

License Plate Number Recognition (LPNR)

Sony Camera Integration for LPR with GuardPoint Pro

The integration for License Plate Number Recognition (LPNR) with GuardPoint Pro was developed with the Sony Camera XCI-NPR model. This integration is available in GuardPoint Pro from version 2.1.506.

The camera Sony XCI-NPR has a wiegand output interface. Each camera is connected to the controller as a standard wiegand reader (with Data0/Data1 inputs). The controller manages the car plate numbers in the same way as cards.

The camera works as a reader. When reading a car license plate, the camera immediately sends the code that corresponds to the plate via the Wiegand interface of the controller. This code is the result of an internal calculation made by Sony. GuardPoint Pro uses the same algorithm for downloading license plate numbers to the controller.

Practically, the user creates the license number plate into GuardPoint Pro. The system then calculates the code associated with this plate and downloads it to the controller. Then, when this plate is detected by the camera, the controller is able to determine which plate it is and therefore,

Note: the Sony camera XCI-NPR model doesn't require any plate numbers downloading. The license plate numbers of allowed cars are downloaded only to the controller.

Requirements

This integration requires:

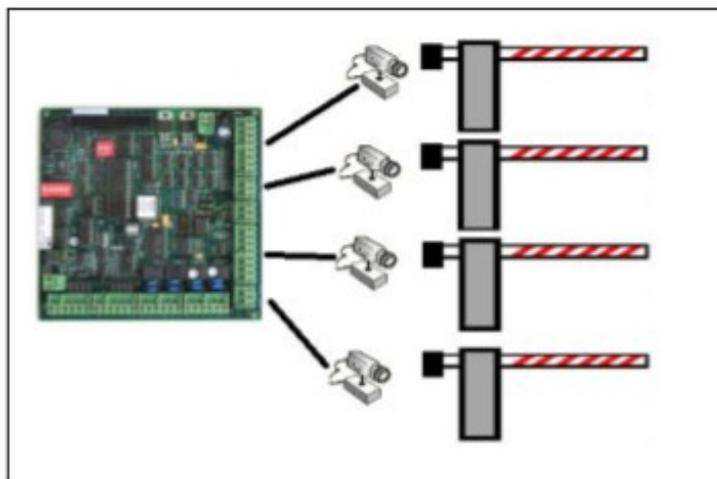
- * GuardPoint Pro version 2.1.506 or later
- * A dongle provided with the LPR option
- * The LPRTYPE = 1 option in the file GuardPoint-Pro.ini
- * The Sony Camera must be configured in 26 bits (see Appendix A)

Integration inside GuardPoint Pro

A new technology for readers and cards has been added to integrate the car license plate numbers:

Sony LPR 26 Bits.

