



## FEATURES

Users can access and display data obtained from multiple proprietary systems via a single user interface (one of the standalone PSI Apps or the AGWS PSI Workstation).

Information can be accessed, transferred and saved locally in a file and format specified by the user for subsequent processing using third-party software.

New applications can be developed to access and process data obtained from any external system in a controlled and standard manner via the PSI network.

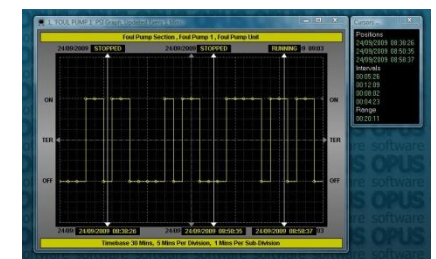
New drivers can be developed to incorporate any future system or data source without any change to the current user interface and applications.

Open source policy for all drivers and apps.

Generic SQL driver included.

Data summary, Graph display, Mimic display and Mimic editing packages provided.

Useful statistics are presented for the plotted data including the minimum, average and maximum values, and the percentage of sampled data in the various alarm categories (high-high, high, normal, low and low-low). Graphs may be configured to depict static data or to refresh automatically displaying current data. A graph's load specification gives you full control over the load period, synchronisation, time offset, data resolution and sampling function (i.e. whether to extract minimum, maximum, average or integrated totals).



PSI Graph Display

## Mimic Display PSI App and Editor Package

Mimics are typically used to customise the operator interface or depict information in a graphic or schematic form.

Mimics consist of a background superimposed with static, marker, control and live data items. The background can be rendered using either a solid colour, one of the various graduated fills (18 off), or using a specified image (e.g. an associated map, plan or photograph). Various static items can be inserted onto a page including text, frames (2D or 3D shapes), titled boxes, pipes, tanks, cutout overlays, bitmap images

## OPUS PSI - Proprietary System Interface

OPUS SOFTWARE presents OPUS-PSI, a Microsoft .NET framework software development package which provides an interface to third party data. Applications within PSI access and process data sourced from local and remote data based systems (IMS, Telemetry, SCADA systems, general purpose database etc.).

### PSI Applications

Standard PSI applications provide highly sophisticated interfaces to data based systems.

The PSI Applications request, process and consume (display or store) data and information provided by the PSI Drivers.

Each application is a standalone program that allows the user to request data and information either in an 'ad hoc' manner or by using prepared specifications and shortcuts. Where appropriate 'right click' options allow the requested data to be transferred and stored in an appropriate form on the operator's local computer system. Hence, the PSI Apps can be used to confirm, access and store data from the PSI system for subsequent processing using third party packages such as spreadsheets, word processors, report generators etc.

The following PSI Applications are currently available,

- Summary display
- Graph display
- Mimic display and editor
- The AGWS PSI Workstation

### Summary Display PSI App

The PSI Summary display application is used to request data and information that is displayed in a summary or data grid format. Each summary can display live or static data.

Identifier	Value	Unit	Description
FOUL SUMP LEVEL	2.752	M	
STORM SUMP LEVEL	2.570	M	
SUMP LEVEL	1.310	M	
HELFORD LEVEL	1.40	M	
FAL LEVEL	2.23	M	
ALLEN LEVEL	4.69	M	
FOWEY LEVEL	8.98	M	

PSI Summary Display

A real-time summary can be restricted to the data of interest by specifying the required search criteria.

No	Identifier	Value	Unit	Description
0001	COARSE SCREEN SECTION			27 October 2009 15:47
0001	INCOM FLOW	7.886	L/S	Coarse Screen Incoming Flow
0002	FOUL PUMP SECTION			27 October 2009 15:47
0001	FOUL SUMP LEVEL	7.886	M	Foul Sump Level Transducer
0002	FOUL FLOW	3.469	L/S	Foul Pump Section Flow Monitor
0002	STORM PUMP SECTION			27 October 2009 15:47
0001	STORM SUMP LEVEL	7.378	M	Storm Sump Level Transducer
0002	STORM FLOW	2.469	L/S	Storm Pump Section Flow Monitor
0004	FINE SCREEN SECTION			27 October 2009 15:47
0001	SUMP LEVEL	7.886	M	Fine Screen Sump Level
0002	OUTFALL FLOW	3.738	L/S	Outfall Flow Monitor

PSI Summary Display

### Graph Display PSI App

The PSI Graph display application is used to request data and information that is displayed in a graph format.



PSI Graph Display

Professional looking graphs can be created quickly and easily and then named and saved to disk. Graphs can be used as templates to load and display user specified archive data, usually in response to 'ad hoc' requests by the operator. Graphs can also be inserted on mimics.

Any number of graphs may be plotted in a single grid, or displayed individually in separate grid areas.

