

PARALLELIX™

Line Scan Image Processing Library - MMX Optimized

for continuous, infinite-length web images

PARALLELIX is a software development library enabling users to perform continuous, host-based, image processing while continuously grabbing line scan images using an Horizon board.

PARALLELIX is an easy-to-use library with intuitive function names, fully optimized for Horizon board features and MMX technology.

PARALLELIX is the first image processing tool dedicated exclusively to line scan applications for continuous images. **PARALLELIX** solves problems arising from finite frame buffer limitations, providing a perfect solution platform for web inspection & analysis of randomly placed moving objects.

By choosing **PARALLELIX** and the HORIZON line scan board you will increase your processing capability and therefore ensure a better quality control for your most demanding application requirements.

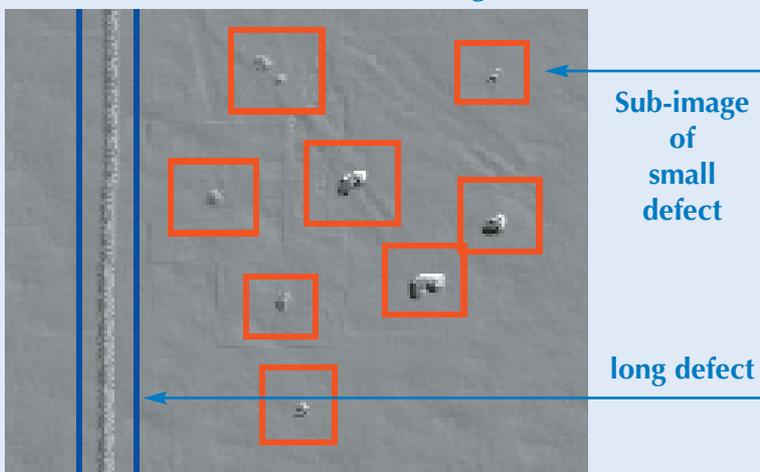


PARALLELIX

FEATURES :

- Host-based C/C++ Library
- Processing library designed for continuous, infinite-length images
- Continuous blob analysis for grey levels & gradient images
- Continuous grey level & binary morphological filtering
- Continuous 1D & 2D convolution filtering
- Fully optimized for MMX technology
- Compatible with HORIZON boards
- Native functions available on HORIZON board (optional)
- Windows NT and Windows 2000 environment

ROI of endless web image



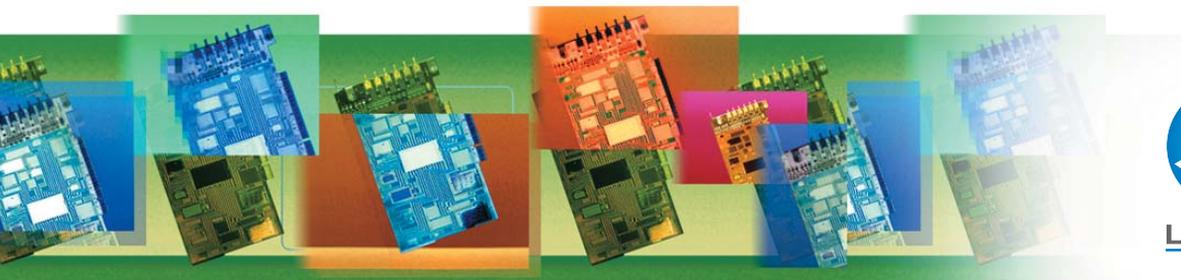
Applications

- Continuous 100% surface inspection (metals, non-wovens, paper, glass)
- Real time defect classification
- Sub-image extraction of randomly placed objects for faster 2D analysis (food industry)
- Rolls of printed labels
- Any processing of continuous, infinite length line scan images

i2S - BP214 - 19, rue Jean Perrin - 33608 PESSAC - FRANCE

Tel. +(33)(0) 557 26 69 02 - Fax +(33)(0) 557 26 68 99 - www.i2s-linescan.com - info@i2s-linescan.com





LIBRARY FUNCTIONS

Continuous blob analysis : **Blob Analysis module designed for endless image processing - not frame based**

- Real time blob analysis of grey level images
- Real time blob analysis of the edge-detection buffers (thresholded images) returned by HORIZON boards
- Edge tracking algorithm
- Specific algorithm for endless and line scan images
- Blob classification on different criteria (area, perimeter, shape, position, length, width, orientation...)
- Grey level sub-image extraction for faster 2D image processing and defect reporting

MMX-optimized algorithms - Faster image processing, classification and analysis

- Data copy
- Histogram computation
- Binarization (user-set or automatic thresholds)
- Image statistics (average, extrema)
- Vertical and Horizontal image flipping
- Image logical and arithmetic computation
- Image compare
- Automatic thresholds algorithm

Requirements :

Windows NT or Windows 2000 environment
PARALLELIX requires at least a PENTIUM MMX ;
Pentium II or III recommended.

Ordering Information :

PARALLELIX Line scan processing library
for HORIZON boards

Continuous morphological filtering : **greylevel & binary morphology, 2D filtering**

- Optimized 2D erode and dilate greylevel or binary filtering
- Optimized 2D open and close greylevel or binary filtering

Continuous convolution filtering : **convolution filtering module for continuous image 1D (X direction) and 2D (X/Y directions)**

- Optimized 1D or 2D gradient
- Optimized smoothing filter
- Optimized median filter
- Custom filtering kernel

