

State of West Virginia Request for Quotation

Equipment for Flood Warning System
Solicitation number CRFQ 0606 HSE1500000003



High Sierra Electronics, Inc.
www.highsierraelectronics.com

8 May 2015



ORIGINAL

05/11/15 10:02:06
WV Purchasing Division



HIGH SIERRA ELECTRONICS
environmental monitoring solutions

155 Springhill Drive, Suite 106
Grass Valley, California 95945
530.273.2080
Fax: 530.273.2089
www.highsierraelectronics.com

ISO 9001:2008

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Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Request for Quotation**

Proc Folder: 99702

Doc Description: Open End Equipment for Flood Warning System throughout WV

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2015-04-15	2015-05-12 13:30:00	CRFQ 0606 HSE1500000003	1

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:

High Sierra Electronics, Inc.
 155 Spring Hill Drive, Suite 106, Grass Valley, CA 95945
 800-275-2080 / 530-273-2089

FOR INFORMATION CONTACT THE BUYER

Laura E Hooper
 (304) 558-0468
 laura.e.hooper@wv.gov

Signature X

Julie Turner

FEIN # 94-3303989

DATE 5-8-15

All offers subject to all terms and conditions contained in this solicitation

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: HSE1500000003

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

High Sierra Electronics, Inc.

Company

Jim Turner

Authorized Signature

5-8-15

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.
Revised 6/8/2012

REQUEST FOR QUOTATION
FLOOD WARNING SYSTEM PARTS & EQUIPMENT

7.2 The following remedies shall be available to Agency upon default.

- 7.2.1 Immediate cancellation of the Contract.
- 7.2.2 Immediate cancellation of one or more release orders issued under this Contract.
- 7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

8.1 No Substitutions: Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 Vendor Supply: Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.

8.3 Reports: Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agencies items purchased, quantities of items purchased, and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased of those items, and the total value of purchases for each of those items.

8.4 Contract Manager: During its performance of this Contract, Vendor must designate and maintain a primary contact manager responsible for overseeing Vendor's responsibilities under this Contract. The Contact Manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contact manager and his or her contact information below.

Contract Manager: Sue Swenor
Telephone Number: 800-275-2080 / 530-273-2080
Fax Number: 530-273-2089
Email Address: sue@highsierraelectronics.com



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environmental monitoring solutions

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ISO 9001:2008

May 8, 2015

Ms. Laura Hooper
Buyer
State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street, East
Charleston, WV 25305

Dear Ms. Hooper,

Subject: Solicitation No. CRFQ 0606 HSE1500000003
Equipment for Flood Warning System

Thank you for the opportunity to offer High Sierra Electronics, Inc. products to support your statewide Flood Warning System. The equipment that we are offering in this proposal is designed to fully meet the requirements outlined in your specification.

Enclosed you will find our pricing proposal, data sheets (wherever applicable), and information about our product warranty.

Please let us know if you have any questions regarding our proposal. We appreciate the working relationship we have had with the State's Department of Emergency Management and Homeland Security Office and hope to extend that relationship for several more years. We look forward to being your partner.

Sincerely,

Sue Swenor
Sales and Marketing Manager

Enclosures

State of West Virginia
VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. **Application is made for 5% vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-6-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: High Sierra Electronics, Inc.

Signed: 

Date: 5-8-15

Title: Sales & Marketing Manager

CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

High Sierra Electronics, Inc.
(Company)

Sue Swenor
(Authorized Signature) (Representative Name, Title)

Sue Swenor, Sales & Marketing Manager
530-273-2080 x36 5-8-15
(Phone Number) (Fax Number) (Date)
530-273-2089

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: High Sierra Electronics, Inc.

Authorized Signature: *Sue Turner* Date: 5-8-15

State of California

County of Nevada, to-wit:

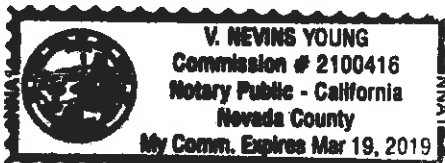
Taken, subscribed, and sworn to before me this 8th day of May, 2015

My Commission expires March 19, 2019

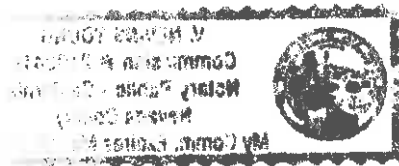
Jurat Attached
[Signature]

AFFIX SEAL HERE

NOTARY PUBLIC *[Signature]*



**HIGH SERRA ELECTRONICS
155 SPRING HILL DR #106
GRASS VALLEY, CA 95945-5929**



California Jurat Certificate

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Nevada

s.s.

