FTS

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Extreme environments. Extreme ruggedness. Extremely simple.

To: Brandalynn Tramel
City of Santa Rosa Fire Department
955 Sonoma Ave
Santa Rosa CA 95404

January 06, 2022

Forest Technology Systems— Remote Automated Weather Stations

FTS Forest Technology Systems Ltd. is the manufacturer and only distributor in North America of the FTS Fixed and Portable "Quick Deploy" Remote Automated Weather Stations (RAWS).

FTS is the sole provider of RAWS replacement parts and cable parts, dataloggers, transmitters, sensors, sensor parts, and calibration equipment.

FTS does not employ or contract to any agent, distributor or service provider within the US for FTS manufactured products. FTS is the only NIFC/NFDRS certified RAWS weather station manufacturer.

The ability for FTS sensors and components to be interchangeable and adaptive means agencies can reuse current sensors, creating a savings of thousands of dollars per station. In addition, FTS RAWS sensors and dataloggers utilize a Serial Digital Interface connection, eliminating the need for costly installation software.

Theo Harvey

Western US Fire Weather

Forest Technology Systems

Scope

FTS specializes in weather monitoring to support ongoing environmental monitoring and Wild land fire and fuels management. FTS has several thousand National Fire Danger Rating System (NFDRS) RAWS deployed. FTS equipment is specifically designed to meet and exceed the Interagency Wildland Fire Weather Station Standards & Guidelines (PMS426-3) published by the National Wildfire Coordination Group (NWCG). The FTS fire weather products are supported by the National Interagency Fire Center (NIFC) Remote Sensing and Fire Weather Support Unit (RSFWSU). Maintenance, service, equipment replacements, troubleshooting and support are available for FTS products from FTS directly and also from the RSFWSU.

Location

Interagency coordination, planning and communication are essential to success in emergency fire situations and wildland fire operations, predictive services and suppression responses. As a world leader in Fire Weather monitoring FTS has many long term installations throughout The United States. FTS is very familiar with the specific deployment logistics concerns of the area. The following nearby fire and land management agencies rely on FTS monitoring equipment for their Fire Danger Rating data. FTS would be happy to provide a reference contact from any of these nearby agencies.

- Bureau of Land Management
- National Park Service
- US Forest Service
- State and Private Forestry
- US Army

Equipment

FTS designs and manufactures RAWS specifically intended for use with the National Fire Danger Rating System and exceeds the NWCG weather station Standards (PMS 426-3) on all aspects.

- FTS is 100% compliant on all aspects of PMS 426-3.
- FTS equipment is fully supported by the National Interagency Fire Center.

Equipment Characteristics

There are several important considerations that make FTS the only choice for Fire Weather Monitoring applications:

- ***The GOES Antenna is Omni-directional with high gain characteristics when aimed***, which allows the unit to be deployed without antenna alignment anywhere in North America. This antenna is ice and corrosion resistant.
- The unit ***automatically acquires GPS timing and location information***. This significantly reduces the setup time and level of complexity of deployment.
- ***There is no need to adjust any sensor co-efficient***. This ensures the data collected is accurate and consistent without the need for in depth personnel training. This also significantly reduces the setup time and level of complexity of deployment.
- Power Management
  - The FTS datalogger has microprocessor controlled power management built into every DCP. This maximizes available solar charge and minimizes standby current draw.
  - Every sensor and component on the FTS system is ***designed for low power consumption***
- Physical characteristics
  - To protect against physical damage from snow and ice loading, animals or other environmental impacts the FTS enclosure and mounting equipment is predominantly cast aluminum, anodized and powder-coated.
  - Each electronic component has its own waterproof component enclosure which ***meets IP67 standards***
- Interface considerations
  - FTS weather stations are a completely stand-alone product, with a touch screen interface. There is ***no need to ever interface to a laptop or connect to and government owned equipment***.
  - The FTS DCP has a built in touch screen and all programming features can be completed via the touchscreen and USB memory stick port.
  - The ability to use ***the touch screen along with the military style connections greatly reduces the amount of training required for technicians to install, maintain and service the equipment***. The FTS weather station can be completely serviced by untrained personnel.
- Supporting infrastructure
  - FTS has unlimited ***free technical support*** M-F available to every FTS station user.
  - FTS has extensive GOES monitoring capabilities which allow FTS to alert customers in the event of station failure or anomalies.
  - In the last 2 years FTS has hosted over 30 ***free training workshops*** throughout the US and ***FTS has trained over 400 equipment users at no cost***. FTS typically visits Nevada once per year for informal on-site equipment training and status updates.

