

CARMEN® ACCR

Automatic container code recognition
powered by the world leader OCR algorithm



Fast, accurate and cost-effective solution for Automatic Container Code Recognition

Security and screening of container transportation has become more and more important in our globalized world. Growing need is seen for Automatic Container Code Recognition technology as a part of intelligent control systems.

Applied recognition technology needs to be fast and accurate. This reliability is guaranteed by more than a decade of development investment into the world leader CARMEN® OCR technology.

Special container camera system is available to produce optimal images for high reading accuracy.

CARMEN® system integrator partners are constructing outstanding innovative systems for their clients by incorporating our state-of-the-art CARMEN® ACCR software.

These technology experts understand the specific needs of their customer and they build complete systems exactly according to the expectations.

Key features

- ✓ High recognition rate
- ✓ Easy and fast integration (SDK)
- ✓ Fast recognition
- ✓ Recognition from several images of the same container
- ✓ Recognize horizontal and vertical text, two or three row codes

Typical application environments

- ✓ Automation of airport and harbor logistics
- ✓ Border control management
- ✓ Container surveillance systems
- ✓ Inventory management

CONTAINER IMAGE

code	burst	check	ocr time
OCLU 703100 7	92	7	257 ms
ECMU 432075 6	98	6	234 ms
OCLU 703100 7	92	7	285 ms
ECMU 432075 6	98	6	222 ms
OCLU 703100 7	92	7	274 ms
ECMU 432075 6	98	6	251 ms
OCLU 703100 7	92	7	234 ms
ECMU 432075 6	98	6	240 ms

RECOGNIZED CONTAINER CODE

ECMU 432075 6

CHECKSUM: PASSED

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Technical specifications

of CARMEN® ACCR software engine

ACCR technical specifications

CARMEN ACCR Software engine

Supported operating systems
Windows Vista (32bit), XP (32/64bit), 2003, 2000 Linux
Programming languages (under Windows)
C,C++, VB.NET, C#, Java
Programming languages (under Linux)
C++
Additional tools
SDK for easy integration, DLLs and ActiveX components
Type of container codes
ISO 6346 (=BIC code) UIC code MOCO code
Image input
Still image from memory, file or live video input
Video input
Analog (PAL or NTSC) or digital camera
File types
BMP, JPEG, JPEG2000
Image formats
Grayscale, RGB16, RGB24, RGB32, YUV
Trigger
Trigger is not needed but recommended when recognizing from live video
Processing time dependences
Image size, complexity, noise level etc. Processing power (CPU speed) Parameter settings Number of images of the same container
Sample processing time (one image)
500ms @ CPU 2GHz, 768 x 288 pixels (PAL/2)
Output
Container code in ASCII Best image (on which the reading is the most reliable) Code position Confidence level Checksum
Documentation
Reference manual in electronic format
System requirements
Intel, 2 GHz or higher Intel CPU 512 MB RAM Free PCI slot or USB 2.0 port

Technical specifications are subject to change without prior notice

FXCAM container camera

Mounted FXCAM with two illuminators

Technical specifications of camera unit
Imaging device
1/3" interline transfer Exview HAD CCD (B&W) Auto-iris optical system
Picture elements
768x576 (effective PAL/2 768x288)
Sensing area
6.3mm (H) x 4.7mm (V)
Scanning system
625 lines, 2:1 interlaced
Horizontal resolution
570 TV lines
S/N ratio
48dB AGC OFF
Synch system
Internal
Output signal
PAL 1Vp-p 75 Ohm
Shutter time
Factory preset (configurable with jumpers) 1:100 000s for even fields; 1:10 000s for odd fields
Weight of camera unit
Net: 4.5 kg, gross: 6.0 kg
Dimensions of camera unit
240 x 178 x 196 mm (without bracket)

Specifications of the illuminator units
Type of illuminators
Visible white LED illuminators
Pulse power per illuminator
2000W
Operation temperature
-20°C to +65°C (extra heating available)
Weight of illuminator units
Net: 4.5 kg, gross: 6.0 kg
Dimensions of illuminator units
240 x 178 x 196 mm (without bracket)

Other Specifications
Cable
RG 59 coaxial
IP class
IP 66
Power supply unit
Optional
Power consumption
24-36V DC or 24-28V AC (50-60Hz) 25-35W (including light flash and heating) Reverse polarity protection Automatic internal heating with thermostat

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