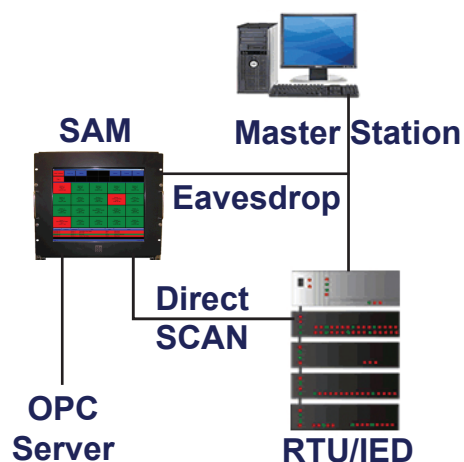# SAM
Substation Alarm Manager - Annunciation & Data Viewer

Applied Systems Engineering, Inc.'s Substation Alarm Manager (SAM) provides power utilities a simple way to show current point status, data values, and alarm information within a substation. By utilizing ASE's vast protocol library, SAM can obtain data from a variety of RTU/IED devices by direct scan, by eavesdropping on active communication to an external master, or through an industry standard OPC interface to any compliant OPC server. Data and alarm display and processing information is identical in all cases.

The complete SAM system comes with a substation hardened PC (no moving parts), a touch-screen 19" rack-mount monitor, the data acquisition, annunciation, and data viewer software, and configuration software. Lower cost options are available to customers who provide their own PC and/or monitor.

SAM allows for multiple configurable annunciation pages to be created to show digital states, analog values, and alarm conditions. Alarm calculation, color coding, font / button size, and screen layout are all configurable within the SAM software.

The SAM software integrates seamlessly with ASE's SCADA Protocol Translation (SPT) software, provided as an integral part of the SAM package. SPT can gather data from downstream devices (RTUs/ IEDs) using any of over 40 different protocols. The SPT component adds the capability for SAM to report acquired data values to upstream masters, optionally in different protocols. For a small non-recurring charge, SAM can operate as an integrated protocol translator, data concentrator, and alarm annunciation package.

REMOTE OPERATIONS

The SAM softwares can be run over a network, allowing the alarm annunciation screen to be located remotely from the data acquisition processor, or multiple annunciation/data viewing sites can connect to a single data acquisition location.

SAM SPECIFICATIONS

Software	Configuration	Windows based configuration systems allows for Alarm specification, analog limits, scaling and point descriptions
	Protocol	configurable per channel
	Poll/Eavesdrop	configurable per channel
	Point Counts	Maximum 20,000 points
	Alarm Displays	configurable grid size and color
Hardened PC	Processor	Intel AtomTM D2550 1.86Ghz Processor, 1GB DDR3 800/1066 SODIMM RAM
	Power	Requires regulated 5VDC
	Serial Ports	RS-232/422/485 x 1, RS-232 x 3, ESD protected
	USB Ports	Four USB 2.0 ports
	Network Port	Gigabit Ethernet, RJ45 connector x 2
	Solid Storage Disk	CFastTM slot x 1 - 16GB HDD provided
Touchscreen	Serial	19" Rack-mount – 17" Display panel , 3" deep
	Features	Touch screen with USB inputs from PC
Options	Alternate power	Options to allow SAM to run on other DC voltages (48 to 125)
	Data Concentration& Protocol Conversion	Provides master station communication for addition of Data Concentrator and Protocol Conversion capabilities
	Keyboard	USB based Keyboard/Trackpad on a slidable drawer shelf
Other Details	Component Heights	SAM Panel 5.25" (3U), Display Monitor 15.75" (9U) , Keyboard 1.75" (1U)
	Power Consumption	All components < 100 Watts

SAM SPECIFICATIONS

Model	Description
SAM-900	Includes touchscreen, monitor, hardened PC, SAM software for annunciation, and SPT software for data acquisition, data concentration, and protocol translation.
SAM-750	Includes SAM software for annunciation, and SPT software for data acquisition, data concentration, and protocol translation. Customer provides Monitor.
SAM-500	Includes SAM software for annunciation, and SPT software for data acquisition, data concentration, and protocol translation. Customer provides the PC.
SAM-100	SAM software for annunciation and SPT software for data acquisition, data concentration, and protocol translation. Customer provides the operational PC and monitor.