

# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

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### Updates and Innovations to ClearSCADA HMI Software



Schneider Electric ClearSCADA software has released a new update full of improvements to function, interface, and design. To keep you at the forefront of usability, we have highlighted some of the most interesting and helpful improvements to the software. If you would like more information on any of these improvements, and what they mean to you, please contact your Sage Designs regional representative!

#### Template Expressions & Simplified Property Management

Management of Templates and their Instances has been enhanced in ClearSCADA 2015 R1 to provide a dedicated interface for the configuration of all instance-controlled properties of a template, allowing for centralized management of overridden properties for template instances.

Template Property Overrides have also been expanded to include the option to define an expression that calculates the value of objects' properties. Object properties within instances can now be configured in one of three ways:

- Existing: controlled by the template
- Existing: property overridden to allow for manual configuration by the user within each instance, or
- New: tied to an expression within the template which would automatically calculate the property value for a new instance (or on modification of the expression's parameter(s), the template or the expression)

As a result, properties within objects can now be determined from an expression centrally managed across the template and instance.

Possible applications of the expression include:

- Calculation of an 'Address' field from a configurable Base Address parameter plus an Offset. Adjustment of the Base Address parameter for a template instance would automatically update the Address of all its points that are derived from this calculation.
- Configuration of common Point Scaling, Alarm State Descriptions, Units, Formatting etc across many points, allowing for central management of these attributes across an entire instance.

#### New WebX User Interface

A new WebX User Interface has been developed for ClearSCADA 2015 R1, delivering enhanced functionality and increased efficiency for web-based operators. The following core features of the ViewX User Interface have been incorporated into the new WebX client:

- Database Explorer navigational bar
- Alarm Banner, including direct access to Acknowledge, Disable Alarm, View Status, Locate in Database Explorer, and more
- Alarm count summary is shown when banner is hidden
- Enhanced Logon/off experience including ability to reset password
- Direct access to object functions including ad-hoc lists & trends, point controls, notes, and context-sensitive Alarms and Events lists.

The new WebX User Interface is accessible from an HTML5 browser and provides support for viewing of Trends, Alarm Lists, Event Lists, and Queries from a variety of phones, tablets or laptops.



Scan here for full product release notes

[Updates and Innovations Continued on Page 4](#)

### Adding Remote Access to Your Plant Alarm Dialer

Sage Designs is proud to add the Reonix SCADADroid alarm dialer to our product lines! The SCADADroid represents a significant update to alarm notification on cellular based systems, improving both ease of use and affordability. The SCADADroid improves on the alarm callout unit you've been seeing for decades at lift stations, pumping stations, plants, and storage tanks, answering needs no other comparable product addresses.

The SCADADroid provides **Remote Access**. Traditional alarm dialers can only call or leave a text message, leaving the operator to guess at what is actually happening.

SCADADroid **establishes an encrypted VPN** (Virtual Private Network) connection to a central server over your chosen cellular network. This allows a central host to connect to the SCADADroid out in the field as easily as if it were sitting next to the SCADA computer at your plant. If your network allows remote access, it will also allow your programmer remote access to the SCADADroid location just like the control system in your local plant.

The local alarm dialer function is maintained in the SCADADroid units as insurance against issues with the server, server connection, or VPN connection, allowing the SCADADroid to send out any alarm messages as texts, email, or voice calls.

SCADADroid units are equipped for a **Local Ethernet Connection**. The onboard Ethernet port allows these units to connect to a facility's local network, enabling the cost-effective loading of detailed alarms from the PLC. This can be configured to provide very specific alarm messages to the recipients of a notification. Rather than receive an alarm that a pump has failed, the SCADADroid can generate and send a specific alarm for each pump. The alarms can be differentiated by who is notified when a specific pump fails and how urgent that failure is, allowing low priority items to be delayed until a more convenient time. No



more racing in to fix an alarm, only to find that it wasn't critical!

Eliminating another common failure point, the SCADADroid dialer can directly interrogate Modbus devices (such as Variable Frequency Drives), rather than trusting the control system to provide information. The SCADADroid's ability to be both a **Modbus client or server** augments the traditional use of an alarm dialer as a client at a lift or pumping station.

