AMS
Alarm Management Software

For display, monitoring and analysis of your process alarms

View current or historical alarms

Filter by time, text or priority in seconds

Export facility to Access database

User configurable for text, colour and priority

Import all alarm settings from Excel spreadsheet

Archive all alarms/events to computer system

View and record system errors, inhibited alarms and configuration changes

Designed to work in conjunction with the RTK range of Alarm Annunciators and Alarm Systems the AMS is a powerful graphical Human Machine Interface (HMI).

The AMS Software is designed to provide the user with the ability to view, store, print and export alarm and event data dynamically or for later analysis.

The operator can see the occurrence of new alarms clearly showing the channel, priority/group, time/date and when the alarm has returned to normal.

The standard package will suit most alarm monitoring applications and bespoke configurations can be created to suit particular site or industry requirements.

Following the initial handling of an alarm situation the software can then be used to analyse the details of alarm events by looking at the history for certain alarms, priorities or the events between a certain time/date.

Features & Benefits

Current Alarms

In the normal mode the display will be showing the Current Alarm screen, this gives immediate indication of which alarm channels are still in alarm, if these alarms have been acknowledged and if the fault has cleared. The system will automatically sort the alarm information into chronological order down to the nearest millisecond.

Each channel will show the date/time, description, event type, priority and status as shown below.
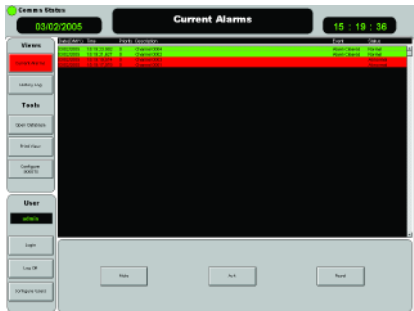
Alarm Activation

When an alarm occurs the full alarm details will be displayed on the screen and a coloured flashing background colour is used to inform the operator that a new alarm has occurred. As an option, the software can generate an audible alarm from within the PC.

As the AMS software is capable of displaying various different screens such as History Alarms, System Alarms etc the software automatically switches to the Current Alarm Screen each time a new alarm occurs to ensure that the operator is always kept informed of the current alarm situation.

Alarm Priorities

One of the key decisions an operator has to make when an alarm occurs is how urgent an alarm is compared to other alarms occurring in close succession. Priority levels (0-30) can be used to help the operator determine either the type of alarm (for example pressure, level, temperature, trip, status) or to determine the level of importance. The pre-assigned priority number will appear alongside the alarm description as a prompt.

History Screen

By definition the Current Alarm Screen is used to display active alarms however it is often more important to display and establish the root cause of problems and therefore the History Screen is available to help the user analyse the true sequence of events.

## Search by Priority, Time/Date, Channel or Text

Using the History Screen, alarm details can be filtered to only see certain events. The filtering can be by priority/group, channel number or text, date and time range or any combination of the above. So it is a simple task to investigate certain targeted alarms to find exactly what has happened and when on the plant.

System Events and Internal Errors

It is not only the external events that are monitored, the software will also monitor and record significant system events and faults such as when a card is removed or goes faulty, when a card is configured and when system faults occur such as "buffer full" and "paper low" etc. These events allow an engineer analysing the data to see the full picture of what happened and when.

## Archive History and Backup on Network

One of the main benefits of linking Alarm Annunciators and Event Recorders to the AMS software is the ability to archive all the alarm information and have this remotely backed-up or linked to a company wide computer network. This archiving process can be set to automatically proceed on defined time scales or triggers.
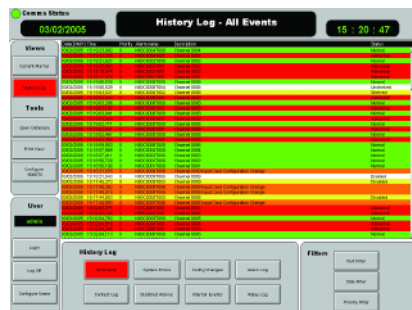
User Configuration