Appendix List

Please refer to the attached appendix for a more detailed list of the product specifications:

- Appendix A – Quality Assurance
- Appendix B – FTS Technical Support and Training
- Appendix C – Physical Characteristics
- Appendix D - References

Environmental Attributes

- *Reduced or no toxic constituents – Printed circuit boards are built with a lead-free process*
- *Recycled-content – Some of the metals used in the product may have some recycled content*
- *Designed for recycling - All the electronic cases, enclosures and mounting are made from recyclable metals (AL and SS)*
- *Extended product life, upgradeable – products are designed for a 10+ year lifecycle management cycle – maintainable, re-calibrate and upgradeable throughout this period*
- *Reduced packaging – No retail type packing is used, station equipment are packed as consolidated shipments minimizing packaging requirements*
- *Recyclable packaging – All the cartons / boxes used are recyclable and contain recyclable material*
- *Environmentally sound take-back and recycling options – FTS recycles the applicable materials from equipment trade-in or upgrade processes (Batteries, plastics, metals, PCAs, and cables). Optionally many of these materials can be recycled locally.*
- Our product does not emit any known ozone depleting CFCs or other gases
- Our systems have autonomous power systems that are charged by renewable solar energy.

Appendix A - Quality Assurance

1. FTS acknowledges the stringent quality requirements for equipment that is designed to collect scientific grade weather data in rugged and extreme outdoor environments.
   - All FTS equipment has been designed and is tested to meet the stringent requirements of these environments.
   - All procedures used to test and assemble FTS systems and components are documented and conform to ISO 9001:2008 standards.
   - Each sub-component supplied within our systems is inspected and/or tested to meet the subcomponent specifications.
   - Each station is assembled (with all subcomponents) then tested as a whole to demonstrate full functionality including a live GOES transmission with station data.
   - Electronic subcomponents are cycle tested and as required calibrated under varying climatic and atmospheric conditions to ensure they are 100% compliant with specifications.
   - We have invested heavily in automated test and calibration equipment that ensures each unit is extensively tested before shipping to customers.
   - The field failure rate of FTS supplied equipment is exceptionally low. For example our GOES transmitter is tested and calibrated under temperature ranges from -40 deg. C degrees to +60 deg. C
   - Equipment supplied by FTS has a long, well established and "referenceable" industry reputation for durability and quality.
   - Our ISO-9001:2008 registered certificate is attached (Appendix D).

2. For over 20 years FTS has focused the majority of our development efforts on supporting the remote weather monitoring industry and the specific requirements of that industry.
   - We are not a company attempting to repurpose our equipment to meet a bid specification. We focus intensely on products and quality process that meet the needs of our customers and the remote weather monitoring market—as such we continue to innovate improvements into our systems, and we have done so for the last 20 years.
   - All of the employees at FTS are familiar with our products, our customers and our market.
   - All of our internal procedures from support to manufacturing to sales strive to maintain and meet stringent quality requirements of our customers.
   - We have been successful over the course of multiple decades setting, meeting, and exceeding the quality requirements of our industry.
   - In the rare case where quality issues arise (as they do arise for all companies) through unforeseen issues or third party supply chain subcomponent issues, we are intensely responsive and have always been successful at working with our customers to resolve the issue and devise a practical and acceptable solution.

3. All pieces of test and measurement equipment have current calibration certificates.

4. FTS has developed a database system to monitor equipment status, upgrades, warranty, repairs, and help desk tickets. Each end system is tracked by station name, NESSID, station owner and then by individual serial numbers. Station information is maintained in the database and can be used to manage product status updates and known warranty issues. This is a unique capability of FTS and a testament to our long term demonstrated commitment to the ensuring continuous station operations for our customers.

Appendix B - FTS Technical Support and Training

1. FTS provides unlimited toll free support Monday to Friday 7:00AM to 4:00pm Pacific Time. Customers do not need to be under FTS contract to access this service, it is available to end users of FTS supplied equipment. FTS support technicians are familiar with ASCADS/CMMS/WFMI/LRGS/WRCC/ROMAN/WIMS and the RSFWSU support desk. The result is that regardless of what or where the problem is FTS can help resolve any problem quickly.