As a Modbus Server, the SCADADroid can be connected to your plant supervisory system, with the local HMI or DCS to write alarms for callouts to it. This provides a secondary callout system to the integrated systems found in FactoryTalk, or WIN-911.

SCADADroid dialers also jump users forward to the present with their **text-to-voice technology**, a feature that surpasses the current canned or recorded messages standard in other dialers.

[Adding Remote Access Continued on Page 6](#)

#### Inside this issue:

- ClearSCADA 2015 Updates
- New Product: SCADADroid
- Home-Grown SCADA
- Training Classes
- SCADAPack 350/357 Updates

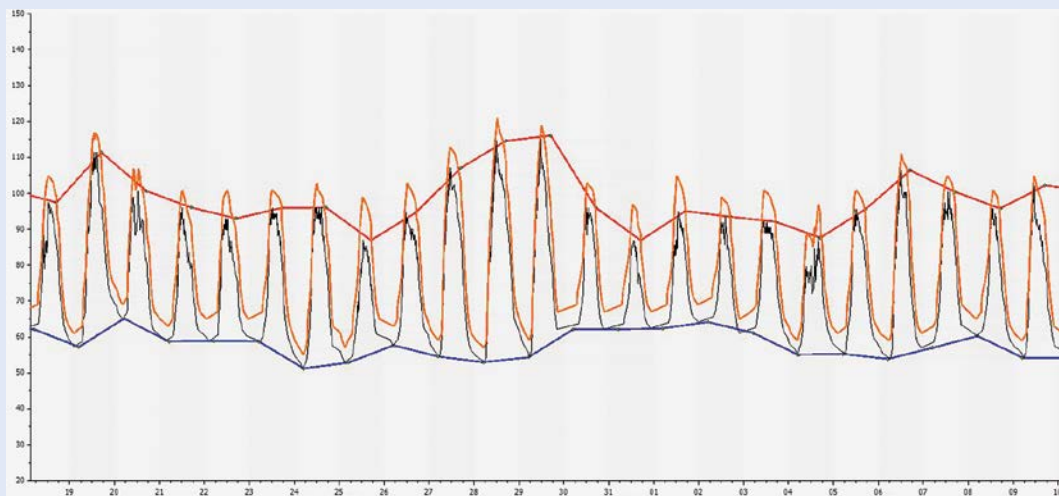
## Home-Grown SCADA

Explaining SCADA to non-combatants is something we all have to face. You're at a social event, or your kid's soccer game, and someone asks "what do you do?". Well, what do you do?

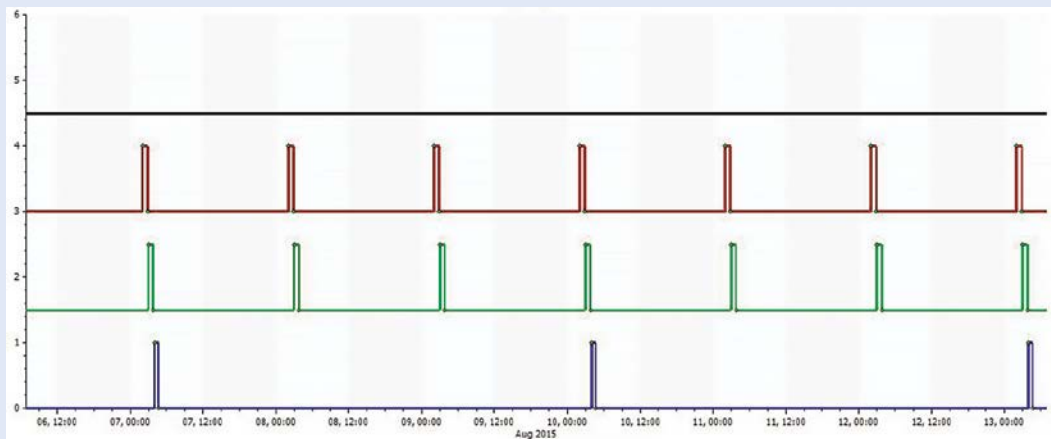
When asked, I try to put things in perspective. For the adult audience, I like the "here's what we don't do" technique. Hold your hands out with one twelve inches above the other and explain that it represents the distance that water falls from the kitchen tap to the sink drain. Then you say "Here is the part you are in charge of, we automate all that is upstream and downstream from this point". It's hard to figure out if they are awed by this comparison or saying "what a geek" under their breath.

