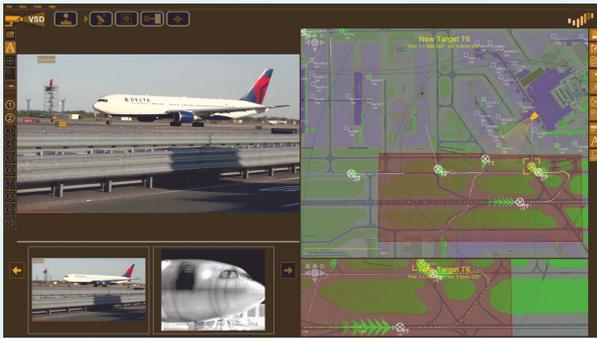


# VSD

## Video Security Display Application



### Features:

- Complete ready-to-run application software for Windows
- Windows 7/8/8.1/10 compatible
- Multiple radar video input channels
  - Analogue (via HPx card)
  - ASTERIX CAT-240
  - Manufacturer formats
- Multiple camera video input channels
  - Analogue (via DirectShow device)
  - RTSP
- Tracking from radar video
- External track input
- Tracking from camera video
- Radar video and track display
- Map display
  - Tiled maps
  - User maps
- Secondary data (AIS, ADS-B) interfacing, decoding and display
- Fusion of primary track data
- Cross-referencing of primary and secondary tracks
- Camera display (multiple cameras)
- Camera control
  - Slew-to-cue from selected radar target
  - From video tracking
  - Manual (GUI control or joystick device)
- Slew-to-cue modes
  - Manually designated target
  - Newest target
  - Nearest target
  - Cyclic
- Alarm zones and operator alerts (visual and audible)
- Network output of alarms
- Recording of radar and camera video
- Image stabilisation
- Programmable soft keys for camera controls
- Designed for touchscreen devices
- USB joystick control
- Configuration Wizard
- Maintainer and operator user control

The VSD application software is a complete end-user display application that interfaces to radars and cameras, providing a ready-made situational awareness display. VSD is ideally suited to projects where traditional camera-based security systems are augmented by the addition of one or more radar systems in order to scan for and acquire targets of interest. The application is provided for Windows (7, 8, 8.1 & 10) and simply installs on a standard PC.

The application window is divided into two main areas: a radar/map pane and a camera video pane. The radar portion of the display provides a geographic overview of the situation, showing all of the available radar videos, tracks, secondary data and camera locations, overlaid on a map. The camera video portion of the window shows a large display of the video from the currently selected camera, optionally with video from a co-located camera shown as picture-in-picture. Thumbnails of all available camera feeds allow rapid and easy selection of a specific camera of interest.



### Enhanced Target Tracking

Cambridge Pixel's field-proven radar tracking process is fully integrated within VSD, allowing target tracks to be extracted from each primary radar video input. VSD also includes a track fusion process, which is capable of correlating the primary tracks from multiple radar sources. Furthermore, primary tracks may be cross-referenced against secondary tracks. Since only cooperative (i.e. friendly) targets will generally provide secondary transponder data, VSD may automatically alert the operator to primary targets that do not have a corresponding secondary response and may therefore be hostile.

A key feature of the VSD application is its ability to control a camera to follow a selected radar track automatically. This capability is known as slew-to-cue and is further improved in VSD by the built-in video tracking function. Video tracking uses analysis of the camera video imagery to determine the target direction. Once a track has been designated within the radar display, video tracking can provide more accurate camera positioning for enhanced slew-to-cue.



### Clear Control

VSD provides a clear display of the camera videos and radar data. The intuitive user interface has been designed with touchscreen devices in mind. The most commonly used controls are readily accessible within the main application window and are adjustable via large graphical elements. Operators can pinch to zoom and slide to pan the camera and radar videos. Camera feeds may be selected for display via the thumbnail list or the map region.

VSD may be configured either for operators or for maintainers, allowing certain controls to be restricted in the case of the former. This feature can help to preserve the settings within deployed systems and prevent unauthorised or accidental changes being made. A convenient setup wizard is provided to assist maintainers with installation and configuration. ■

# DATA SHEET



**CAMBRIDGE PIXEL**  
SENSOR PROCESSING & DISPLAY SOLUTIONS

## Operating Systems

Windows 7/8/8.1/10

## Number of Input Channels

Up to 4 radar videos  
Up to 8 camera videos

## Supported Inputs

Radar Video: ASTERIX CAT-240, SPx format, HPx hardware input, manufacturer proprietary formats (consult factory)  
Camera Video: via DirectShow device, RTSP/RTP H.264 network data  
AIS: NMEA-0183 from serial or network  
ADS-B: ASTERIX CAT-21 or 112-bit extended squitter

## Target Tracking

Tracking sources: Radar videos, camera video  
Track fusion: Radar tracks

## Camera Control Mechanisms

Manual (GUI controls or USB joystick)  
Slew-to-cue (from radar track)  
Video tracking

## Outputs

TTM alarm output messages

## Camera Control Interfaces

Pelco-D  
Chess Dynamics' proprietary  
Others (consult factory)

## Local Display

Radar video and track PPI display  
Tiled maps underlay  
User maps  
Electronic charts (consult factory)  
Camera video display  
Picture-in-picture and thumbnails

## Control Device Support

Keyboard/mouse, touchscreen, joystick

## Recommended Host System

Intel Core i7  
8GB RAM  
NVIDIA PCIe graphics (e.g. GeForce GT610 or better)

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