The Vision4ce CHARM 3U video tracker uses the DART (Detection & Acquisition, with Robust Tracking) detection and target tracking software hosted on an embedded multicore ARM processor board for video tracking and image processing applications.

**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

**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

**Applications**
- Security and surveillance
- UAV & UGV
- Manned vehicles
- Automated video

**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).

The CHARM 3U is a high-performance video tracker that meets the mechanical requirements of a conduction cooled single height Eurocard (DIN41494).
Interfaces
• Two analogue video inputs
  – 1.0V peak to peak into 75 Ohm
  – 625 / 525 line
  – CCIR, RS170, PAL or NTSC
• Two analogue video outputs
  – 1.0V peak to peak into 75 Ohm
  – 625 / 525 line
  – CCIR, RS170, PAL or NTSC (depending on input)
  – Selectable symbology overlay
• Two bidirectional serial interfaces
  – RS232 or RS422
  – Asynchronous
  – Baud rate variable up to 115,200

Connectors
• Front panel
  – 1x 25 way Micro ‘D’ Plug
  – 2x serial interfaces
• 4x SMA Jacks
  – 2x video inputs
  – 2x video outputs
• Rear Connector
  – 96way DIN 41612 Type C
  – 2x serial interfaces
  – 2x video inputs
• Power
  – +5V, < 7 watts

Mechanical
The CHARM 3U conforms to the 19” rack specification (DIN 41494) as a single Eurocard PCB module (3U x 4HP).

Environmental
• Copper side strips provide surfaces for conduction cooling via wedge locks.
• Temperature
  – Operating -40C to +71C
  – Non-operating -55C to +95C
• Thermal shock (operating) > +/- 5C per minute
• Humidity
  – 5% to 95% non-condensing
  – Optional conformal coating available

Designed and manufactured in the UK