For children, I like "We build giant invisible robots that drink sewage and spit out water". It's hard to figure out if they are awed by the metaphor or saying "what a geek" under their breath.

The reality is that we keep the world running. We condition and provide power & water, and deal with the waste. We make the difference between an advanced civilization and one struggling to emerge into the first world. A pretty big claim, but the distribution and control of these processes feeds us, clothes us, and keeps illness at bay. We run everything but the highway and the day we run that too is not far off.



Cold frame temperature along with Min and Max daily values



Water valve operations



Garden Control System

We also control the seemingly small. My personal favorite SCADA system controls the watering of my garden and climate control in my seed-starting cold frame. I only have the chance to visit the garden on weekends, so I have a SCADAPack 334 with a D/O expansion controlling the 5 watering valves and two cooling fans that keep things going in my absence. To review all that has happened through the week I have configured the

RTU with DNP3 protocol to store all the temperatures, soil moisture, valve and fan operations so I can make any control set point adjustments as the seasons change. In the end, I get the highest quality home-grown, vine-ripened, hand-picked, heirloom tomatoes and other vegetables. If this sounds like overkill, remember that I can hear you all saying "What a geek" under your breath.



Dena Tests My Results



One Saturday - 250lb



# SCADAwise™ Training Classes

## ClearSCADA

## SCADAPack

### ClearSCADA Level 1 Training Course

October 19-22, 2015 — Mill Valley, CA  
February 22-25, 2016 — Buena Park, CA

- Day 1 (8AM– 4PM) Installing ClearSCADA, Introduction to ClearSCADA, Components, Using ViewX, Using WebX, ClearSCADA Help
- Day 2 (8AM - 4PM) Configuring using ViewX, Database Organization, Basic Telemetry Configuration, Creating Mimics, Creating Trends
- Day 3 (8AM - 4PM) Configuring using ViewX, Templates & Instances, Logic Languages, Security, Communications Diagnostics
- Day 4 (8AM - 4PM) Reports, System Configuration, System Architecture, Questions

**Cost:** ClearSCADA Training Course \$2,200 (2015 rates)

Sage Designs' ClearSCADA Level 1 Course has been certified by (a) the California Department of Public Health as courses qualifying for contact hour credit for Water Operator Certification for Drinking Water Treatment or Distribution in the State of California and (b) the State of Nevada Department of Environmental Protection, Bureau of Drinking Water for contact hours towards the Nevada Drinking Water Operator Certification Program.

**(28 Contact Hours)**

### Telepace Studio Training Course

October 6-8, 2015 — Mill Valley, CA  
February 2-4, 2016 — Buena Park, CA

- Day 1 (8AM - 4PM) SCADAPack controller operation, Series 5000 I/O, Telepace Studio introduction
- Day 2 (8AM - 4PM) Telepace Studio advanced programming techniques and advanced functions
- Day 3 (8AM - 2PM) Controller communications, Modbus Master/Slave protocol, Diagnostics, Modems

**Cost:** SCADAPack Telepace Studio Course \$1,650\* (2015 rates)

\* You must have a licensed copy of Telepace Studio installed on your computer for this course. If you do not have a licensed copy, you may purchase one with the class at a special course price. Course price for Telepace Studio: \$510 + applicable CA sales taxes

Sage Designs' Telepace Studio Course has been certified by (a) the California Department of Public Health as courses qualifying for contact hour credit for Water Operator Certification for Drinking Water Treatment or Distribution in the State of California and (b) the State of Nevada Department of Environmental Protection, Bureau of Drinking Water for contact hours towards the Nevada Drinking Water Operator Certification Program.