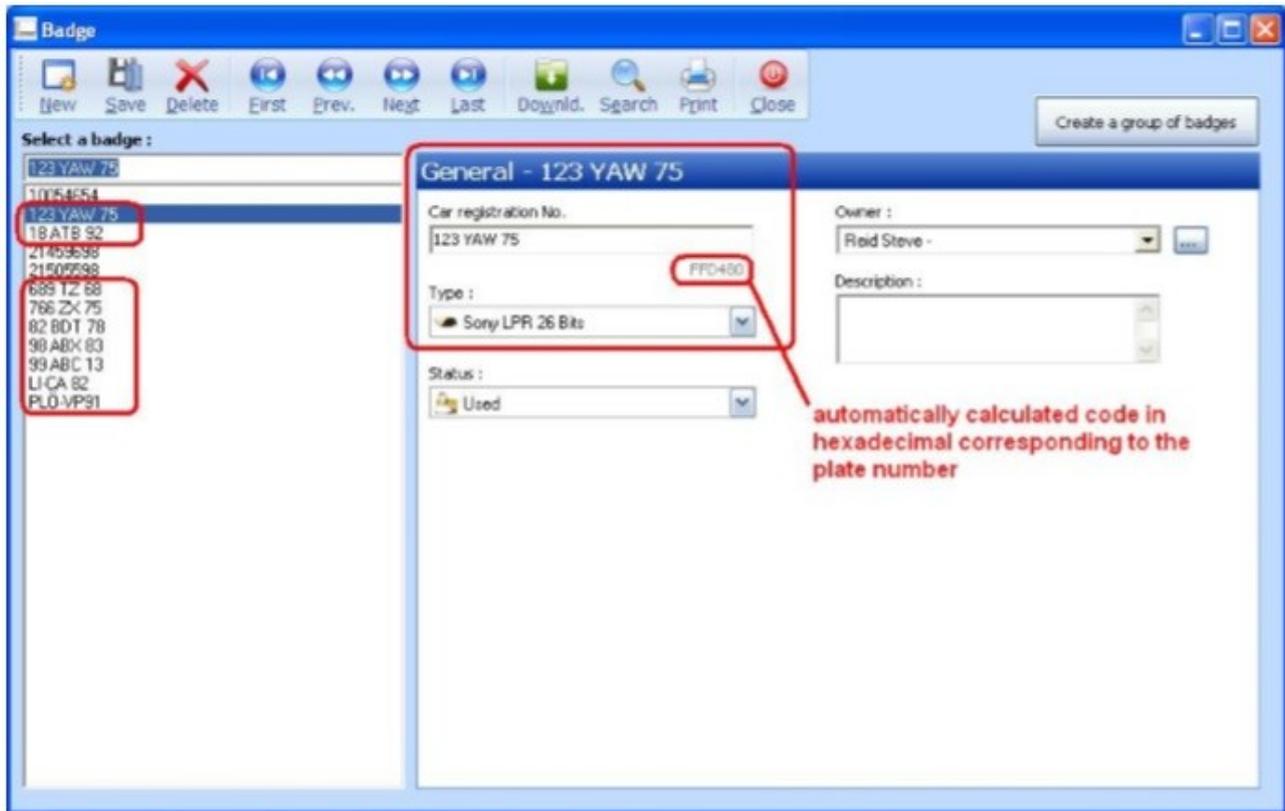
This technology has the following icon:  located in the subdirectory **\Media\bin** of GuardPoint Pro (1158_LPR.ico).



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To create the license plate numbers in GuardPoint Pro, the user adds a new record in the **Badge Screen**:



The user selects the card type (Sony LPR 26 Bits) and types the number plate in the corresponding field. GuardPoint Pro automatically calculates the code associated with this plate and displays it in greyed out for information only. For checking the calculation of the plate code see Appendix B.

GuardPoint Pro does not make difference between uppercase and lowercase and takes into account only numbers, letters and dash '-'.

Important notes for entering plate numbers:

