

Radio-Switch

PC-Compatible RTU Communication And Control Equipment

Give your water tower control of its remote booster pumps via radio telemetry. The Navionics Radio-Switch enables small water districts to leverage the reliability of wireless controls without the expense of converting to a full-scale SCADA system. The "Water Tower" RTU consists of a pressure transducer, setpoint controller, Radio Telemetry Unit, and UPS which communicates pump ON/OFF signals to its sister unit at the remote pump station.

Keep your water tower full without the risk of overflows. The pump operations are based on the level measured at the water tower, rather than based on discharge pressure at the pump station – providing the most accurate control possible. And if a communication failure occurs, a relay contact is provided at both the water tower and the pump station to energize an external alarm.

Designed for radio communications. Difficult terrain is easily overcome with built-in repeating capability and an adaptive re-routing algorithm; and channel usage is kept to a minimum by a judicious combination of polling and "report-by-exception". And by leveraging the most modern military communication technology available, data errors and interference problems are completely eliminated.



The Radio-Switch is based upon standard, non-proprietary components. Navionics entire telemetry line is designed to unleash the full potential of the next generation of high-performance industrial PC platforms - which provide the highest level of speed, memory, and I/O capacity available. All of our designs feature ultra-reliable Octagon industrial PC's, Dataradio radio-modems, Red Lion setpoint controllers and panel meters, and APC Uninterruptible Power Supplies. With our modular package, you can expect a system which features less wiring and external electromechanical components, along with simpler installation and maintenance procedures.

When control requirements change, you'll be ready. When your utility operation evolves, additional inputs and outputs can be easily added, along with the programming logic needed to control them. In many cases, logic upgrades can be transmitted via modem from our facility to yours.

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www.wireless-telemetry.com

(888)993-3554

Radio-Switch Specifications

General

Software File System Footprint	450 Kbytes, approx.
Supported Microprocessors	Intel™ 8088, 80286, 80386, Pentium
Setup Info Storage	Non-Volatile Programmable FLASH

Wireless Communications

Addressing	Programmable, 0 thru 255
Routing	Peer-To-Peer
Repeater Method	Store-And-Forward
Repeaters Per Route	Programmable, 0 thru 8
Adaptive Path Re-Routing	Automatic
Error Detection	32-Bit CRC / NAK
Timing	Mixed Polling And "Report-By-Exception"
Compression	IEEE Binary Format
Collision Avoidance	Automatic With Radio CD Input
Communication Status	Monitored And Linked To Control Process

Control Process

Water Tower Setpoint Controller	Red Lion PAXD Quad-Output Setpoint Controller With Digital Display And Keypad
Water Tower Pressure Transducer	Ashcroft K1-Series, 0-100psi, 4-20mA Output
Pump Station Display (Optional)	Red Lion CUB4 Scalable Digital Display
Relay Outputs At Pump Station	4 Triac (Standard): Pump ON/OFF, High-Alarm, Low-Alarm, Communication/Telemetry Fail
Standard I/O Type	Discrete I/O, Wireless I/O "Across-The-Network"
I/O Expansion Types (Optional)	Analog I/O, Pulse Inputs
Maximum I/O Per RTU	200 (With expansion cards)

Troubleshooting Interface (Optional Palmtop PC Required)

Electrical	RS-232, DTE, 9-Pin D-Subminiature
Terminal Emulation	ANSI, 25x80
Port Settings	19200 bps, 8 Data Bits, No Parity, 1 Stop Bit
Security	Password Protected Login

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Available Support Documentation

Assembly Procedures: WiSTAR™ Radio-Switch

Details the parts and procedures required to assemble a WiSTAR™ Radio-Switch, along with the required procedures to load the WinCOM™ Telemetry Software Suite.

WiSTAR™ Control Network Installation And Setup Procedures

Details the tools and procedures required to install a WiSTAR™ RTU.

Programmable Industrial Control Using WiSTAR™ Networks And The NCL Programming Language

Definitive documentation of the NCL control logic programming language and the NDB debugger. Tutorial with real-world examples.

WiSTAR™ Control Network Operating And Troubleshooting Procedures

Details the day-to-day operating and maintenance procedures for the WiSTAR™ RTU, along with common troubleshooting techniques.

Upgrading WiSTAR™ NCL Logic Using The HP-200LX Palmtop & A PCMCIA Flash Memory Card

Details the parts and procedures required to transfer an NCL control logic program from a PCMCIA flash memory card to a WiSTAR™ RTU.