**(20 Contact Hours)**

### ClearSCADA Level 2 Training Course

2016 Dates TBD

- Day 1 (8AM– 4PM) Installation, Understanding the Architecture of ClearSCADA, Application Design Considerations, Server Automation Interface, ClearSCADA Logic Engine, Using ODBC and SQL.
- Day 2 (8AM - 4PM) Advanced Mimic Design and Techniques, Data Grids and Data Tables.
- Day 3 (8AM - 1PM) Accessing Historical Data, Ad Hoc trends, Archiving

**Prerequisite:** ClearSCADA Level 1 Training Course

**Cost:** ClearSCADA Level 2 Training Course \$1,650 (2015 rates)

**(20 Contact Hours)**

**Instructors:** ClearSCADA Level 1 & Telepace classes will be taught by Tony Sannella, Sage Designs, a Factory-Certified Instructor. SCADA Level 2 classes will be taught by a SEUSA-certified training instructor. The ClearSCADA Test Drives will be conducted by Sage Designs or a factory representative.

**Location:** See individual course registration form. Those requiring overnight accommodations should call the hotel directly for reservations.

**What should I bring?** Laptop computer with minimum requirements as shown on the specific course registration forms, plus necessary permissions to install software on your computer.

**\*You must have a licensed copy of Telepace Studio to take the Telepace course. We offer a course price for a license or you may purchase through your local Schneider Electric TRSS representative.**

**What is provided?** Course manual, daily continental breakfast, lunch & beverages.



**Schedule Your Own**

**ClearSCADA Test Drive**

### Free Hands-On Test Drive

Call to Schedule a Test Drive  
**Call 1-888-ASK-SAGE**  
email: [info@scadawise.com](mailto:info@scadawise.com)

**SAGE DESIGNS, INC.**  
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Download the Registration form at: <http://www.SCADAwise.com>

**\* \* \* Registration Deadline: 4 weeks before 1<sup>st</sup> day of course \* \* \***

All registrations are subject to cancellation fees. A confirmation notice will be sent to all registrants on or before the deadline date.

An enhanced experience is provided when users connect via Internet Explorer providing access to view ClearSCADA Mimics and other graphical documents including XY Plots, XYZ Plots and Dynagraphs. Original WebX has been maintained for customers who prefer the classic ClearSCADA Web user experience, and can be reinstated via a simple configuration option. Similarly, both the new and classic WebX Interfaces can be configured to run in parallel to allow users to evaluate the new interface and migrate across as they choose.

**SCADAPack E Smart RTU Modbus Master/Slave Configuration**

- Enhanced functionality available in SCADAPack E RTU firmware version 8.12 (or above) allows users to directly configure a Modbus Master/Slave interface and mapping of data to/from DNP3 points without the need for IEC 61131-3 logic programming in the RTU.

**Detailed Alarm Summary Information**

- The alarming capabilities have been extended in ClearSCADA 2015 R1 to provide detailed Alarm Summary information to users. This summary integrates key information together including alarm transitions, responsible user(s) and any

acknowledgement comments for simplified analysis.

**Increased Security, Performance, and Reliability**

- ClearSCADA can now be configured to generate an alarm when it detects behavior within each of the historic modules (Historian, Event Journal, and Configuration Changes Log).

**Client Access Control List**

- There is a common need within a SCADA networked environment to limit access to a range of users within the organization, or more specifically, restrict clients' access to specific ClearSCADA servers or to only specific interfaces thereof.

**Information Management**

- Connection to Wonderware System Platform & Historian

Although the topics listed here are some of the more exciting updates in ClearSCADA 2015, there are many more improvements as well. Contact your local Sage Designs representative for more information on this and to be kept up to date on future ClearSCADA releases.