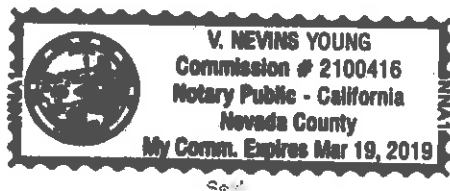
Subscribed and sworn to (or affirmed) before me on this 8th day of May

20 15, by Sue Swenor and _____
Name of Signer (1)

_____, proved to me on the basis of _____
Name of Signer (2)

satisfactory evidence to be the person(s) who appeared before me.

Victoria Nevins Young
Signature of Notary Public
Victoria Nevins Young
For other required information (Notary Name, Commission No. etc.)



OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this jurat to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The certificate is attached to a document titled/for the purpose of

Psychic Affidavit

containing 1 pages, and dated 5.8.15

Additional Information
Method of Affiant Identification
Proved to me on the basis of satisfactory evidence: <input type="radio"/> form(s) of identification <input type="radio"/> credible witness(es)
Notarial event is detailed in notary journal on: Page # _____ Entry # _____
Notary contact: _____
Other
<input type="checkbox"/> Affiant(s) Thumbprint(s) <input type="checkbox"/> Describe: _____

VENDOR: HSE		Flood Warning System Parts & Equipment -- Pricing Page						
Item No.	OEM Part No.	"or equal" part no. & description	Estimated unit quantity	unit for calculation purpose	Unit Price			
11	no 3300-20 store & forward repeater (duplex)	3300-20	1		2,970.00			\$ 2,970.00
12	no 3306 data transmitter	3306-00	1		2,397.00			\$ 2,397.00
13	3350-01 controller	3350-01	1		1,582.50			\$ 1,582.50
14	3701-00 maxon narrow band vhf radio	3701-00	1		490.00			\$ 490.00
15	3701-03 maxon narrow band uhf radio	3701-03	1		490.00			\$ 490.00
16	3701-15 Telemetry Transciever Programming kit	3701-15	1		260.10			\$ 260.10
17	3801 vhf power amp.	3801-01	1		276.25			\$ 276.25
18	4004-00 output converter	4004-00	1		110.00			\$ 110.00
19	4500-02 base station reciever	4500-02	1		775.00			\$ 775.00
20	5310-00 pro tech solar panel voltage regulator	5310-00	1		40.40			\$ 40.40

VENDOR:		HSE		Flood Warning System Parts & Equipment -- Pricing Page				
Item No.	OEM Part No.	"or equal" part no. & description	Estimated unit quantity	unit for calculation purpose	Unit Price			
21	5712 wind monitor	5712-00	1		970.25			\$ 970.25
22	5720-09 temperature sensor	5720-09	1		252.50			\$ 252.50
23	5722-0 temperature/relative humidity sensor	5722-00	1		673.35			\$ 673.35
24	5723-01 temperature/relative humidity sensor	5723-01	1		856.70			\$ 856.70
25	6750-01 radar water level sensor	6751-01	1		700.25			\$ 700.25
26	6751-01 mounting enclosure	6750-01	1		3,469.00			\$ 3,469.00
27	7110-00 SE Omnidirectional antenna	7110-00	1		96.25			\$ 96.25
28	7200-00 antenna lighting protector	7200-00	1		100.25			\$ 100.25
29	7200-01 stainless funnel (for rain gage)	2400-06	1		167.25			\$ 167.25
30	ur-4e420-00-000 receiver	UR-4E420-00-000	1		2,635.47			\$ 2,635.47