2. In the last 2 years, FTS has hosted more than 30 workshops in locations across the US and trained over 400 end users

3. FTS has thorough and complete training materials which includes single page "cheat sheets" for annual maintenance and RAWS setup and teardown.

Appendix C – Physical Characteristics

Axiom F6 Datalogger

Data Logger I/O	Dedicated ports w/bayonet connectors for • Temperature/Humidity (1 thermistor, 0-1V) • Fuel stick (1 thermistor, 0-1V) • Rain (counter) • Wind speed (frequency input) • Wind direction (potentiometer input) • SDI-12 (2 inputs)
SDI-AM Expansion Module	Provides additional terminal strip connections. • 4 analog inputs • 1 counter input • 2 sensor excitation outputs (0-5V) • 2 switched 12V outputs.
RS232	(2) RS232 ports both configurable based on Telemetry choice.
USB	(1) USB device and 2 – USB hosts both conforming to USB2.0
SDI-12	(2) Independent SDI-12 ports, v 1.3, expandable using external expansion modules.
Wireless	• FTS has used a Bluetooth wireless connection to collect data from an F6 with AutoCaller software. • The application consisted of a USB Bluetooth adapter plugged into a PC and a serial-to-Bluetooth adapter plugged into the datalogger. • To AutoCaller the datalogger appears as if it is connected to a virtual COM port and it can make calls as if it was connected by serial cable. • The serial-to-Bluetooth adapter must be powered from an AC adapter so this is not very useful in real world conditions but it does demonstrate the potential of a wireless link to the logger. • FTS will be performing ongoing wireless test projects.
TCP/IP	• TCP/IP can be used to collect data from an F6 using AutoCaller software. • The test setup that FTS used consisted of a TCP/IP COM port hub and F6 datalogger on our roof and a PC on our network in the building. • AutoCaller was set up to use the TCP/IP COM port, which was connected to the F6. • This set up could be useful in similar circumstances where AC power is available. • TCP/IP equipment tends to be power hungry and is not appropriate for use with your average station with a solar power supply.

Materials	• Enclosure and mounting equipment predominantly cast aluminum, anodized and powder-coated. • Housings are O-ring sealed. • Carry cases have a very durable Cordura shell that is lined with 1/8" laminate.
Weight	Total System weight: 138lbs with cases.
Case sizes (2 cases)	• Case 1: 15" x 20" x 38", 63lbs. • Case 2: 12" x 24" x 38", 75 lbs.
Operational Moisture Range	0-100% RH, condensing
Operational Temperature Range	-40C - 60C
Corrosion Resistance	Yes. FTS stations are deployed in coastal, desert and arctic locations. Components are a combination of stainless steel, anodized or powder coated aluminum and connectors are cadmium bayonet.
UV Enclosure Rating	Not applicable, as we do not use plastic.
Nema Enclosure Rating	FTS does not expose any electronic components inside the equipment enclosure. Each electronic component has its own waterproof component enclosure, which are very close to IP67 standards.
Power Failure Recover	All data, programming, and telemetry configuration is saved. In the event of a power failure followed by a recovery, the station will automatically restart. The station also has a power manager that will automatically suspend power to high power drawing devices such as the handheld radio in the RVT if the battery voltage drops too low. It will continue to provide power to the datalogger for logging and primary communication such as GOES. Once the battery voltage recovers it will resume supplying power to the handheld.
Lightning Protection (I/O – Data Corruption)	The F6 uses similar protection as its rock solid predecessor, the FWS12S. All inputs to the datalogger are protected from lightning damge by athree-stage protection circuit. The first stage is a transient earth clamp consisting of a spark gap contained in a sealed capsule filled with an inert gas, connected between the input signal and the station ground. The spark gap will conduct in the presence of a transient over-voltage, to clamp the signal to an acceptable level. The second stage is a series impedance that both limits the current of a