Peace of Mind



Alarm Management  
Remote Access



150 Shoreline Highway, Suite 8A,  
Mill Valley, CA 94941-3634  
Phone: 415-331-8826  
Toll-free: 1-888-ASK-SAGE

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**Pill SCADAwise BOX**

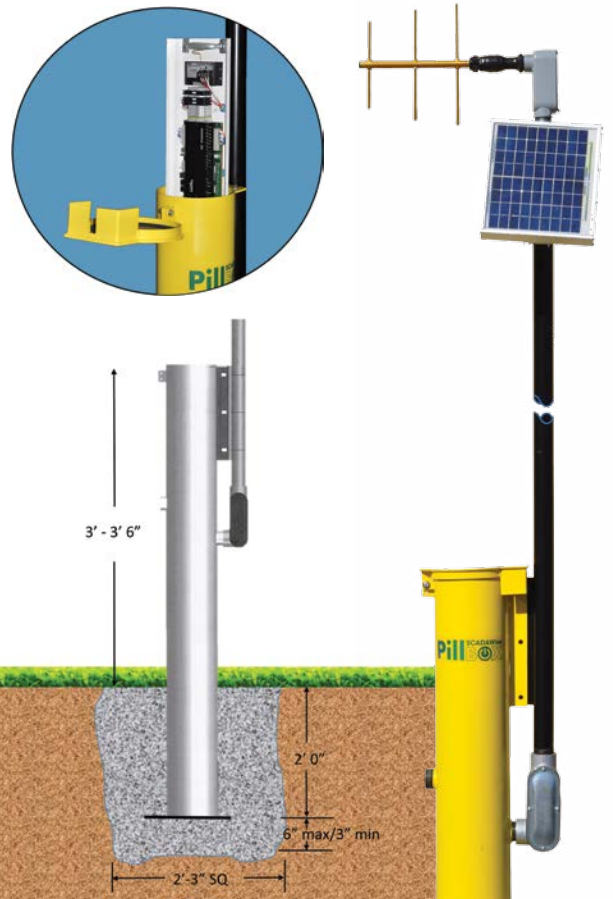
The Pillbox™ is a self-contained housing for field installation of electronics packages that need protection from the elements as well as unwelcomed attention. Inside, there is up to 3 sq. ft. of panel space with 3' of mounting DIN rail for mounting equipment and 3' of wiring Panduit. The equipment panel slides in behind the retainer system which allows for easy removal of all mounted components. The bottom of the retainer system includes a battery tray allowing the removal and service of the batteries without tools for disassembly.

- ✓ Easy to Install
- ✓ Low Maintenance
- ✓ Tamper-resistant
- ✓ Engineered Solution

For more information contact:



150 Shoreline Hwy., #8A, Mill Valley CA 94941-3634  
1.888.ASK.SAGE / [www.sagedesignsinc.com](http://www.sagedesignsinc.com)



# Need help in transforming remote asset data into valuable business insight?

## Let's talk!

Make the most of your remote assets with complete end-to-end solutions for monitoring and controlling field operations across a widely dispersed infrastructure

### Controlling cost of ownership

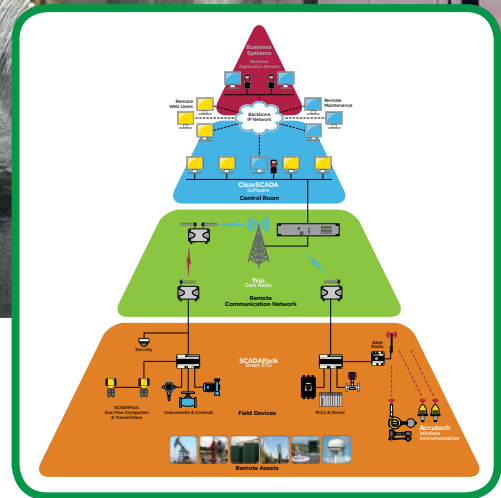
The installation, operation and maintenance of remote site SCADA operations is often the most significant overall long term expense factor. With scalability, flexibility and ease-of-use in mind, Schneider Electric's Telemetry and Remote SCADA Solutions are tailored to help lower this total cost of ownership.

### Secure and Reliable SCADA

Safety and availability are must-have characteristics of critical infrastructure. This especially holds true when considering security for SCADA systems that monitor and control remote operations across a wide array of communications technologies. At Schneider Electric, our Telemetry and Remote SCADA Solutions incorporate solid security at all levels, from the field to the enterprise.

