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AMS-4 With Remote Monitoring Capabilities via ViewPoint

Key Words

- Air Monitoring
- AMS-4
- ViewPoint
- Wireless
- Networking
- RadNet
- Integration
- Systems

Thermo Remote Monitoring Solutions Note

The AMS-4 is an airborne radiation detection system, designed to provide early warning of hazardous conditions to workers exposed to potential releases of beta emitting particulates, iodine or noble gases. Its lightweight and robust design accommodates both fixed and portable use applications. This detection is extremely important in beta emitting environments for personnel protection.

Thermo has incorporated the AMS-4 system in our ViewPoint Remote Monitoring System to provide an integrated real-time air particulate monitoring system. The wired and wireless capability of an AMS-4 is well suited for all market segments that are served by the Beta Cam Unit such as:

- Nuclear Power Plants
- Department of Energy /National Laboratories
- Homeland Security/First Responders
- Industrial
- University

Key Capabilities

- Remote device alarming and acknowledgment
- View/Set Operating Parameters
- View/Set RadNet Parameters
- View/Set Instrument Parameters
- View/Set Detector Parameters
- Retrieve/Clear Local Internal Device Logs

By incorporating the AMS-4 into ViewPoint, the user benefits in increased operational efficiency in the areas of:

• Diagnostics and Troubleshooting – Readings and faults are wirelessly communicated to the remote monitoring station directly from the AMS-4 unit. A supervisor responsible for monitoring a work area(s) is immediately notified if there is any change in environmental conditions or instrument status. When an error code has been generated within ViewPoint, the code is auto-emailed to Thermo Technical Support and all information is captured in a log file for diagnostics. When alarms or anomalies are generated within the AMS-4 instrument, the stored data can be retrieved remotely to allow users to further analyze and determine appropriate response action.

• Remote Monitoring – The ViewPoint System provides the flexibility and capability to communicate with the AMS-4 unit in a wired or wireless mode (i.e. TCIP Network, RS232, RS485, WiFi, or the Thermo Wireless System).

• Centralization of Instruments - A single base radio unit can support up to 62 wireless data streams. One of these streams could be an AMS-4 unit or a radio-repeater unit. A Repeater unit can handle up to 61 wireless data streams such as other repeater units or AMS-4 units. The wireless architecture is very flexible and large. Additional personnel do not need to be remotely deployed to provide on job monitoring resulting in time and dose savings.

• Real-time Data Transmission - ViewPoint obtains data from the AMS-4 unit at time increments from once every second to a user specified duration. The data is provided on Instrument Status, On/Off Status, Pump Status, and Instrument Readings (i.e. Date/Time, BetaCam ID, Dac Fraction(DAC), Dac Hours(DAC/h), Slow Concentration(Bq/cc), Fast Concentration(Bq/cc), Net Counts(count/s), Stack Release Rate(Bq/cc), Flow Volume(cc), Flow Rate(cc/s), Location, Status, Report Time).

• Data Logging – ViewPoint has a sophisticated data logging functionality capable of working with any ODBC compliant database. The user can build, define and create log data of any device in the system.

• Data Recorder -ViewPoint provides the ability to record data to a file and replay in real-time. This feature provides the ability to run simulations, provide training to educate users, or determine response actions for a scenario. ViewPoint serves as an excellent training tool because it can replicate (i.e. replay) actual events, perform software or hardware diagnostics errors, analyze/trend operational data, as well as providing historic data retention.

• Two-Way Communications – One of the most powerful capabilities of ViewPoint is two-way communications and associated control. Through ViewPoint, alarms, status, and alarm values can be reset or modified from the remote monitoring station. Therefore, as conditions change, the Supervisor can dynamically monitor and manage on-line devices in real-time. This capability is also a tremendous training asset in that it provides the ability to simulate artificial environments by alarming the AMS-4 or resetting device status fields in order to evaluate trainee actions and development of response action plans.

ViewPoint™ is Thermo Electron's Next Generation Remote Monitoring Software Platform.

