

# Ultravision Newsletter

Volume 2, May, 1999

## In This Issue

<i>Line Scan Development System</i>	1
<i>High Speed Video Motion</i>	
<i>Analyser</i>	2
<i>Stand-Alone Motion Controller</i>	3
<i>Update on JAI CV-M1 Progress</i>	3
<i>JAI CV-M40 Double Speed</i>	
<i>Camera</i>	3
<i>CF-1000 By Illumination</i>	
<i>Technologies</i>	3
<i>Cross-Hair Generator Measurement</i>	
<i>System</i>	4
<i>Ultravision Update</i>	4

Published & printed by  
Ultravision Sales & Marketing  
Department

## Ultravision Newsletter

Block 1008 Aljunied Ave 4 #01-23  
Singapore 389909  
www.ultravision.com.sg

For more information regarding anything in this newsletter, please write to or contact any of the Executive Committee Members. We appreciate any comments, recommendations and contributions for the next issue. If you'd like to help or show your support in any other way, please let us know.

Harry ..... 842 3239  
Wee Khiang ..... 842 0500  
James ..... 842 1639

Editor Lee Wee Khiang  
Sub-Editor Harry Khoo Kay Leong  
Design Harry Khoo Kay Leong  
& Layout

## What's New

### LINE SCAN DEVELOPMENT SYSTEM (LSDV-450)

The LSDV-1000 is a line scan development system. It is a simple to use vision system for acquiring a high quality and high resolution image for development and experimentation purposes.

Main components in the system:

- *DALS* line scan camera (2K, 4K or 6K resolution) with lens and power supply unit
- Fibre optic *Dual Lightline* with focusing lens
- Linear actuator, DC servo system and power unit
- Mounting stand for Camera and *Lightline*
- Pentium based controller (Pentium III/450MHz/384MB)
- Digital frame grabber and cable

Features:

- Control motion and lighting intensity via computer
- Triggered snap
- Synchronised image capturing with motion encoder
- Pan, scroll, zoom and screen-fit of image
- Window NT based software
- Load/save image in .bmp or .tiff format
- Simple *highlight and click* method to change parameters for speed, line rate, intensity, etc.
- Source code for image pointer is provided for customer to write customise software

Possible development and experimentation application:

- Leadframe measurement / inspection
- PCB and PCBA inspection
- Web inspection
- Wafer inspection



.....continue on page 2

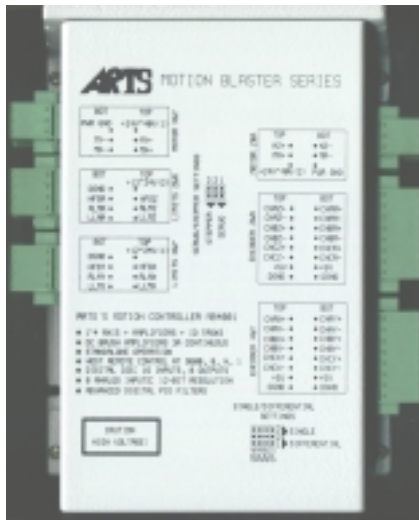
## What's New... (continue)

### STAND-ALONE MOTION CONTROLLER (MB4001)

The MB4001 is a high performance, state-of-the-art motion controller designed for stand-alone operation. It is available in a compact, industrial enclosure.

Features:

- 62.5 microseconds per axis servo update rate



- Up to 4 axes of motion control
- 4 Built-in Amplifiers (24~40VDC, 3A continuous, 5A peak)
- 64kB Non-volatile program memory
- Selectable of DC Servo Motors or Stepper Motors
- Multitasking of User Programs and PLC task simultaneously
- 8 analog inputs with 12-bit resolution
- I/O functions, 16 counters, 100 registers and 50 timers for executing PLC tasks
- User-friendly High-level Motion Control Language
- Programmable Acceleration and Velocity with profile change on the fly
- Positioning Range with more than 2,000,000,000 counts per move
- Protection features include automatic error/limit shut-off and amplifier enable/disable
- Motion status reporting for positioning, speed, torque, error and inputs

## Ultravision - The Machine Vision Specialist

### Special Review

#### HIGH-SPEED VIDEO MOTION ANALYSER (HSVMA)

The **High-Speed Video Motion Analyser (HSVMA)** is a real-time uncompressed video recording and processing video-recording software with the ability for immediate real-time playback. It can store upto 100GB of image data in mass storage device or store upto 1GB of image data in electronic memory. It is the best solution for acquiring, viewing and processing sequences of images under real-time condition.



