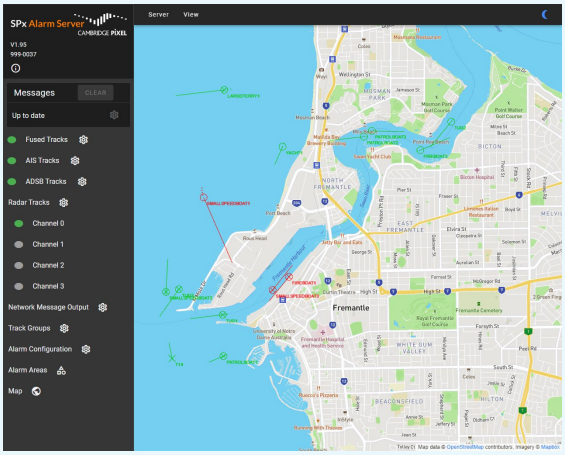
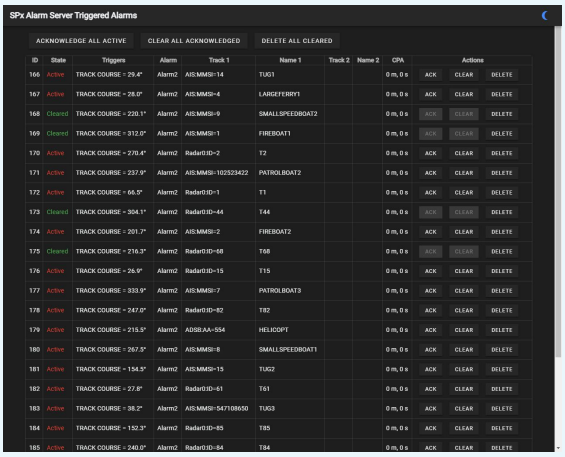
SPx Alarm Server



Alarm Server Web GUI



Triggered Alarms Window

Features:

- Fully automated track stream monitoring
- Multiple input channels (up to 7)
- Georeferenced alarm zones, gates and points
- Web-based configuration GUI
- Flexible alarm logic to minimise false and nuisance alarms
- Supports multiple scenarios and use cases
- Runs on a Windows or Linux PC

SPx Alarm Server is a software application that can generate alarms by considering the attributes of tracks against user-defined areas/zones or other tracks. The alarm logic is fully configurable to support complex rules to minimise false alarms and nuisance alarms.

The degree of automated monitoring that can be implemented with SPx Alarm Server can greatly assist operators in coping with increased traffic flows and can lead to improved safety levels through the reduction of the potential for incidents and accidents.

Typical examples of alerting system that can be defined using SPx Alarm Server include:

- Wide area perimeter intrusion detection systems (PIDS)
- Firing range danger area infringement systems
- Route adherence monitors
- Closest point of approach (CPA) conflict alerting systems
- Airport controlled area & restricted zone monitors
- Stop-bar/gate holding position monitors
- UAS traffic management (UTM) systems

SPx Alarm Server runs as a backend server application on a Windows or Linux PC.

Multi-channel Input

SPx Alarm server can monitor up to four channels of primary radar tracks in SPx or Asterix CAT-48 format. It also supports three further track stream inputs for Fused Tracks (in SPx or Asterix CAT-48 format), AIS Tracks (in UDP Raw AIS or UDP SPx AIS format) and ADS-B Tracks. Support for various ADS-B formats/receiver manufacturers is built-in.

Georeferenced Zones

SPx Alarm Server supports georeferenced areas (or “zones”), gates and points which are defined either by editing a plain text configuration file, or by selecting points against background mapping in its graphical user interface (GUI). Associated alarm logic and conditions can then be configured to suit different scenarios and use cases.

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DATASHEET

Track Monitoring & Alerting

Once setup is complete, SPx Alarm Server can be deployed to continuously monitor streams of tracks and generate alarm messages based on preconfigured alarm conditions, such as:

- Located inside (or outside) a specified area/zone
- Entered and not left specified area
- Proximity/CPA to a point or shape/area
- Proximity/CPA to any other track (or to a specified track)
- Entry/exit from zone
- Area/zone occupancy time
- Track speed, course, rate of turn, course deviation and type

When an alarm condition is triggered, SPx Alarm Server supports the sending of network alarm messages in NMEA-0183 Tracked Target Message (TTM) format (V1 or V2). A supplied utility allows these messages to drive the relay outputs of a Modbus/TCP device to support alarm sounders.

Web-based GUI

SPx Alarm Server uses a web-based configuration GUI that can be viewed and operated in standard browser software. The GUI includes a viewing window that includes background mapping (normal, light or dark) or background satellite imagery. The GUI displays tracks, areas, gates and points as overlays to the selected background mapping or imagery.

Network-based API

SPx Alarm Server is supported by an API, available in Cambridge Pixel's C++ and .NET libraries, that provides full access to alarm configuration and triggered alarm state. This can be used by a client application to fully integrate alarm capability.

System Requirements & Specification

Platform: Windows 11 or Linux PC

Configuration: Configuration file read at start-up
Web-based GUI

Browser Support: Chrome, Edge, Firefox & Safari

Track Inputs: 4x primary radar tracks (SPx or Asterix CAT-48)
1x fused tracks (SPx or Asterix CAT-48)
1x AIS tracks (UDP Raw AIS or UDP SPx AIS)
1x ADS-B tracks (AirNav, Asterix CAT-21, AVR, FR24, KAL, Mode-S Beast or RadarGadgets PlaneGadget format)

Alarm Conditions: **AIS:** Draught, Haz Cargo, Nav Status, AIS Ship Type
CPA: To Any Track, To Point, To Ref Point, To Track
Crossed: Gate, Gate Fwd, Gate Rev, Inside Area, Not Left Area
Misc: Approaching Land, Started In Area, Timestamp, Visited Area
Proximity: To Any ADSB, To Any AIS, To Any Track, To Land, To Point, To Ref Point, To Shape, To Track
Track: Acceleration, Altitude, Class, Comms Cap, Course, Course Dev, Flight Status, Group, Is Sim, Is Test, On Ground, Rate of Turn, Sec ID, Sec Type, Speed, Speed Dev, Threat Level, Track

Alarm Action: Network message output of an alarm message in NMEA-0183 TTM format (either V1 or V2).

Ordering Info: 503-100 – SPx Alarm Server runtime licence

For more information, please contact:

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