



# Big picture in a small package

Mark Fletcher looks forward to more size reductions for vision systems while still maintaining performance

## Design Pointers

- The control unit is not much bigger than a personal cassette player
- It can capture images in 8.3 milliseconds and will allow sub-pixel measurement
- All connections to the unit are made via the front panel, making it easy to install and set up

The A-series Micro Image Checker boasts tenth-of-a-pixel resolution and a capture speed of just 8.3 milliseconds

A camera control module that is no bigger than a personal cassette player offers both high resolution and fast image capture.

It should allow designers to develop much more compact vision systems without having to compromise on system performance.

The main applications are likely to be in conveyor-type operations, where high-speed throughput is as essential as part identification.

Matsushita's A-series Micro Image Checker boasts tenth-of-a-pixel resolution, a capture speed of just 8.3 milliseconds, multiple image storage capabilities and an easy-to-use user interface and programming module.

### Tailor-made

The module's method of operation can be tailored in many ways from simple click and compare to more advanced measure and identify functions. All programming can be performed with a clear on-screen display with a simple handheld programming device.

The ability of the module to store images is unique in the field of micro checkers, according to Matsushita.

Other modules on the market do have a storage facility but these tend to run off a host PC rather than in the module itself, according to the company.

The module can run with a PC if needed, which will increase its picture capture portfolio. It also

allows the functionality of the computer to enhance the data handling and analysis with the use of well-known PC programmes such as Excel.

This type of connection is achieved through a Matsushita PLC (with no hand-shaking).

Using precise grey scale sub-pixel processing, the checker

can offer sub-pixel accuracy – which is a crucial attribute for all precision measuring.

The pixels can also be 'averaged' to take into account rough edges, while the actual pixel count can be determined by the user (all pixels, every other pixel, every third pixel, etc.) in order to determine the accuracy and speed of the detection process.

Filters can also be set to ignore anomalies within a certain sized envelope, such as dust and dirt. Once a feature has been extracted, the controller can offer numerous attributes such as area, XY location and even the centre of the feature.

Once a feature has been stored within the controller's memory (64 can be stored) the unit will be able to handle objects up to  $\pm 30$  degrees from normal using Smart Matching. With its advanced feature extraction it is also possible to detect features that have been rotated through 90 degrees.

Many other image manipulation and analysis functions exist, all of which are included to give potential users the widest possible range of functions to suit as many applications as possible, all accessed through the units easy-to-use, handheld controller.

The company sees a number of high speed applications for the technology, such as the food industry.

