used to prevent parked vehicles and other signs being read by the system. It can be configured as follows:

1. From the three horizontal bars at the top right of the interface, select **Region of Interest**.
2. Click **Add new ROI**
3. Select an ROI ID
4. Click on the image to add points of a polygon that will define the region to analyze.
5. When done, click **Confirm ROI**, then **Submit ROIs** to finish.

## Validating Setup

1. As vehicles drive through, VehicleTrace should display the vehicle license plate on the screen.
2. If not, consider reducing the minimum height setting and increasing the maximum height setting, until the bounding box in the ROI page matches the size of license plates passing through the image. Also check that the camera zoom is suitable (typically set to maximum zoom for vehicles 6 meters from the camera).



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