The AMS software is supplied with coloured fonts and backgrounds, which are used to identify each step within the alarm process. A different colour is used for an alarm, acknowledged alarm, return to normal, system alarm, configuration change etc to further assist the operator. To allow the user maximum flexibility, all these key visual parameters can be changed by the user, these include channel description, priority/group, colours etc.
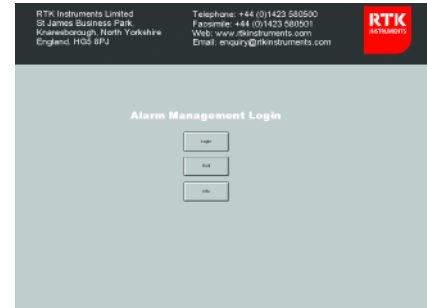
Multi Level Access

The AMS software is provided with password protection, which allows the client to limit the features available to the user depending on the privileges required for each skill set, i.e. Supervisor, Engineer and Operator, within the software. Each user is assigned a unique login name and password and access to features is limited as required.

Operator Control

The serial communication link between the alarm hardware and the AMS software is bi-directional so it is a simple process to Acknowledge, Mute and Reset alarms from the AMS screen or the Annunciator or both if required.

This allows the operator to remove alarms from the Current Alarm Screen once they have returned to the normal state although full details will still be available within the History Alarm Screen for later analysis.

Audit Trail

It is sometimes necessary to have an official audit trail of the critical alarms on a process or power plant. The AMS can be used to record and archive these alarm events together with the details of when alarms were acknowledged, when the fault cleared and then subsequently reset.

Features & Benefits

Time Stamp Events to 1ms

When connected to the RTK 9000TS Sequence of Events Recorder the AMS software will include the full date and time to a resolution of 1ms. This time is actually logged and buffered securely at the 9000TS and transmitted via a serial link to the AMS software. On power networks and process plants this resolution is often necessary to see the REAL chain of events that causes power or process interruption or shutdown.

ODBC Link

Using the ODBC standard the AMS software can be used to link all gathered data to proprietary databases such as Access. This allows further detailed analysis of the data using a variety of different software tools.

Import System Details From Excel

Customers can use a standard Excel spreadsheet to collate all the information on the alarm channels, including channel description, priority etc. When this is complete it is a simple job to import this data into the AMS system and avoid unnecessary input errors and time delays.

Auto-shelving

The 9000TS Event Recorder there are a number of ways that alarms can be automatically or manually inhibited (shelved). This may be because an alarm channel is temporarily out of service or that the system has sensed that the frequency is outside pre-defined limits and as such considered to be erroneous. In all these situations the AMS can show these inhibited alarms on the screen and also log at which time/date the inhibit started and stopped.

Communicate to different products

Whilst the AMS is offered with the RTK range of alarm products it can also be used as an Alarm Management Display for other third party products. A huge number of different drivers and protocols are available as standard.

Bespoke Systems

The AMS software is a cost effective solution to many alarm monitoring and analysis applications, but there are many applications in the world-wide market that have specific requirements that are not part of the standard product. As the software application is designed on a flexible and powerful SCADA core many other options and features can be configured into the software. These include lamp-box type displays, analogue input levels, mimic diagrams showing the overall plant, help screens to guide operators to the source of the problem and how this should be resolved.
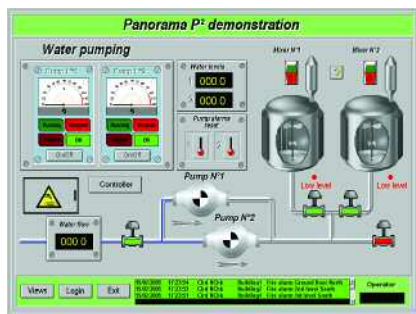
These systems will always be quoted against an agreed functional specification and would be subject to normal ISO9001 design control procedure and customer approval prior to completion of the system.