### Minimising risk by improving safety and regulatory compliance

Many industries are challenged with increasing requirements for operational safety, compliance with environmental regulations and the overall security of assets. Schneider Electric's Telemetry and Remote SCADA Solutions address all of these critical requirements through flexible end-to-end integration and comprehensive feature sets.



### Innovation at work

**ClearSCADA Software** – Providing functions to reliably and securely manage remote SCADA assets across a wide range of communication options, with easy integration into business systems.

**Trio Data Radios** – Ensuring data integrity over short and long-haul distances with versatile and reliable data transmission options.

**SCADAPack Smart RTUs** -The monitoring and communication capabilities of a Remote Terminal Unit (RTU) combined with the processing and data-logging power of a Programmable Logic Controller (PLC).

**Accutech Wireless Instrumentation** – Configurable startup and failsafe conditions, enhanced diagnostics and years of maintenance free operation.

**Make the most of your energy<sup>SM</sup>**

**Schneider Electric**



## Changes to the SCADAPack 350/357 Series

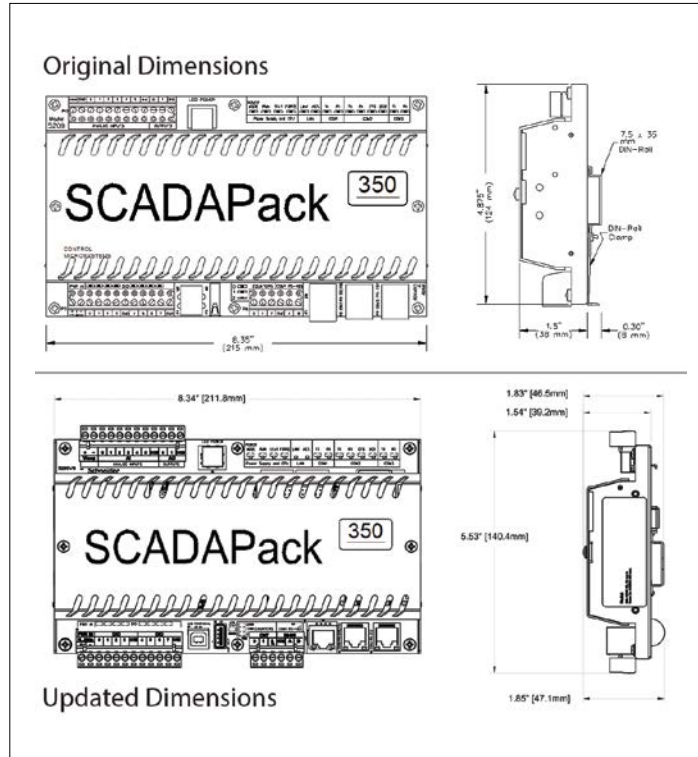
This year, as part of their ongoing improvements to the SCADAPack line, Schneider Electric has announced the release of SCADAPack 35X controllers with improved DIN rail clamps and terminal blocks. This DIN rail mounting enhancement allows much easier mounting and removal of the controller with no reduction in mounting integrity.

The improved quick-connect terminal blocks are easier to remove and replace.

The improvements to installation and mounting also represent a change in the form factor of the unit, new SCADAPack 35X controllers will have an additional .53" of height. For a more complete picture of the change, reference the illustration provided.



**Schneider**  
Electric



Sage Designs, and the Schneider Electric support team, will be happy to provide additional information on the new design via phone, email, or in-person meeting.

**Example:**

Old PN: TBUP350-1A20-AA00  
New PN: TBUP350-1A20-AA00S

These updated units are available now, and the older version will continue to be available into October 2015. There is no price increase for the upgraded units, and the part numbering changes on slightly, as illustrated below:

This change also includes the option for units which are Hazloc Class 1 Div 2 certified, at additional cost. If you would like more information on these changes and how they can be applied to improve your system, contact your local Sage Designs sales representative!

