

# CHARM-104

## Embedded Video Tracker 100mm x 100mm

The Vision4ce CHARM-104 product uses the DART (Detection & Acquisition, with Robust Tracking) detection and target tracking software hosted on an embedded multicore processor board for video tracking and complex image processing applications.



Tracking a jet-ski using IR video

### Key Features

- Multiple object detection and tracking
- Centroid & edge measurement
- Feature based correlation algorithm
- Moving object detection
- Adaptive background removal
- Automatic coast
- Grey level invariant algorithms
- Robust clutter rejection
- Platform filters (optional)

### Interfacing

- Two analog video (NTSC, RS710, PAL or CCIR) inputs
- Two analogue video (NTSC, RS710, PAL, CCIR) video outputs with selectable symbology overlay
- Host interface through RS-232 or RS422 serial interfaces
- Direct interface to sensors and Pan & Tilt platform through RS-232 or RS-422 serial interfaces

### Additional Image Processing options

- Electronic image stabilization
- Image enhancement
- Snapshot or Short Loop H.264 Digital video recording & playback
- Streaming of SD & HD video
- Multiple (x8) PAL/NTSC input option

### Applications

- Security and surveillance
- UAV & UGV
- Manned vehicles
- Automated video analysis

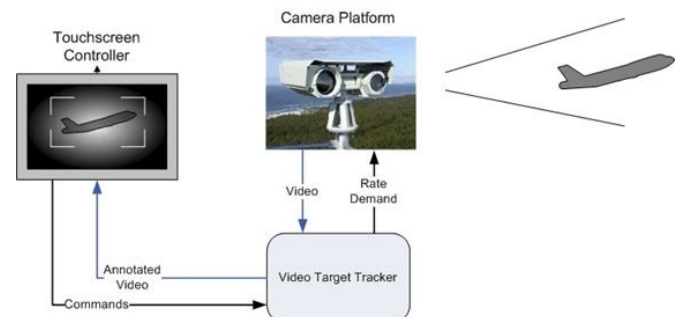


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### Video Detection & Tracking

A video tracker analyses video image sequences from a sensor system (one or more cameras), mounted on a servo controlled pedestal (platform) to keep the camera pointing at the nominated person or object. In this context, a Tracker has two primary processing functions.

- Detecting and locating objects of interest in the video image (object location).
- Controlling the platform (Pan and Tilt) position and rate such that the camera follows the designated object (Pan and Tilt Control).



## CHARM-104

The CHARM-104 board is a standalone video tracker board of PC-104 Plus dimensions (4.5" x 4" or 114 x 102mm) just a little larger than a standard PC-104 board.

Various connectors allow for direct connection to standard industry video and data interfaces. Remote operation is available as an option with control and video data being streamed over the LAN.

### Interfaces

- 4 x RS232/422/485
- 2 x USB2.0
- 1xUSB 3.0
- GPIO and Analogue input output options
- 10/100/1000 Ethernet
- 4x NTSC/PAL/SECAM Composite Camera inputs. When this Option is selected, no digital inputs are available. Use Mini PCIe expansion slot
- Digital video input selectable from HD-SDI, HDMI, RGB or YPbPr
- Two independent video outputs - HDMI and VGA
- Serial ATA 2.5 (SATA) @ 3 Gb/s
- Analogue Video output uses VGA to composite converter module

### Power

- +5VDC 7-9 watts

### Environmental

- Operating temperature -40C to +71C
- Passive heat sink available

Designed and manufactured in the UK