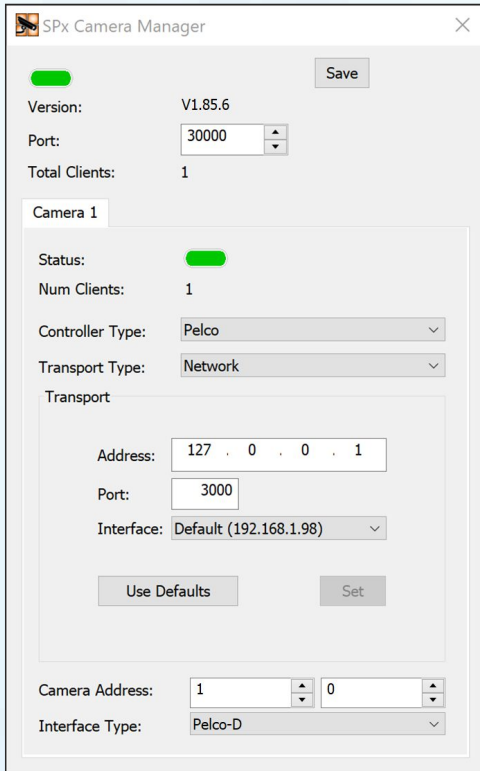


## SPx Camera Manager



### Features:

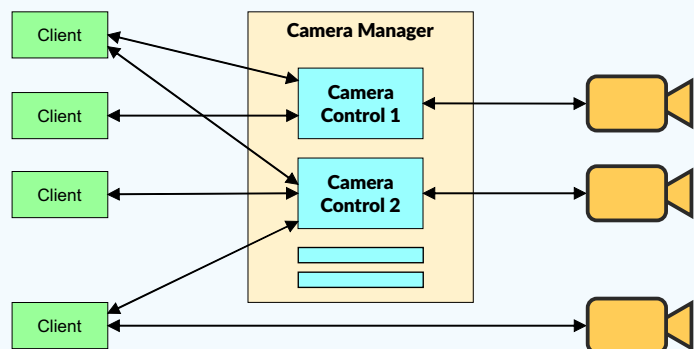
- Control multiple cameras from multiple clients
- Priority-based access control
- Network control interface
- NMEA navigation data input
- Automatic control of camera from track messages
- ASTERIX CAT-48 or SPx radar and fused track input
- AIS input as NMEA-0183
- Windows and Linux server implementation

**SPx Camera Manager is a self-contained, multi-function application that serves as a bridge between video cameras and applications. It allows shared, priority-based access to control the cameras, and supports automatic camera control to follow tracks.**

In surveillance applications with several PTZ (Pan-Tilt-Zoom) cameras, a situation often arises where several users may need to control the cameras at different times. This may include several users at display workstations, for example. SPx Camera Manager solves this problem by providing access based on priority. Users can request access to a camera and SPx Camera Manager will grant access if the user has the highest priority.

SPx Camera Manager permits cameras that may have different control interfaces (including ONVIF, Pelco-D and FLIR Nexus) to be controlled with a single, common interface protocol. A client application can communicate with a camera without needing to understand the specific protocol of the camera. A network of different camera types can be easily supported.

SPx Camera Manager supports automatic control of camera direction based on track messages (slew-to-cue) from AIS, radar and fused tracks.



### Camera Control

SPx Camera Manager can control PTZ cameras based on Pelco-D, ONVIF and Nexus protocols. A client application connects to the Camera Manager to request access to a camera. If the camera is unallocated, access is granted. If the camera is allocated to another client a priority system is used to decide which client gets control. Once it has control, the client can manipulate the client using commands sent across a TCP network interface.

Clients that do not have control of a camera can still read back position and status information. A full set of commands is provided for manipulation of the camera and related control. Commands may be sent to the Camera Manager which then converts those commands into the camera-specific protocol.

A camera can be steered to look at a specific lat/long position. To support this, the camera's own position needs to be configured, or alternatively an NMEA source of navigation data can be used to report the position.

### Automatic Target Following

The direction of the camera can be automatically adjusted to follow the movement of a target, with target reports provided from an AIS input or external radar tracker. A client application may designate a target of interest and report that track identifier to the Camera Manager. The Camera Manager then receives reports for the target and automatically moves the camera to maintain the target in the field of view. The camera control is then fully automatic and no further involvement is needed from the application until the application changes the camera control mode or designates a different target.