Various graph formats, line styles, fill options, bitmap and gradient fills are available including segmented colours to depict alarm boundaries.

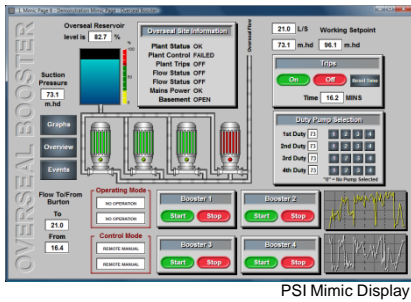
Multiple cursors provide details regarding the cursor positions, intervals and range within the separate 'Cursor Details' window.

Alarm limits may be selected from the database or specified manually. The alarm limits may be plotted on the grid, rendered on the graph, or a mixture of both.

Graph plots may be scrolled forward and backward in time by either the default timescale or by a user specified period.

Zoom options are provided to assist your data analysis.

and icons. Pipes, text frames and bitmaps can be animated.



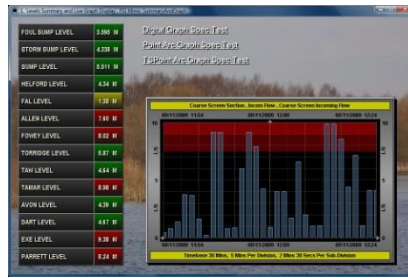
PSI Mimic Display

Markers can be inserted onto a page and provide operator interaction using simple mouse clicks. These markers, or mouse hot spots can be inserted using either hidden points, hidden boxes, or visible mouse buttons. The mouse cursor automatically changes to a pointing hand symbol whenever the cursor rolls over a marker. Separate commands can be associated with a marker's active and latched states. These commands can be used to provide links to Microsoft compatible packages (MS Access, MS Excel, Media Player etc.), to activate utility or user programs (e.g. Visual Basic control applications), to display other mimics, summaries, and graphs, in fact to perform any desired action.



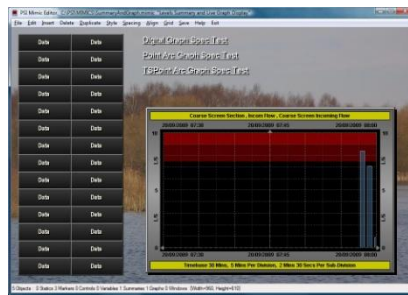
PSI Mimic Display

User prompts can be associated with mimic markers, appearing as text messages on the display. Live data can be presented in a wide variety of forms including descriptive text phrases, analogue and totalised values, bit-mapped colour coded symbols (of any complexity or size), regular and irregular fills, gauges, sliders, pipes, data tables and graph plots. Animations can be used to depict motion, illustrate conditional flow along pipes etc., thereby bringing your mimics to life.



PSI Mimic Display

The PSI Mimic editor application is used to create and edit the PSI Mimic pages and includes many tools enabling you to quickly create sophisticated mimic pages. Objects can be placed precisely using different sized 'snap to' grids, and our alignment options ensure your mimics look neat and professional. Favourite object styles can be named and stored within the library; these styles can be easily applied to other objects to add consistency to your displays. An extensive library of mimic objects is supplied to simplify mimic creation. You can also append your own objects, or object groups, into the library to be used over and over again. Objects extracted from the library may be pasted using their original size or resized as appropriate.



PSI Mimic Editor

### AGWS PSI Workstation

The AGWS PSI Workstation incorporates all the display facilities provided by the standalone PSI Applications into a single user interface.



PSI Workstation Display

The workstation also includes many other features typical of a control room operator's workstation to provide a sophisticated user interface to the PSI system. The workstation is completely independent of the

proprietary systems providing the data and information via the PSI Network. The AGWS PSI Workstation is likely to become our standard user interface on future generations of the Opus Telemetry/SCADA/IMS systems.

### Microsoft .NET Framework Environment

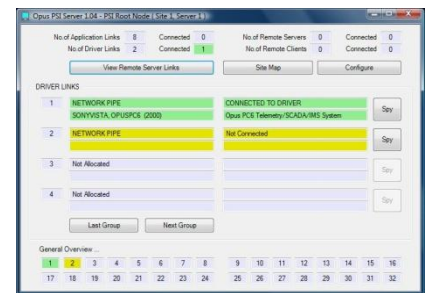
The PSI system is fully compatible with the Microsoft .NET Framework environment and is supplied with full software documentation, sample software and development support allowing end-users and system developers alike to extend the system by developing any number of additional PSI drivers and PSI applications.

### PSI 'Generic SQL' Database Driver

This driver provides a customisable interface to general SQL database(s). All details relating to the databases, available data summaries, mimic variables, graph data and browse options are specified in an xml definitions file.

### Monitor Utilities

Utilities are provided to monitor the network links, communications, drivers, applications and users on the system.



PSI Driver Monitor

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