VENDOR:		HSE Flood Warning System Parts & Equipment -- Pricing Page						
Item No.	OEM Part No.	"or equal" part no. & description		Estimated unit quantity		unit for calculation purpose		Unit Price
48	BSP-3012 30 watt solar module	5303-01		1		1-30 watt solar module		\$ 456.00
49	BSP-4012 40 watt solar module	5304-01		1		1-40 watt solar module		\$ 523.00
50	BP-350U 50 watt solar module	5306-01		1		1-50 watt solar module		\$ 664.00
51	BP-365U 65 watt solar module	5309		1		1-65 watt solar module		\$ 701.00
	Total Bid Cost							\$63,989.28

MODEL 3451

Packaged Weather Station

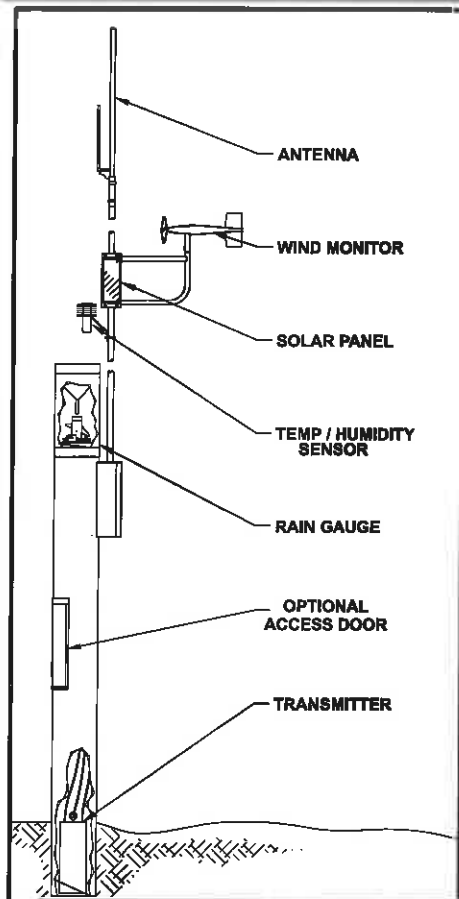
- Meteorological & Hydrological Networks
- Agriculture & Irrigation Monitoring
- Emergency Management Planning



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 3451-00 Packaged Weather Station is designed to automatically measure and report weather conditions. The weatherproof ALERT/IFLOWS standpipe houses the transmitter and acts as an antenna tower and sensor support. The data transmitted from the weather station can be used in a number of applications such as flood and/or storm warnings, establishing historical and real time data for agriculture, marine weather forecasting, and the effects of weather changes on tidal areas.

The Model 3451-00 is configured to meet standard meteorological data collection requirements and includes a weatherproof Standpipe Assembly, ALERT/IFLOWS Data Transmitter w/battery, Rain Gauge Top Section, Barometric Pressure Sensor, Wind Speed Sensor, Crossarm Assembly for Wind Monitor, Temperature & Relative Humidity Sensor, Multiplate Radiation Shield, Solar Panel, Antenna, Wind Connector, and Antenna Cable & Mounting Hardware. An optional access door is recommended for ease & efficiency, and to simplify maintenance.

Rain fall and wind data are reported automatically on an event-actuated basis. Temperature, relative humidity, and barometric pressure can be set to report either on a timed basis or event actuated basis. When event actuated, the Weather Station initiates a report when a defined amount of change has occurred since the previous transmission.

The Model 3451-00 is used in numerous states, counties, cities, and flood control districts, and is used overseas with ease and dependability.

ORDERING GUIDE cont.:

Included are, cont.:

Model 5712-01.....	Mounting Bracket
Model 5722-02.....	Humidity/Temperature Sensor
Model 5728-01.....	Multiplate Solar Radiation Shield
Model 5301-00.....	Solar Panel (100mA)
Model 7100-00.....	Omni Antenna

OPTIONAL:

Model 7000-01.....	Standpipe Door
Model 7000-02.....	Extended Lengths of Standpipe (priced per foot)
Model 7000-04.....	Mounting Bracket (to mount against walls, railing, etc.)
Model 7000-05.....	Grounding Tab, Welded (to connect grounding wire)
Model 3206-20.....	Transmitter Data Logging Board
Model 2310.....	Overflow Gauge (fits on top of Rain Gauge top section to convert to an all weather gauge)
Model 7000-09.....	Standpipe Guard Ring
Model 7200-00.....	Antenna Lightning Protection
Model 7105-04.....	High Gain Directional Antenna (7dB)
Model 3801-00.....	RF Power Amp
Model 8900-00.....	Radio Path Study

02-3451-00(A)

SPECIFICATIONS:

Standpipe assembly:

Height.....	10 ft.
Diameter.....	12 in.
Shipping weight.....	60 lbs.

