

# CHARM-100 Enclosure



## Video Tracker module

The Vision4ce CHARM-100 Enclosure consists of a CHARM-100 packaged into a rugged, sealed enclosure along with a 28VDC power supply suitable for vehicle or aircraft power supplies. The CHARM-100 Enclosure provides connection to two analogue video inputs and outputs along with two digital video inputs and outputs.



Tracking a jet-ski using IR video

### Architecture

The CHARM 100 uses a FPGA for high speed, low latency video interfacing and processing combined with the flexibility of the Jetson embedded processing which includes the following resources:

- Quad core ARM A57 CPU
- 256 CUDA core GPU
- Video accelerator for video encode/decode

The CHARM 100 processes two concurrent streams of standard definition or high definition video selected from the multiple analog and digital video inputs. The output video is genlocked to the input video and is comprised of low latency video from the selected input combined with processed video and graphics from the Jetson.

### VMS Software

The CHARM 100 hosts the Vision4ce VMS which is a comprehensive real time video management software suite for video and image processing. The VMS software includes the following capabilities:

- Video detection and tracking using Vision4ce DART library
- Video compression and recording
  - H.264, M-JPEG
- Video streaming
  - MPEG-TS (STANAG 4609)
  - RTSP
  - DEF STAN 00-82
- Electronic image stabilization
- Panoramic image formation
- Image enhancement
- Camera control
- Servo platform control
- Remote control over IP

CHARM-80 Enclosure

### Interfaces

- Two digital video inputs (CHARM80HD)
  - SMPTE 292M, HD-SDI
  - 75 Ohm
  - 480i60, 576i50, 720p50/60, 1080p25/30, 1080i50/60
- Two digital video outputs
  - SMPTE 292M, HD-SDI
  - 75 Ohm
  - 480i60, 576i50, 720p50/60, 1080p25/30, 1080i50/60
  - Selectable symbology overlay on one output
- Two analogue video inputs (CHARM80)
  - 1.0V peak to peak into 75 Ohm
  - CCIR, RS170, PAL or NTSC
- Two analogue video outputs
  - 1.0V peak to peak into 75 Ohm
  - CCIR, RS170, PAL or NTSC (depending on input)
  - Selectable symbology overlay on one output
- Four bidirectional serial interfaces
  - 2 x RS232 and 2 x RS422
  - Asynchronous
  - Baud rate variable up to 115,200
- Ethernet
  - 1 x 10/100/1000 Base T
- CAN

### Power

18-32VDC MIL-STD-1275D, < 25 watts

### Connectors

- D38999 37 way plug
  - Power
  - Ethernet
  - 2 x RS232
  - 2 x RS422
  - 1 x CAN
- 8 x BNC sockets
  - 2x analogue video inputs
  - 2x analogue video outputs
  - 2x digital video inputs
  - 2x digital video outputs

### Environmental

- Temperature
  - Operating -40C to +71C
  - Non-operating -55C to +85C
  - Thermal shock (operating) > +/- 5C per minute
- Humidity
  - 5% to 95% non-condensing
  - Optional conformal coating available
- Shock
  - 30g, 11ms

### Mechanical

- Weight 4.4lbs, 2.0kg
- Dimensions 7.0" (d) x 6.15" (w) x 2.24" (h) (178 mm x 156mm x 57mm), excluding connectors

Designed and manufactured in the UK