## Adding Remote Access to Your Plant Alarm Dialer, *continued from page 1*

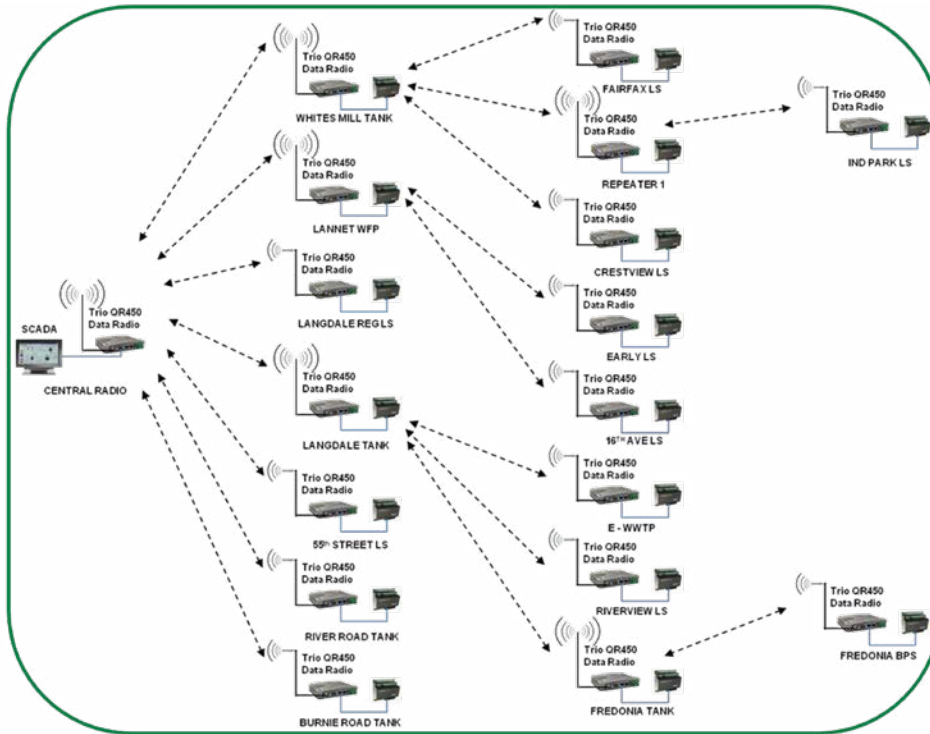
The ability of the SCADADroid R2 unit to translate alarm message text into voice data means reduced implementation time and a cost of installation well below the market standard. For a small system this text to voice technology is a convenient and easy way to allocate your limited technician time – for a large system it can eliminate the need to program hundreds of individual alarm messages, greatly reducing cost.

Tired of cumbersome programming and configuration systems? The SCADADroid R2 units contain a webserver capable of configuring everything in one place. This includes alarms, the user phone book, configuration of alarm receipt

groups, shift scheduling, and Modbus polling schedules. The web interface differentiates between user groups, allowing administrative users to quickly and easily set up individual user accounts and passwords, and allowing maintenance personnel access to alarm logs and other statistical data necessary for troubleshooting.

With the combination of exciting new features, convenience, and price point, we are excited to announce the addition of these SCADADroid R2 units to our Sage Designs product lines. Visit us at [www.SageDesignsInc.com](http://www.SageDesignsInc.com) for more information, or contact your local sales representative!





System diagram showing Trio Q Radio deployment for East Alabama Water, Sewer and Fire District

# Trio Q radios deliver SCADA network optimization and efficiencies to water company

East Alabama Water, Sewer and Fire Protection District borders the Chattahoochee River, close to the Georgia- Alabama border. The water system comprises a network of critical infrastructure devices (tanks, pumps and lifting stations) that help to provide a safe and reliable supply of water to customers in the district and cost effective wastewater conveyance.

## The Challenge

The area covered by the East Alabama water network stretches approximately 15 miles long and 10 miles wide (24 x 16 km). While not a vast area, the terrain is heavily forested and not easily accessible. This presents a significant line of sight challenge for traditional industrial data radios to deliver highly reliable and timely data into their SCADA network.

East Alabama Water wanted to modernize and upgrade their industrial data radio network to allow them to migrate from a serial based network to Ethernet communication to optimize network performance/reliability and be able to command and control field devices remotely.