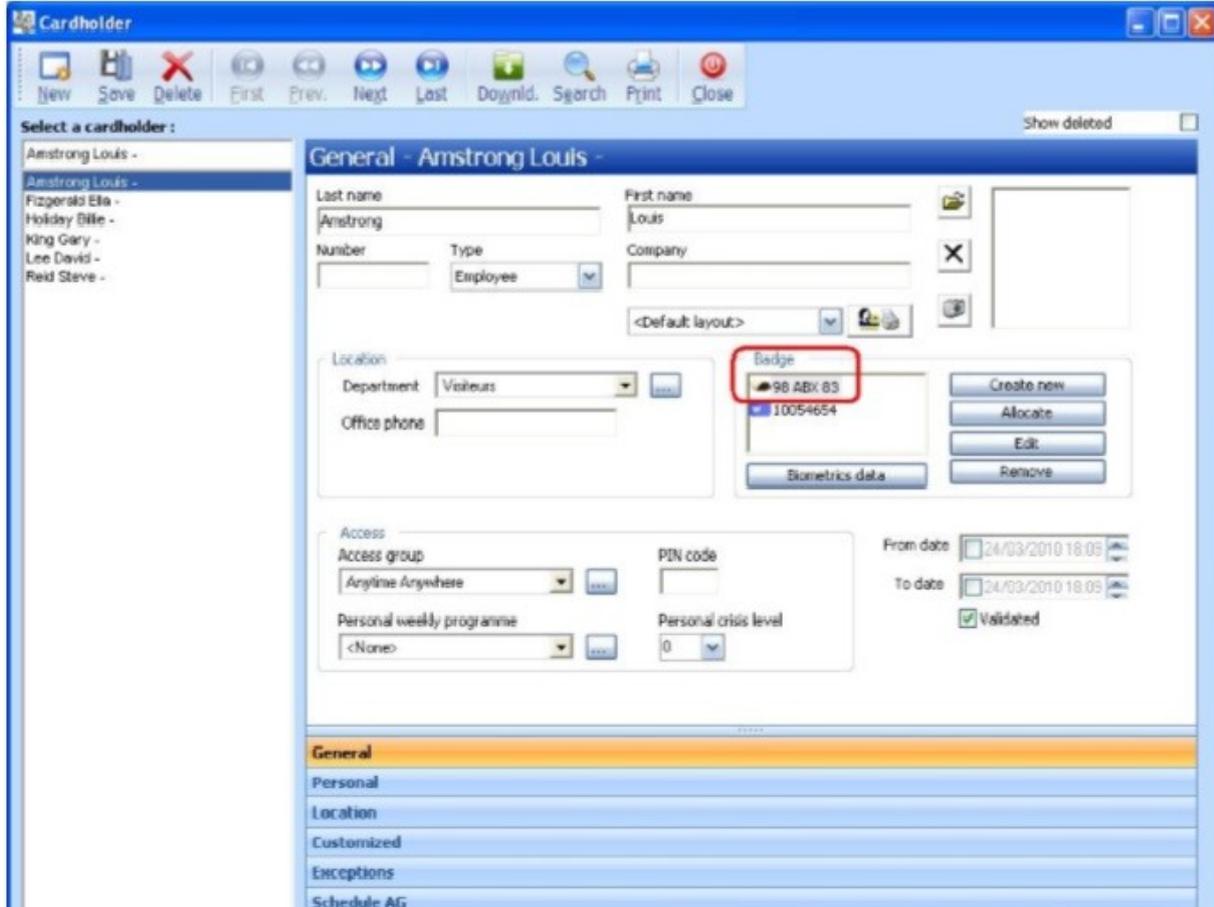
- * Spaces are allowed
- * Dashes of plates should not be entered e.g. '78-JDL-3' must be entered as follows: '78JDL3' or '78 JDL 3'
- * Stickers (in German plates) must be replaced by a dash. For example, the plate 'PLÖVP91' must be entered as follows: 'PLÖ-VP91' or 'PLÖ-VP 91'
- * Typing in uppercase/lowercase does not matter
- * No mark or character should be entered except for the German plates: umlauts Ö and Ü

Note: in the case of TCP-IP integration, ensure to support for extended ASCII table.

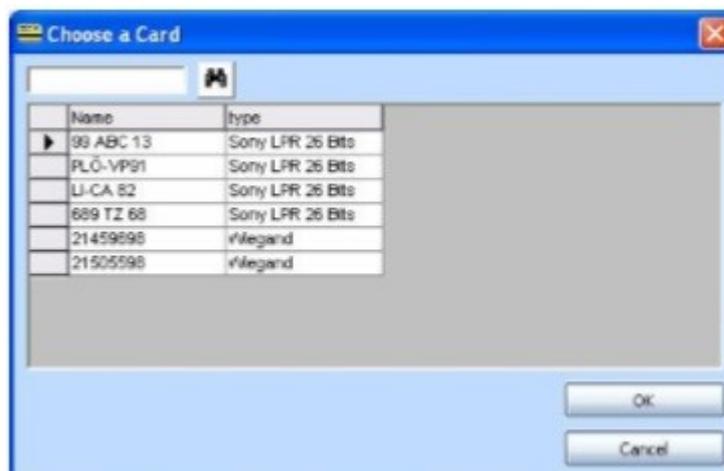
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In the **Cardholders' Screen**, to make it more intuitive, the plate number is displayed and not its code:



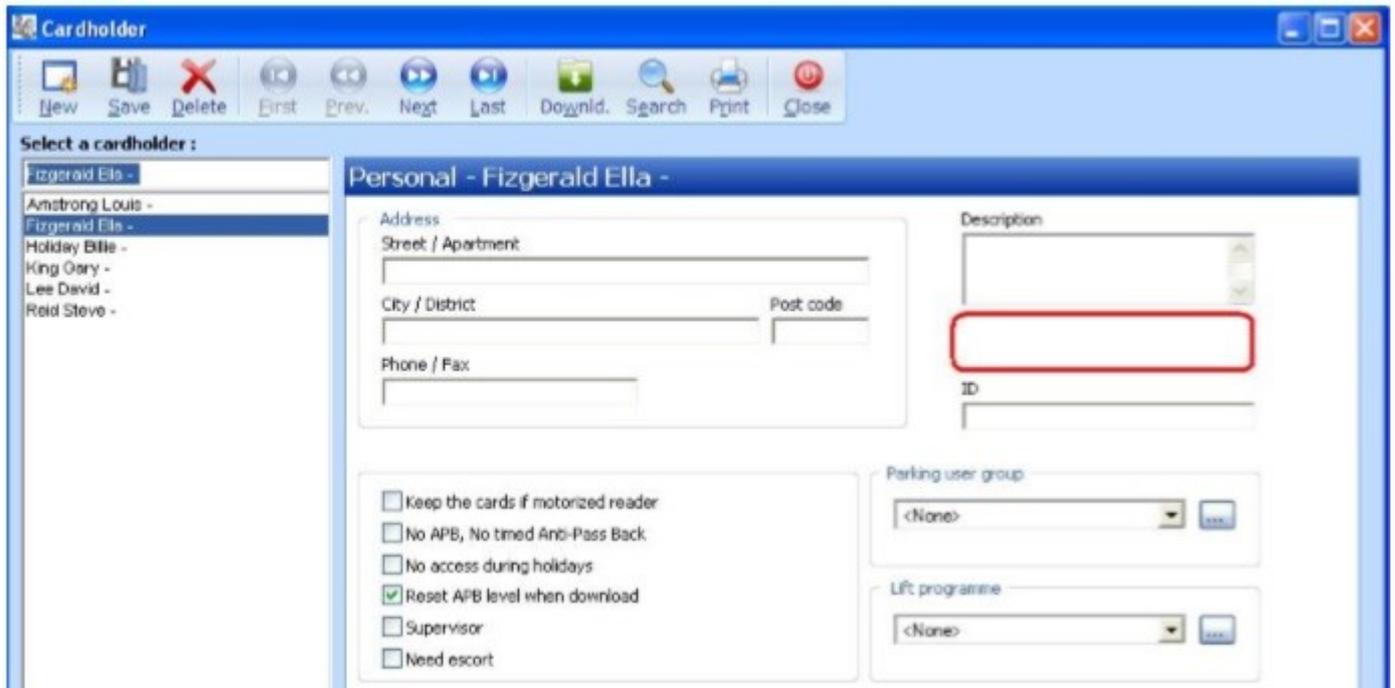
In the window for allocating a card, available cards and plates are displayed (and search function is also possible for plate numbers).