ORDERING GUIDE:

Model 3451.....	Packaged Weather Station
<i>Included are:</i>	
Model 7000-00.....	Standpipe Assembly
Model 3206-01.....	ALERT/IFLOWS Data Transmitter w/Wind Connection & Sig Cond.
Model 3206-01.....	Wind Connection w/Peak Gust
Model 2400-00.....	Rain Gauge Top Section
Model 5730-00.....	Barometric Pressure Sensor
Model 5712-00.....	Wind Speed & Direction Monitor

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 3424

Packaged Rain Gauge Station

- Real-time Data
- Accuracy of $\pm 1.5\%$ for 0 to 2 Inches per Hour
- Measures in 1mm or 0.01 In. Increments
- Set-And-Forget Operation



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



With optional directional antenna

DESCRIPTION:

The Model 3424-00 Rain Gauge Station generates real-time data to help in flood warning, reservoir management, and any other application that calls for timely rainfall information. The data provides information of precipitation patterns and events as they happen, helping the system operator understand and predict runoff. This information facilitates the decision making of emergency management personnel during times of potential flooding helping to save property and lives.

The Rain Gauge tipping bucket is machined from a solid piece of aluminum. This eliminates the possibility of cracks forming due to repeated freezing and melting which could result in leakage and errors. The standard ALERT/IFLOWS tipping bucket measures 1mm with each tip of the bucket. An optional .01 inch bucket is available.

With each tip of the bucket a magnet passes over a sealed reed switch. This switch closure increments one count in an accumulator (counter) circuit in the 3206-00 ALERT/IFLOWS Transmitter. This awakens the transmitter and initiates a transmission to the base station consisting of the assigned sensor ID# and the accumulator value. As a result, the computer and its forecasting software computes within 1mm the rainfall amounts at gauges throughout the system.

When the tipping bucket top section is mounted on top of the ALERT/IFLOWS standpipe, the rain gauge funnel opening is 10 feet above the ground.

For remote, hard to reach sites, an optional Model 8900-00 Radio Path Study can be made to analyze radio transmission paths, ensuring clean, accurate signals between various locations.

The Model 3424-00 Rain Gauge Station includes a weatherproof Standpipe Assembly, ALERT/IFLOWS Data Transmitter w/battery, Rain Gauge Top Section, Antenna, and Antenna Mast & Cable.

SPECIFICATIONS:

Standpipe Assembly:
 Height 10 feet
 Diameter 12 inches
 Shipping weight 60 Pounds

OPTIONAL:

Model 7000-13 Standpipe Assembly (slotted)
 Model 2400-15 Rain Gauge Top Section (slotted)
 Model 7000-01 Standpipe Door (Specify Position on Standpipe)
 Model 7000-02 Extended Lengths of Standpipe (Price per Foot)
 Model 7000-04 Mounting Bracket (to mount standpipe against walls, railings, etc.)
 Model 7000-06 Conduit Mounting Tabs (hold-downs)
 Model 7000-09 Standpipe Guard Ring
 Model 7200-00 Antenna Lightning Protection
 Model 7105-04 HSE High Gain Directional Antenna
 Model 3206-20 Transmitter Data Logging Board
 Model 5301-03 100mA Solar Panel
 Model 8900-00 Radio Path Study
 Series 3800 RF Power Amplifier

ORDERING GUIDE:

Model 3424-00 Rain Gauge Station
Included are:
 Model 7000-00 Standpipe Assembly (twist-lock)
 Model 3206-00 ALERT/IFLOWS Data Transmitter
 Model 2400-00 Rain Gauge Top Section (twist-lock)
 (Optional .01" Tipping Bucket)
 Model 7100-00 Omni Antenna, Unity Gain
 Model 7300-00 Antenna Mast & Cable

02-3424-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 1000-03

ALERT/IFLOWS Decoder

- Two RS-232 Channels
- 12 VDC Powered
- Low Power Consumption
- Sensitive to Weak Messages



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 1000-03 ALERT/IFLOWS Decoder decodes incoming data and provides an RS-232C output for computer input. Data is transferred out the serial port at the same time it is received at the audio input. An "active" light comes on when receiving data as visual feedback for verifying proper operation.