## The Solution

East Alabama Water was working with local System Integrator, Duke Instrument Service Co and had been considering upgrading their existing radio system with the same brand of radios that was previously installed. Before making a decision, Schneider Electric was invited to present the benefits of the Trio Q Radio system.

"The radios exceeded our expectations in terms of network optimization and performance during the pilot-test. And based on that we purchased 18 Schneider Electric Trio Q radios to be installed across the network by Duke Instruments," said Tony Segrest, General Manager of East Alabama Water, Sewer and Fire District.

"The Trio Q radios have many features and technologies that are not available in other licensed industrial radios. The key feature that influenced our decision was the dynamic speed selection capability," continued Segrest.

"A unique feature of the Trio Q data radios is their ability to change data rates/sensitivity, dynamically based on the quality of the radio signal between any two radios. Consequently, the network can be optimized by allowing each radio to transmit at the highest data rate while maintaining network reliability." explained Roy Rosado, Business Development Manager, Trio, for the Americas.

As the Q radio has two serial and two Ethernet ports, it was an ideal solution to allow East Alabama Water to migrate its legacy serial devices to an Ethernet backbone network.

The existing network was limited by its ability to only have one repeater on any channel. However, the Trio Q radio, when configured in Layer 3 IP routing mode allows the system to be expanded by allowing any (or every) radio in the system to act as a repeater. Use of IP routing and WAN technology ensures the best over-the-air efficiency due to lower "housekeeping" traffic. In total there were five repeaters installed in the East Alabama system, both in series and in parallel.

As this was a deployment of new radio technology, the Schneider Electric Trio Technical Support Team, worked closely with Duke Instruments to ensure the radio deployment was executed quickly and installation was successful.

Bill Isherwood from Duke Instruments commented, "I allocated five days to make the radio conversion. The radio change out took only two and a half days to complete; each radio went online with little trouble in an almost uncomfortable ease...."

## At a glance:

**Project Type:** Water and Wastewater

**Products:** 18 Trio Q radios

### Customer Benefits:

- Increased network reliability and efficiency
- Seamless migration to a single Ethernet network that allows for future expansion
- Integration with SCADA HMI.

## The Benefits

The Trio Q radio system provided East Alabama Water with much greater data efficiency/reliability. The radios also provide a higher level of data bandwidth protection for the district if radio frequency conditions change (such as rain, fog, interference, etc.). The radios are able to self adjust to modify the data rate/sensitivity and optimize the network performance.

By upgrading from original radios, East Alabama Water was able to achieve much higher data throughput and Ethernet connectivity via the new Trio Q radios.



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 **SAVE A TREE**  
Return Service Requested

# The Sage Advisor

## SCADA, SECURITY & AUTOMATION NEWSLETTER

### Calendar of Events

September, 17, 2015	Monterey Bay Water Works, Monterey, CA
September 22-24, 2015	Tri-State Seminar on the River, Las Vegas, NV
October 6-8, 2015	Telepace Studio Ladder Logic Training Course*, Mill Valley, CA 
October 19-22, 2015	ClearSCADA Level 1 Training Course*, Mill Valley, CA 
October 27-29, 2015	CA-NV American Water Works Assoc. Conference, Las Vegas, NV
February 2-4, 2016	Telepace Studio Ladder Logic Training Course*, Buena Park, CA 
February 22-25, 2016	ClearSCADA Level 1 Training Course*, Buena Park, CA 
April 26-29, 2016	California Water Environment Assoc. Conference, Santa Clara, CA

Download the registration form from our website or call for more information.

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SYSTEMS

 MS4

### SCADA

ClearSCADA Enterprise Software

SCADAPack RTU/PLC Controllers

FlowStation Pump Controllers

Pillbox Ruggedized SCADA Enclosures

WIN-911 Alarm Notification Software

ScadaDroid Alarm Dialer

### WIRELESS

Accutech Wireless Instrumentation

Trio Spread Spectrum & Licensed Radios

Firetide Broad-Band Mesh Network

Teledesign Systems VHF & UHF Licensed

FreeWave Spread Spectrum Serial & Ethernet

### SECURITY

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