Real-time standard and non-standard video is channeled from the frame grabber directly to the system memory or to a hard disk sub-system (optional). Once the image is captured to memory or disk, every frame is on-line for processing by the image processing engine. The engine has an extensive set of functions which can process single image or sequences of images at a time. An innovative user-interface harnesses the full power of the image processing engine to provide an ease of use that will maximise your productivity. A comprehensive set of frame grabber drivers is included to capture video from most of today's digital and analogue cameras.

Capture of unpredictable events is readily accomplished using the electronic power triggering features. This power triggering can allows the images to be captured and stored either as pre-triggering or post-triggering or middle-triggering. These triggering can come from virtually any kind of sensor such as optical, acoustical, impact, acceleration, temperature and proximity sensors.

For the types of video inputs to the High Speed Video Motion Analyser, you can refer to the table 1 below.

Category	Camera Type
Monochrome camera type I, Progressive Scan	60Hz at 640 x 480 120Hz at 640 x 200 222 Hz at 640 x 100
Monochrome camera type II, Progressive Scan	50 to 950 Hz at 256 x 256
Monochrome camera type III, Progressive Scan	50 to 260 Hz at 512 x 512
Monochrome camera type IV, Interlace Scan	25 Hz (CCIR) 30 Hz (RS170)
Colour camera type I, Interlace Scan	25Hz PAL 30Hz NTSC

Table 1 – Types of video inputs

## What's New... (continue)

### UPDATE ON JAI CV-M1 PROGRESS

JAI CV-M1 is a high resolution progressive scan black and white analog camera. It has a 2/3" CCD with pixel format of 1.3K x 1.0K. To-date, the camera has been successfully tested in both continuous and asynchronous reset image capturing function.

In-house, Ultravision had successfully integrated the CV-M1 with the following frame grabber card.

- Mutech MV1000
- Imaging Technology PC Vision

To verify and confirm that the integration is working properly, the camera frame scan should be 83 ms and the total transfer time for the asynchronous reset must be 110 ms or below.

*CV-M1 has been  
successfully integrated  
with Mutech MV-1000  
and Imaging Technology  
PC-Vision.*

If you had tried successfully with other made frame grabber card, we would be happy if you inform us the made and model for us to update our record. ■

### JAI CV-M40 DOUBLE SPEED PROGRESSIVE SCAN B&W CAMERA

JAI has included in her product range a new double speed progressive scan black and white camera. That is, the camera has a high frame rate of 60 frame per sec.

- Features:
- Double speed progressive scanning and

- partial scanning
- 1/2" Hyper HAD CCD with 659(H)x490(V) square pixels
- Full frame readout every 1/60 sec.
- 1/2 and 1/4 partial scan for 2 and 4 times the frame rate
- Internal, external, HD VD or random synchronisation



- Fast asynchronous reset shutter compatible with CV-M10
- Shutter 1/250 to 1/20,000 sec
- 24.5 MHz pixel frequency
- Video output with or without sync.
- Set-up by RS232C or switches
- Win 95/NT setup software
- Software includes DLL and LIB files for easy integration

Application:

- For customer who need speed in their machine vision application.

The CV-M40 will be ready for sales in the fourth quarter of this year. ■

### COMPUTERISED FILTER WHEEL LIGHTSOURCE - CF1000

NO MORE switching 'off' the lightsource, change the colour filter and switch the lightsource 'on' again.

Illumination Technologies has the world's only 'Hands Free' Filter Changing DC Regulated Lightsource.

Features:

- Computerised 8 position filter wheel
- DC regulated output
- Light-lock
- RS232/485 Interface

## Editor's Message

We had received very favourable feedback on our first newsletter. This has given us great encouragement to write this latest issue.

Recently, Ultravision participated in the Semicon '99 exhibition. Beside this newsletter, exhibition is another communication channel that we meet you, our customers.