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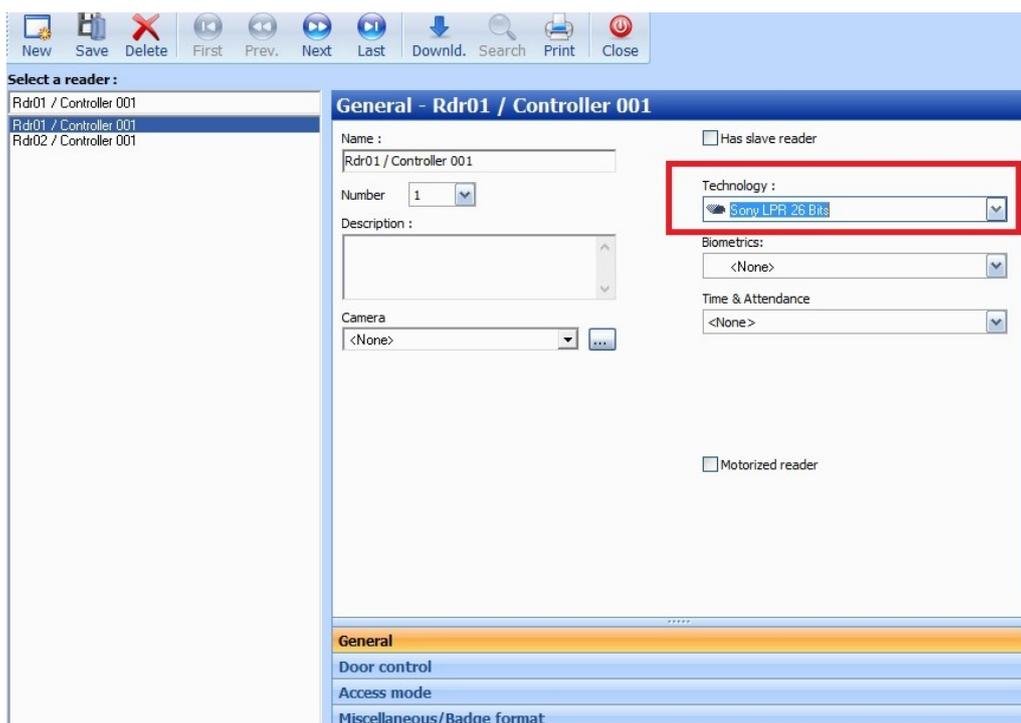
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To prevent the user from being confused, the field 'Car Registration No.' is not visible in the cardholders' screen:



The screenshot shows the 'Cardholder' management interface. On the left, a list of cardholders includes 'Fitzgerald Ella -'. The main form for 'Personal - Fitzgerald Ella -' contains several fields: 'Address' (Street / Apartment, City / District, Post code, Phone / Fax), 'Description', 'ID', 'Keep the cards if motorized reader', 'No APB, No timed Anti-Pass Back', 'No access during holidays', 'Reset APB level when download' (checked), 'Supervisor', 'Need escort', 'Parking user group', and 'Lift programme'. A red box highlights the empty 'Car Registration No.' field, which is not visible in this view.

To download the plate numbers to the controller, the readers must have the "Sony LPR 26 Bits" technology.



The screenshot shows the 'Reader' configuration interface. On the left, a list of readers includes 'Rdr01 / Controller 001'. The main form for 'General - Rdr01 / Controller 001' contains several fields: 'Name', 'Number', 'Description', 'Camera', 'Has slave reader', 'Technology' (set to 'Sony LPR 26 Bits'), 'Biometrics', 'Time & Attendance', and 'Motorized reader'. A red box highlights the 'Technology' dropdown menu, which is set to 'Sony LPR 26 Bits'.

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By using this technology, the Badge format MUST be Hexadecimal and the code size MUST be 8 digits. These parameters are automatically changed and disabled in the Reader>Badge format screen.



Badge format

Card code length: 8

Format: Hexadecimal

Note: the fact that the camera is reading plates continuously and that bad readings often occur, GuardPoint Pro can receive many 'unknown card' events.

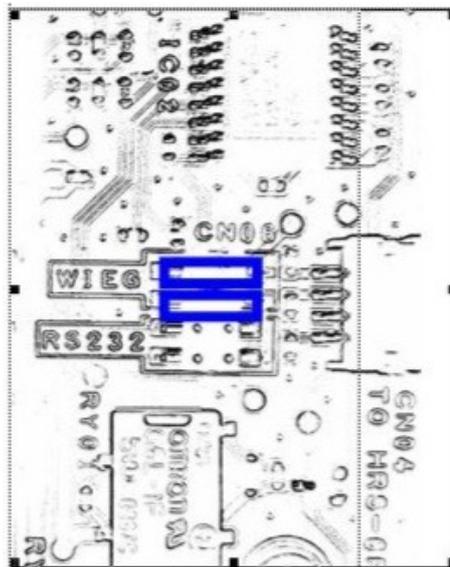
Following to the countries, the settings and installation quality, the user should be expected to receive about 5-10% of wrong reading in the case of proper installation.