	transient to protect downstream components and also ensures a high enough voltage during a transient to fire the spark gap. The type of impedance used is matched to the type of signal on the input. Resistors are used for high impedance inputs. Air core inductors and positive temperature coefficient resistors (PTCs) are used for power supply and other high current pins. The third stage is a very high speed shunt diode or transorb that will conduct, to the station ground, any over-voltage that has flowed past the transient earth clamp and series impedance. The transient earth clamp will pass enough energy during a fast rise time transient before the spark gap begins to conduct, to prevent damage to downstream components. The shunt diode protects components from this energy. The shunt diode component is also matched to the type of input being protected so that the over voltage is reduced to a level within the limits of the downstream device.
ESD Field Protection (Component Swaps - Firmware Upgrades	FTS is the only manufacturer that protects their core electronics (GOES TX, datalogger, voice module, regulator) in waterproof cast housings that completely isolates them from the user. All firmware upgrades can be performed through the datalogger's waterproof USB port, ensuring 100% ESD protection at all times
Main Power Inputs	9.6V-20V DC or AC via DC adapter.
Data Logger Current	2-3mA at idle, 7.5mA average while collecting standard data.
Current wile Tx via GOES	2.5A.
Synthesized Voice Current	• RVT 30mA • Radio current is dependent on user supplied handheld radio. For power calculations we assume a Racal radio with a standby current of 60mA & • 5W transmit current of 1.6A
Supplied Batteries	(3) 8 Amp hour batteries
Power Calculation as per specifications	See Appendix C for power calculation details.
I/O Short	Yes

Circuit Protection	
Fused or Self-Resetting	The 12V sensor supply is fused and self resetting.
Current Limiting	On the SDI-AM the 12V outputs are limited to 500mA max., excitation are limited to 20mA each, the level is not user selectable.
Bits of Resolution	24 bits
Output Voltage	• SDI-AM module: 0-5V • Switched: 12V
Output Load Capacity	• SDI-AM module: 20mA for excitation • Switched 12V: 500mA • 500mA output is shared between the 2 switched 12V outputs. • Outputs are DC only.
RS232	(2) User defined – 9600bps
USB	• USB device, (2) USB hosts conforming to USB 2.0 • Supports interface devices, PC connection and mass storage devices. • Allows special access to MSD for file storage and transfer.
SDI-12	• (2) Fully independent SDI-12 ports including independent 12V supply line. • SDI Version 1.3, including concurrent measurements and CRC checks. • On board GUI allows transparent mode commands, auto detection of attached sensors, visual address management. • No laptop to setup or to test.
Time Keeping Accuracy	• +/- 100 microseconds, drift is +/- 10ms per day • On power up, the very 24 hours • Requires syncing every 28 days to remain operational
Power (Solar)	• 20W panel provided • Meets power requirements • Power calc provided, see Appendix C.
Power Regulation	Digital microprocessor -low current
Processors	• (2) Processors. • Both are low power RISC. • 200Mhz Main Processor • 10 Mhz on the sensor collector.
Part number	AT91SAM9 Family

Logic Voltage	1.2V, 1.8V, 3.0V and 5.0V for the SDI UARTS
Memory Capacity	Based on NFDRS logging criteria the F6 will store 7,575 days or approx. 20 years of data.
Data Clear	Data can be cleared manually through the GUI, or oldest is overwritten once full.
Memory Allocation	• 512MB fixed physical non-volatile memory. • 10MB is reserved for data storage • 20KB is reserved for audit log • 20KB is reserved for the TX log • The balance is available for application software and user configuration files.
Data Management	Data is stored in a circular 10MB buffer (oldest data is overwritten by newest data when buffer is full).
Program Access	• Programs are XML files stored in ASCII format. • Programs are easily accessed via integrated touchscreen or external PC. • Files can be viewed, edited and saved to the F6 or attached USB storage • device.The F6 also has a storage area for multiple template files. • The integrated touchscreen allows users to load template files from either a USB memory stick or the onboard memory area. • Radio voice programs can also be loaded from a USB memory stick or edited through the touchscreen.
Data Access	• All data is accessible to the user via the integrated touchscreen or an attached PC. • Data can be viewed on the integrated touchscreen as either current or historical data. • Historical data can be viewed in either columnar format or graphically. • Data can be saved to a USB memory stick in universal CSV format. • The touchscreen allows the user to specify a date range or all data since last collection. • Data is not cleared when downloading to an attached USB device. • In addition, data is not lost when downloading new programs.