## DATA SHEET



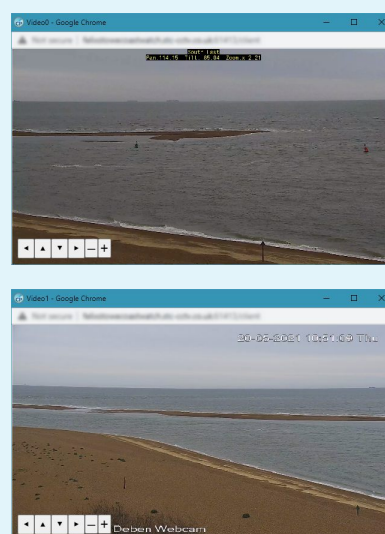
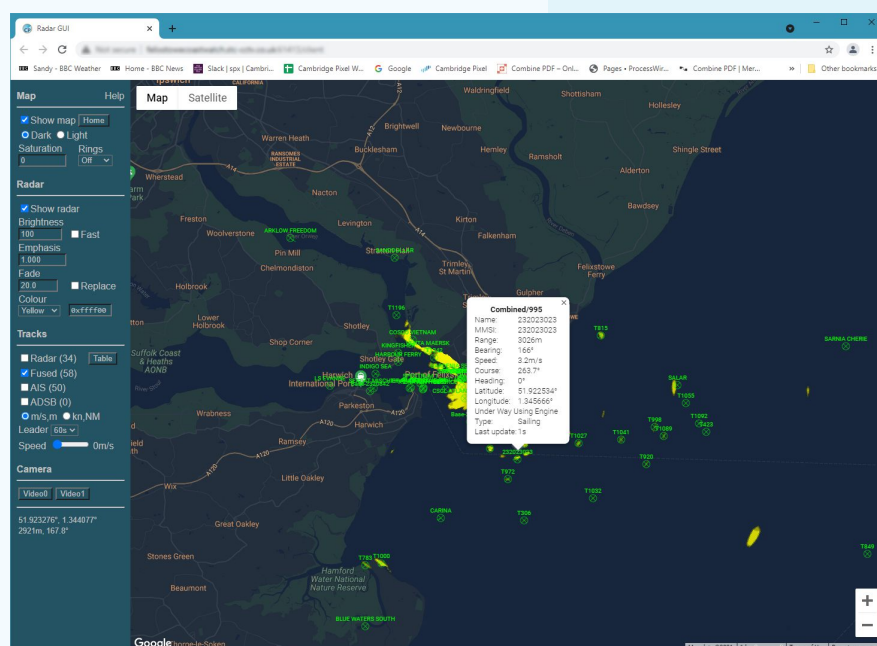
### Protocol Conversion

SPx Camera Manager can be used in simple situations where it is desired to control a camera with ONVIF or Pelco protocols from an application. The complexities of camera control using the ONVIF or Pelco protocols can be removed and replaced with a simple message interface to the application. An example of this is implemented in a browser-based interface that provides a simple display application for radar video, tracks, maps and camera control.

The browser interacts with the camera manager, using a simple interface to set the camera position or associate a track for automatic following. The camera manager can also be used with Cambridge Pixel's own display applications, such as VSD and RadarWatch, where there are multiple operator positions or where control of the camera needs to be shared with another video management system. ■

### Specifications

<b>Platform:</b>	Linux and Windows 10
<b>Configuration:</b>	Configuration file read at start-up Configuration user-interface for Windows version
<b>Number of Connected Cameras:</b>	2, 4, 8, 16, 32 (licence option)
<b>Number of Connected Clients:</b>	Up to 256
<b>Camera Controls:</b>	Zoom, focus, pan, tilt
<b>Control modes:</b>	Point to lat/long, point to track, follow track (slew-to-cue)
<b>Navigation Data:</b>	NMEA-0183 navigation data input
<b>Camera protocols supported:</b>	Pelco-D, ONVIF, Nexus (for other cameras, consult factory)
<b>Track input:</b>	ASTERIX CAT-48, SPx or AIS (NMEA-0183)
<b>Software Interface:</b>	TCP-based interface with C++ and .NET library support Windows and Linux library supported Heartbeats on UDP address for status



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