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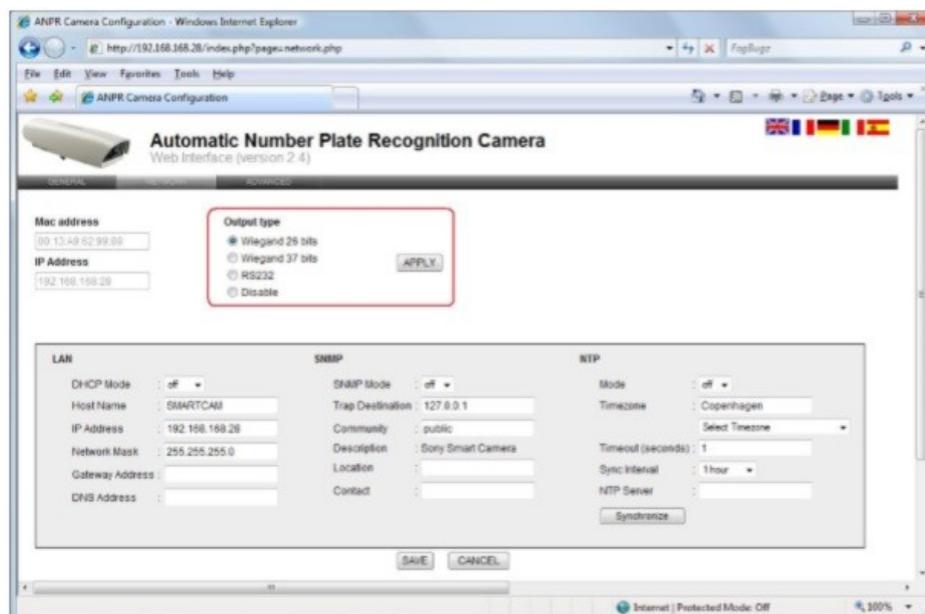
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Appendix A: Pre-Set Sony Camera to Wiegand 26 Bits

Each Sony Camera must be pre-set to Wiegand 26 Bits with its jumpers. For the **jumper setting** in Wiegand mode, see the document XCI-NPR_Operating_Manual_HD_EN_v02.doc, page 4.



Then open the 'NETWORK' screen in order to configure the 26 bits output. For more information, consult the document XCI-NPR_Technical_Manual_HD_EN_v02.doc, from page 19.



Sony Camera must be configured for non-stop reading mode (multiple reading Option = OFF)

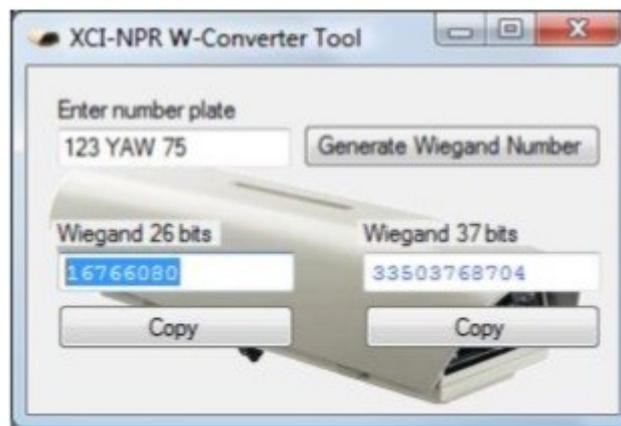
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Appendix B: Checking the Calculation of the Plate Code

Sony provides a utility XCI-NPR Tool_v3.0.exe for checking the calculation of the code associated with the plate. It is available from the link: ftp://isstech-tmp:YeT8Us8u@ftp.isstech.eu/XCI-NPR/Software/XCI-NPR Tool_v3.0.exe

For example, for the plate '123 YAW 75', this tool gives the code: 16766080.



GuardPoint Pro uses the hexadecimal format of this code. With the Windows calculator, it is easy to check that the hexa value of this code is FFD480.



This code is also given by GuardPoint Pro in the Badge screen.



Note: this utility does not take into account the rules of plate recognition. Thus, the characters other than letters, numbers and dashes affect the calculation code.