Sensors

THS3-1 (Temperature/ Humidity)	General • Operating Temperature: -40°C to 60°C • Operating Humidity: 0 to 100% RH

	General • Operating Voltage: 9.6 to 20 VDC, 12 V nominal • Operating Current: less than 1 mA • Measurement Speed: less than 50 ms Temperature • Type: Encapsulated thermistor • Output: 10Kohm @ 25°C • Accuracy: +/- 0.1°C (0 to 60°C) Humidity • Type: Capacitive Sensor • Output: 0 to 1 VDC • Accuracy: +/- 2% (0 to 100% RH)
FS3-1 (Fuel Moisture/Fuel Temperature	General • Operating Temperature: -40°C to 60°C • Operating Humidity: 0 to 100% RH • Operating Voltage: 9.6VDC to 20 VDC • Operating Current: less than 1 mA Temperature • Type: Encapsulated thermistor • Output: 10Kohm @ 25°C H mix • Accuracy: +/- 0.1°C (0 to 60°C) Humidity • Type: Capacitive Sensor • Output: 0 to 1 VDC • Accuracy: +/- 2% (0 to 100% RH)
RG-T (Rain Gauge/Tipping Bucket)	General • Area/capacity: 324 cms² • Resolution:+/- 0.2 mm • Accuracy:+/- 2% @ 2"/hr (50 mm) • Gauge diameter: 203 mm • Materials: Aluminum and stainless steel throughout and with stainless steel latches. Ruby jeweled bearings. Operating Conditions: • Temperature: from 0°C to +60°C • Humidity: from 5% to 100%
SDI-SR-PYR (Solar Radiation – Pyranometer)	General • Power supply voltage range: 12 VDC nominal (range: 9.6 to 20 VDC) • Standby current consumption: Less than 1 mA • SDI-12 Compatibility Version 1.3 Environmental • Operating temperature: -40°C to +60°C • Operating humidity: 0% to 100% • Waterproof case and connectors

	Physical • Irregular shape: approximately 10cm dia. x 7cm high • Weight: approximately 0.5 Kgs Specifications • Measurement Range: 0 to 1800 Wm-2 • Accuracy: +/- 5% • Stability: less than +/- 2% change over 1 year • Response Time: 1 second per measurement • Temperature Dependence: +/- 0.15% / °C, • Cosine Correction: Cosine Corrected up to 80° angle of incidence • Detector: Silicon photovoltaic detector (blue enhanced)
SDI-WS-RMY (Wind Speed/ Direction)	General • Temperature range: -30°C to +70°C • Weight: 2 lb. 9oz. (with cable) Wind Speed • Range: 0-100MPH • Starting threshold: 0.9MPH • Accuracy: .25MPH at < 22.7MPH, +/-1% of true at > 22.7MPH • Output signal: Pulsed contact closure – Maximum current 5mA Wind Direction • Range: Mechanical (0-360 deg.), Electrical (0-356 deg.) • Starting threshold: .9 MPH • Accuracy: +/- 4 deg. • Damping ratio: 0.25 Std. (0.4 to 0.6 optional) • Resolution: 0.5 deg. • Output signal: Potentiometer output (0-10K ohms) • Max Current: 10mA • Maximum open circuit voltage: 28V
Other Vendors Sensors	• The system is flexible and programmable. • Provided the electrical signals are manageable and the sensor has an appropriate connector we can interface to other sensors.

Warranty

Provider	FTS provides the warranty on all components and stocks all of the necessary components to manage any warranty replacements or claims.
Response	Time is typically of the ssence with our clients and FTS has so few warranty claims that we typically use a warranty exchange program to manage

	warranty claims
	This means that once we identify a possible warranty claim we immediately ship areplacement part.
	Most parts are shipped within 24 hrs. Once the faulty part is returned we then determine if the fault is a warranty issue or not and then take appropriate action. The priority is always to minimize downtime
	Customers cover shipping to FTS in Blaine, WA and FTS covers shipping to the customer.
Coverage Period	Defects in materials or manufacturing. 1 year. Most customers then enter a service contract with either the RSFWSU or FTS which extends the warranty each year for an additional year.

Quality Process	• Every warranty claim is entered into our electronic ISO QA database as a non conformance report ("NCR").
	• Each NCR is reviewed by an appropriate manager to determine:
	  o The immediate action to resolve problem, such as ship replacement part.
	  o Is there a corrective action required to resolve the root cause of the problem, which could be test procedure changes or additions, employee training, product development review or other.
	• In Addition, we have an annual quality review meeting that involves the managers from each department where all the NCRs are classified by product and we look for areas of improvement.