Analogue Inputs

The standard AMS package is designed for monitoring of digital inputs but the bespoke system can also monitor, animate and record analogue values and use this information to monitor and analyse trends.
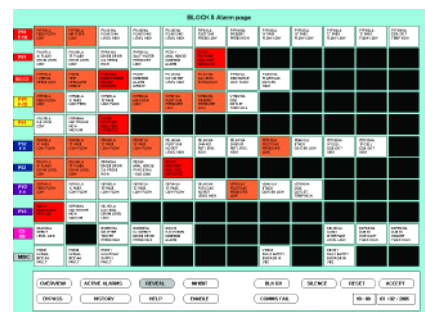
Graphical User Interface (GUI)

Using the built-in graphics editor, detailed graphical screens can be quickly assembled and animated. As an addition to these graphics screens, the software is able to utilise ActiveX objects and background images such as photos, or images imported from third party software packages such as AutoCAD.

Architecture

The AMS Software is based on a high performance SCADA software core which comprises a native 32-bit multi-tasking structure.

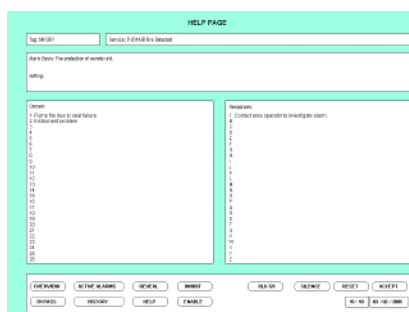With TCP/IP networking functionality and full redundancy management built into the core of the product it is possible to create multi-server, multi-redundant architecture for true data integrity and high system availability.

"On Call" Module

The bespoke systems can include the "On Call" module which add the ability to send alarm messages to pagers, mobile phone SMS text messages, E-mails etc. The current engineers that are "On Call" are defined through a fully configurable scheduler. Using a modem it is also possible to remotely assess the situation and directly handle it as necessary.
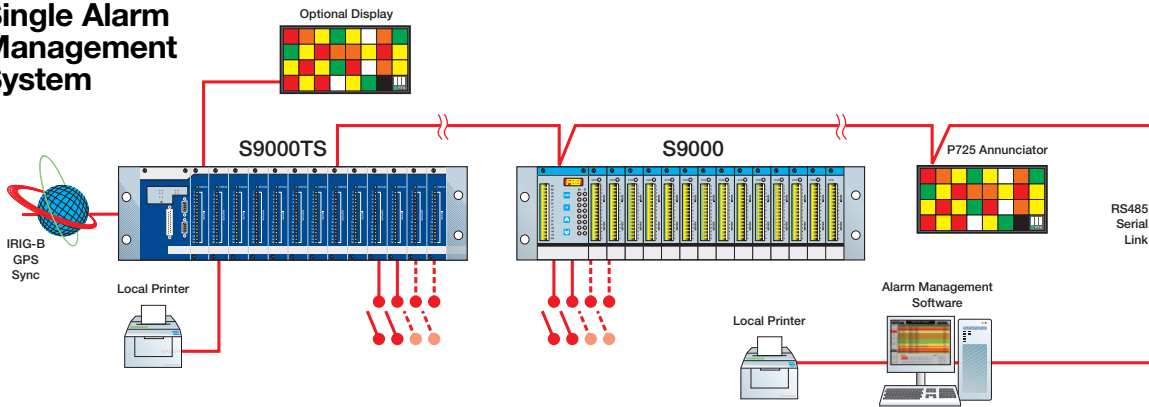
Remote Access