The Model 1000-03 is powered by 12 VDC. This facilitates it's use in the field while performing gauge maintenance and installation. (Note: the Model 5601-00, 7 Amp Hour Battery, is recommended for uninterrupted power.) The decoder comes with a 6 foot serial cable, (25-Pin Male to 9 pin Female), a 12 VDC charger (110 VAC), and a harness for optional battery back-up.

SPECIFICATIONS:

Inputs	1/8" Phone Jack Audio Input Connector
Outputs	RS-232C Format, 2 each 25-Pin Female Connectors
Data Format	ALERT/IFLOWS Binary Standard, A/I ASCII, A/I Wind, Enhanced IFLOWS Format
Temp Range	-30°C to +50°C
Operating Temp.	-30°C to +50°C
Enclosure	Aluminum Box with External Connectors (Screw Terminals, 1/8" Phone Jack, RS-232C 25-Pin)
Power	12 VDC (300 mA Charger is Included) Active <220mA; Standby 13mA
Size	2.063" H x 8.375" L x 6.375" D
Weight	2 Pounds
Shipping Weight	3 Pounds

ORDERING GUIDE:

Model 1000-03 ALERT Decoder

OPTIONAL:

Model 1000-09 ALERT/IFLOWS Decoder with User Programmable Pass/Fail Capability; Includes Float Charger, Battery Cable & 9-Pin Serial Cable.

Model 5601-00 7 Amp Hour Battery

02-1000-03(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 1001 Field Technician Decoder

- Small and Light for Field Use
- Internal Speaker
- No External Battery Required



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 1001 Field Technician Decoder was designed to make the technician's work in the field easier. Used in conjunction with a radio scanner and laptop computer, the Field Decoder allows the technician to receive and display transmitted ALERT/IFLOWS gauge data on site. It is small, lightweight and requires no external battery.

The internal, rechargeable 9 Volt battery will power the decoder for more than 4 hours between charges and the Model 1001 includes a charger that can plug into the service vehicle lighter socket.

A built-in speaker allows the technician to hear incoming signals (the scanner's speaker is deactivated when the audio cable is plugged in). An active light is lit when an incoming signal is received.

SPECIFICATIONS:

Inputs	1/8" Phone Jack Audio Input Connector
Outputs	RS-232C Format, 9-Pin Female Connector
Data Format	ALERT/IFLOWS Binary Standard, A/I ASCII, A/I Wind, Enhanced IFLOWS Format
Temp Range	-30° C to +50° C
Operating Temp	-30° C to +50° C
Enclosure	Aluminum Box with External Connectors (1/8" Phone Jack, RS-232C 9-Pin, Charging Jack)
Power	12 VDC, Charging Cable Supplied
Size	7.5" L x 3.25" W x 1.125" H
Weight	12 Ounces
Shipping Weight	1 Pound

ORDERING GUIDE:

Model 1001	Field Technician Decoder
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02-1001-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 2400