Special Features for Maintenance Staff & Station Owners

No laptop required	• Every function can be performed done through the integrated touchscreen.
	• Functions available through the touchscreen:
	  o View data
	  o Graph data
	  o Save data to USB thumb drive
	  o Edit programs
	  o Save programs to USB storage
	  o Load template programs
	  o Update firmware
	  o Change synthesized voice parameters
	  o Change user selectable parameters such as voice alert thresholds.

Electronic Service	• All of the data that must be recorded by field techs during a service call can be captured electronically in the F6 and saved

Reports	to a USB memory stick. • This includes a list of sensor serial numbers before and after the service trip. • The trip report can then be sent to WFMI/CMMS electronically. • This report could be customized to be directly imported into WFMI.
Special Rain Feature	• A custom NFDRS rain GUI allows users to quickly test their tipping buckets each year by viewing manual tips and quickly removing the test tips from the F6. • The user can select from a calendar a rain reset date if desired and determine the best action on power failure. • Some users have the rain total return to its previous values while others have it reset to zero.
One Touch Current Conditions	• A user can customize a current conditions screen so that they can view all of their sensors' real time data, with one button press. • This is extremely handy when validating wind quadrants or simply validating each sensor as it is replaced. • The electronic service report automatically captures the current conditions at the start (pre swap) and after (post swap).
Power Lights	• The F6 now has the ability to measure solar panel voltage, solar panel current, battery voltage and battery current. • Status LEDS on the front screen allow techs to identify if the system is charging correctly or not. • In addition, these values are part of the current conditions call and are captured in the service report. • These values can also be logged and transmitted.
Basic Load Testing	• The F6 has a transmit log that records and displays on the screen the • voltage of the station during the GOES transmission. • This can be used to determine the battery voltage under load. • A carrier test can be done at site that transmits for 20s to give a good under load voltage.
Forced Transmissions	The user can select any channel and time to force a test GOES transmission.
Smart Solar Radiation Sensor	• FTS has added a microprocessor to the solar radiation sensor and converted it to an SDI-12 sensor. • This means all solar constants can be entered at the factory in the sensor, hence eliminating the need for a technician to enter the constant into the data logger in the field (which requires special training and can be a source of errors)
Station Identification	The station's name, NESSID and GOES data can be easily identified on the touchscreen. This is critical when contacting RSFWSU or FTS for site

	troubleshooting or reporting.	
GOES Status Indicators & Real Time GPS Displayed on GUI	• The F6 has status indicators on the front screen that let the user know what is going on. • On startup it indicates the status of the GPS as it acquires a fix. • Once the station has a fix the status indicators will indicate when the GOES transmitter receives data from the F6 in preparation for transmission and how many bytes. • At time of transmit it will visually indicate a successful transmission. • The F6 always displays the current GPS time, which is very handy when waiting to validate the various startup sequences. • Number of satellites in view, average signal strength and other GPS status information is also presented on the touchscreen.	
Data Transfer via USB	• Data, Programs and Firmware updates can be transferred back and forth via a conventional USB memory stick. • Most cellular phones now have a USB adaptor and memory capacity. FTS technicians use their Blackberries to transfer data. New programs can be emailed to the tech in the field and he can download them directly from his Blackberry phone to the F6.	
Toll Free Support	• Every FTS equipment enclosure has the FTS toll-free support number visibly presented.	

Appendix D - References

Linnea Keating
USFS National RAWS Coordinator
12730 Highway 12
Orofino, ID
208-476-8312

Linnea has a network of approximately 350 FTS stations which includes approximately 80 Fire RAWS. Maintenance of these stations is also split between the RSFWSU and FTS with approximately 200 stations under RSFWSU depot Service and 150 stations under "FTS Return to Factory Service" or "AOM" (Annual On-Site Maintenance).

Mark Fitch
National Park Service National RAWS Coordinator
3833 S. Development Way
Boise, ID (NIFC)
208-387-5230

Mark has a network of approximately 150 FTS RAWS stations which includes many Fire RAWS. Maintenance of these stations is also split between the RSFWSU and FTS.

Herb Arnold
Bureau of Land Management
RSFWSU unit lead
3833 S. Development Way
Boise, ID (NIFC)
208-387-5363

BLM has approximately 30 field offices that have individually purchased and are running FTS Fire RAWS. As they are part of the BLM network of stations they are managed by Herb's unit. In addition RSFWSU services approximately 650 FTS stations for the interagency community. FTS works directly with Herb in terms of depot training, spare parts, product recalls, test procedures and test equipment.