For diagnostic purposes it is possible to design systems with remote access capabilities. The connection can be made using TCP/IP through a public or private telephone system. The system can be accessed using a standard PC, portable PC or Pocket PC technologies.
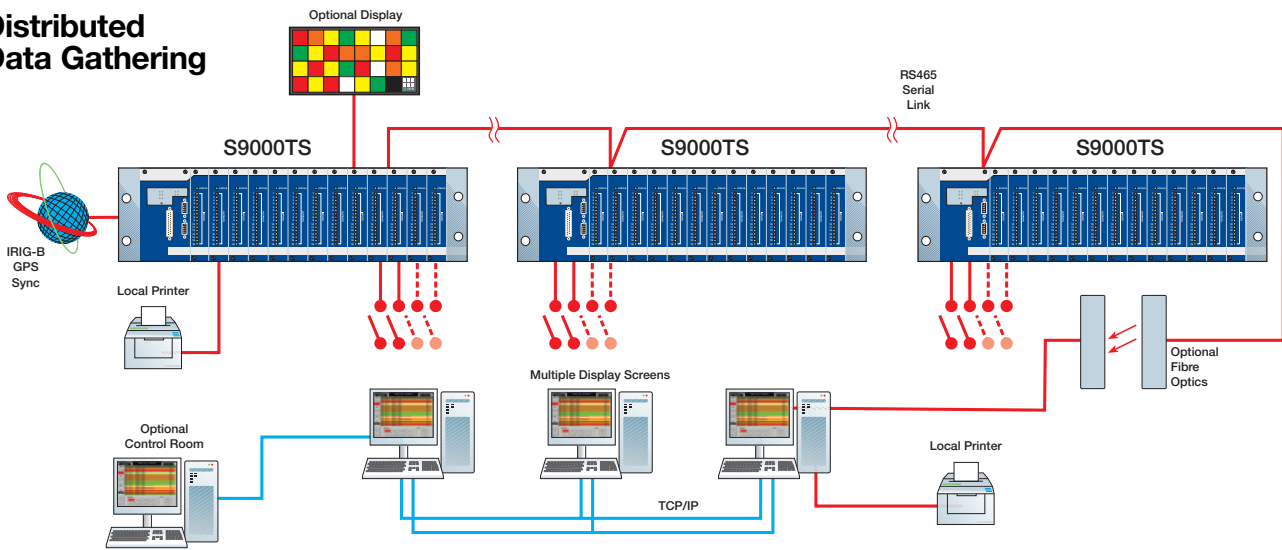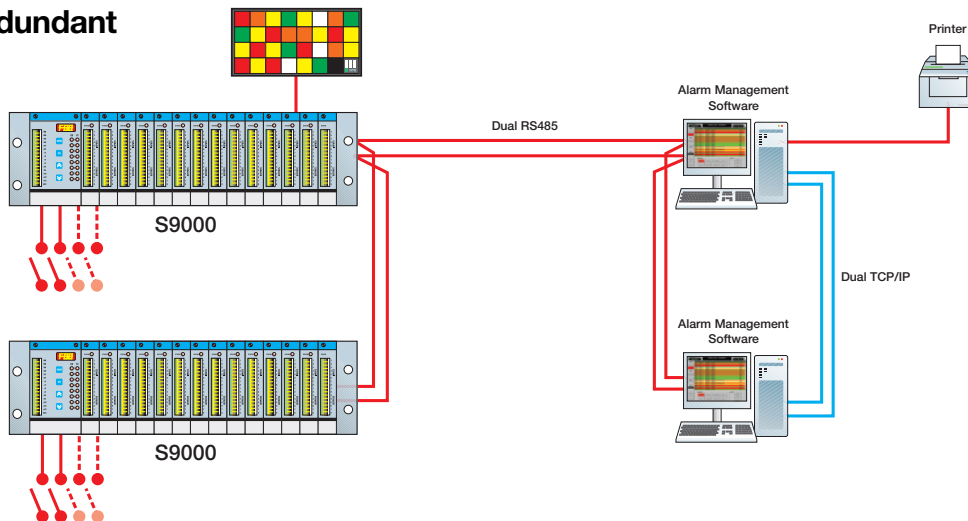
Typical Applications

Single Alarm Management System

Optional Display

S9000TS

S9000

P725 Annunciator

IRIG-B GPS Sync

Local Printer

RS485 Serial Link

Local Printer

Alarm Management Software

Distributed Data Gathering

Optional Display

RS465 Serial Link

S9000TS

S9000TS

S9000TS

IRIG-B GPS Sync

Local Printer

Optional Fibre Optics

Multiple Display Screens

Optional Control Room

Local Printer

TCP/IP

Dual Redundant System

Printer

Alarm Management Software

Dual RS485

S9000

Dual TCP/IP

S9000

Alarm Management Software

Due to our policy of continuous product development, we reserve the right to amend specifications without notice.

FM14290
ISO9001:2000

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