CARMEN® ADR Software

ADR/HIN (KEMLER) CODE RECOGNITION SOFTWARE LIBRARY & SDK

THE ULTIMATE RECOGNITION ENGINE FOR INTELLIGENT TRAFFIC APPLICATIONS

The CARMEN® Automatic Dangerous Goods Recognition (CARMEN® ADR) software is a special version of the CARMEN® Recognition Software family. CARMEN® ADR is developed to recognize and decipher the Hazard Identification Numbers (Kemler codes) of vehicles carrying hazardous materials. Transport units and vehicles carrying dangerous, hazardous materials must bear a well visible plate that gives information about the carried material. This plate is called the ADR plate, which contains the Hazard Identification Number (HIN), or Kemler Code, of the carried dangerous material.
Reading the HIN number a traffic monitoring or safety system becomes highly automated, and therefore maintains more safety on roads, tunnels, bridges, etc. while transporting these dangerous elements. CARMEN® ADR identifies the materials being carried that gives emergency responders the ability to reference the information on the codes to quickly identify a material's hazards. The CARMEN® ADR software successfully recognizes the three figures of HIN codes on transport vehicles, from a variety of image sources offering great flexibility. Manufacturers and integrators of various recognition systems will receive the special HIN code reading indicating the primary and secondary hazards with the most efficiency and reliability.

KEY FEATURES

- Automatic reading of hazard identification numbers – HIN (Kemler Code)
- Fast, easy and straightforward use
- Hardware independence: compatible with any image source (analog / digital / still images / MJPEG video streams)
- Identification even of blank or empty plates

MAIN BENEFITS

- Saving time and energy in data entry, automating ADR (HIN) code reading
- Decreasing data entry errors with high accuracy and recognition rates
- Increasing security and safety of transport units
- Allowing smooth and problem-free 24/7 operation

Special ADR cameras are available for higher quality images and recognition rates.

CARMEN®

AUTOMATED TUNNEL SECURITY SYSTEMS

AIRPORT AND HARBOR LOGISTICS

HIGHWAY OR CITY ITS SYSTEMS

BORDER CONTROL CUSTOMS

TRAFFIC SECURITY MONITORING

SPECIFICATIONS

CARMEN® ADR Software

GENERAL INFORMATION

Purpose	Automatic recognition of hazard identification numbers – HIN/Kemler code recognition software for various intelligent traffic systems to enhance safety of traffic and roads
Supported operating systems	Windows (32/64 bit) Linux (32/64 bit)
Supported Platforms	x86_32 | x86_64 | ARMv7
System requirements	1 GHz CPU | 512 MB RAM | 1 GB HDD | free port/slot for NNC
Licensing	One license per application thread, multiple license/controller is available
Available Neural Controllers	PCIe card (x1) USB 2.0 Internal USB 2.0 PCI 2.1 video capture card (FXVD4) (EOL*) PCI 2.1 card (FXMC) (EOL*) Express card 34 (54 compatible) (EOL*) PC 104+ card (EOL*)

*end of life

INTERFACE

Input	Still image from file or memory in any image format (BMP | PNG | JPEG | JPEG2K | RAW) Live analog video input (PAL or NTSC) Live digital camera input
Output	OCR data Hazard identification number in ASCII text Position of the plate Confidence level in percentage Confidence level for each character List of further suggestions for each character Individual result for each image Color of plate (optional) Location of each plate on one image
Trigger	Can be integrated with any trigger device (recommended when recognizing from live image stream) Software motion detection module is included

DEVELOPMENT TOOLS FOR EASY INTEGRATION

Supported programming languages under Windows	C/C++, C# Visual Basic .NET Java
Supported programming languages under Linux	C/C++, Java
In The Box	Development libraries: .dll, .so files Demo application, sample codes for each programming language Neural network controller Comprehensive digital documentation

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