In this issue, we highlight some newly develops in-house products such as LSDV-450, CRG-400 and HSVMA. These products are development system to support machine vision engineer. Our manufacturers, JAI and Illumination Technologies also have interesting products to share with you.

*Happy reading!*

## What's New... (continue)

- Accepts colour or neutral density filters
- Fiber receptacles for all major manufacturers
- No-tools lamp replacement



Application:

- For application that requires different colour lighting.

.....continue on page 4

## What's New... (continue)

### CROSS-HAIR GENERATOR MEASUREMENT SYSTEM (CRG-400)

CRG-400 is a new cross-hair generator measurement system model that is developed with multiple features to assist Engineers to perform difficult engineering measurement task.

User-friendly key features:

- Single or double cross hair moving anywhere on the screen
- Report coordinates information
- Set brightness, contrast, hue and AGC.
- Control saturation
- Convert coordinate to real measurement value (eg. inches or mm)
- Report measured length (in Double Cross Hair) in real value (real time)
- Change color and thickness of cross hair
- Change line styles (dot lines, dash lines, dash dot line, solid line, etc.)
- Change video system (PAL to NTSC)
- Real time display
- Save images
- Restore images
- Grab images
- Freeze images
- Password control

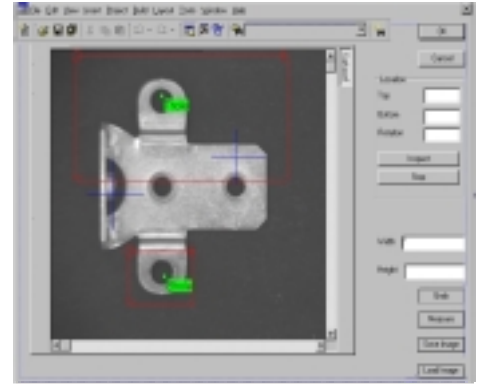
Application:

- Mechanical measurement report
- Gauging activities (eg lead frame, IC lead measurement)
- Image grabbing alignment, etc.

When very precise measurement are needed, CRG-400 can be integrated with a microscope to perform the task.

CRG-400 consists of a Pentium II 4xx processor, frame grabber card, monochrome or colour (PAL or NTSC) camera and an optional software library.

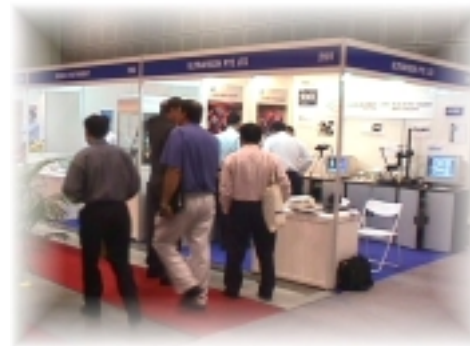
With so many user-friendly features, CRG-400 is made to increase engineering productivity. ■



## Ultravision Update

### Semicon Singapore '99 Exhibition - May 4 to 6

Ultravision participated in this year Semicon Singapore '99 exhibition so as to meet our customers in Singapore and Asia-pacific region. Also, to showcase and demonstrate some of our new and innovative products.



### Exhibit Display

We displayed most of our best selling products during the exhibition - CCD cameras from JAI and DALSA; lightsource from Illumination Technologies; frame grabber cards from Bitflow, Epix and Imaging Technology; and analysis software from FSI Automation and Media Cybernetic.

To provide a better understanding of machine vision application, we also setup three demonstration system for visitors' review.

### Interaction

We will happy to see many familiar faces in the exhibition. We welcome your visit and thank you for the support. ■

## Product Range

### Lens

- Optem / US
- Avernia / Japan

### Camera

- Dalsa / Canada
- JAI / Denmark
- Pulnix / US

### Lighting

- Illumination Technologies / US

### Frame Grabber

- Epix / US
- Bitflow / US
- Imaging Technology / US
- Mutech / US

### Analysis Software

- IO Industry / Canada
- Optimas / US
- XCaliper / US
- Halcon / Germany
- Sherlock / US

### Industrial PC

- ICP / Taiwan

Note : If you need more information on Ultravision's products, please visit our homepage at [www.ultravision.com.sg](http://www.ultravision.com.sg) or call us.