Features:

- Sophisticated real-time graphing and trending
- Historic data retention
- Robust system and network design
- Centralization of instrument and sensor data
- Scalable System Architecture
- User-friendly, highly customizable and configurable device group management

Description

The ViewPoint System provides real-time monitoring of personnel and environmental instruments in normal and incident operations in the Industrial, Civil Defense, and Security applications, as well in the Nuclear Power industry. The system has the capability to integrate radiation, environmental, and general purpose detectors from Thermo Electron's portfolio and other third party vendor's instruments.

The ViewPoint system provides the user the ability to centrally process and analyze instrument/detector data. The application has been designed to be robust, secure and scalable.

The system is comprised of 3 components:

1) The ViewPoint Appliance with the ViewPoint Data Engine pre-installed
2) User workstations or viewing "clients" that the system will be deployed upon
3) Instrument Device Plug-Ins

Plug-Ins

Instrument (Input) Device Plug-Ins; Each instrument, detector or sensor, which is capable of being remotely monitored by ViewPoint has a unique Input Device Plug-In which allows the instrument to communicate with ViewPoint Data Engine/System.

ViewPoint Specifications

Operates with Windows™ NT/2000/XP Client Software Requirements

- Microsoft Windows™ NT 4 Service Pack 6 or
- Microsoft Windows™ 2000 Service Pack 4 or
- Microsoft Windows™ XP Service Pack 1 or higher

Benefits

- Ability to integrate a large number and variety of environ mental and industrial process instruments
- Efficiency and optimization of operational management by integrating personnel, area, and process monitoring and environmental monitoring
- Open system architecture provides the ability to have a phased implementation by incrementally adding instruments/sensors
- Build upon initial investment by using existing equipment
- Self-contained server, with pre-installed software and built-in firewall
- Robust system platform designed for rapid trouble shooting

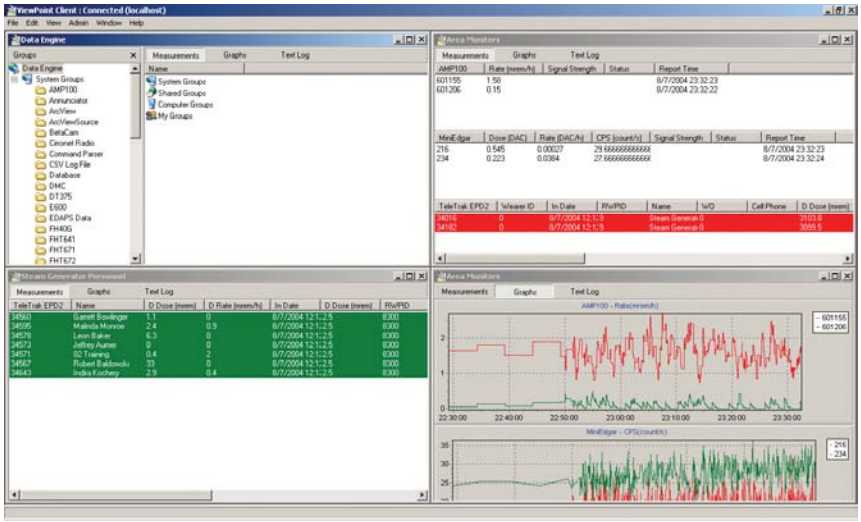
User Workstations

The ViewPoint workstation has been designed to accommodate from 1 – 1000+ concurrent user(s)/workstation(s). The users'/workstation licenses are available for purchase in bundles of 1, 5, 10, 25, or 50. Additional users can be added at a later time by purchasing more bundles of users' licenses, at the desired quantity.

ViewPoint has been developed with "smart capability" that regulates total number of concurrent (logged in at one time) workstations, based on the number of license bundles purchased. Therefore, specific workstations do not have to be designated as "ViewPoint only" stations.

ViewPoint Appliance

The appliance is a self-supported, industrial computer processor unit that is pre-loaded with the ViewPoint Data Engine and specified plug-ins. This operating system creates the ViewPoint environment.



Sample User Interface Screen: Graphing and Data Management Capabilities