Tipping Bucket Rain Gauge

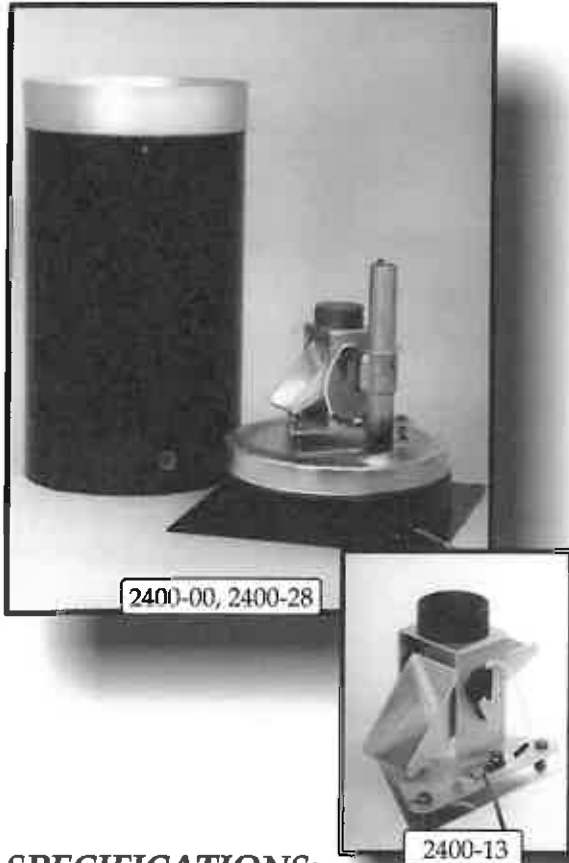
- One-Piece Machined Aluminum Bucket
- Accuracy of $\pm 1.5\%$ for 0 to 2 Inches per Hour
- Measures in 1mm and 0.01 In. Increments
- Set-And-Forget Operation



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The 2400-00 Tipping Bucket Rain Gauge provides state-of-the-art technology for ALERT flood warning. It consists of a 12" diameter housing, a 12" anodized funnel, a 12" anodized debris screen, and a 4" stainless steel screen. The Tipping Bucket Mechanism is mounted on an anodized aluminum base with an integrally mounted bulls-eye level that uses spring-tensioned adjusters for accurate, set-and-forget operation.

The gauge comes complete with 25' signal cable and 5 Pin MS connector. Water is directed into the tipping bucket mechanism which is adjusted to tip when 1mm or 0.01 inch of rain is collected. As the bucket tips, it causes a magnet to pass over a sealed reed switch, closing the switch momentarily. The contact closure is then counted by the circuitry in the data collection equipment. Measurement accuracy is $\pm 1.5\%$ at a precipitation rate of 0 to 2 inches per hour and $\pm 3\%$ for above 2 inches to 6 inches per hour. Accuracy of 0.5% is available with the addition of the Model 2400-50 Tip Rate Compensator. Water is discharged through drain holes at the base of the gauge housing, these holes are protected by screens to prevent insect entry.

The Model 2400-00 is designed to fit on a standpipe assembly, but can easily be a "standalone" with the Roof Mount option.

ORDERING GUIDE:

Model 2400-00 . . . Rain Gauge Top Section (Twist-lock)
Model 2400-15 . . . Rain Gauge Top Section (Slotted)

OPTIONAL:

Model 2400-01 . . . Rain Gauge Top Section without Spun Cap
Model 2400-03 . . . 1 mm Tipping Bucket Mechanism w/25' Cable
Model 2400-04 . . . Exchange - Form "C" - 3 Wire Reed Switch (Sierra Misco Type)
Model 2400-05 . . . 2 Wire Read Switch
Model 2400-06 . . . Replacement Funnel w/3" Lip
Model 2400-09 . . . Replacement Screen
Model 2400-10 . . . Tipping Bucket w/Base Plate, (.01")
Model 2400-11 . . . Top Section Retrofit Kit
Model 2400-13 . . . Tipping Bucket Mechanism (1mm) w/25' Cable & Mounting Plate
Model 2400-16 . . . Field Calibrator for Tipping Bucket
Model 5100-00 . . . Extra Cable, 2 Conductor (1 Foot Increments)
Model 2400-27 . . . Roof Mount Rain Gauge (twist-lock)
Model 2400-28 . . . Roof Mount Rain Gauge (slotted)
Model 2400-29 . . . Pole Mount Rain Gauge (twist-lock)
Model 2400-30 . . . Pole Mount Rain Gauge (slotted)
Model 2400-28 . . . Roof Mount Rain Gauge
Model 2400-31 . . . Altershield for Rain Gauge
Model 2400-50 . . . Tip Rate Compensator - 0.5% accuracy

SPECIFICATIONS:

Catch Bucket	Machined Aluminum
Sensor Type	Form A 2 Wire Switch
Sensor Housing	12" Aluminum Cylinder
Materials	Anodized Aluminum
Event Resolution	1mm or 0.01 Inch
Accuracy	$\pm 1.5\%$ for 0 to 2 Inches per Hour $\pm 3\%$ for 2 to 6 Inches per Hour
Contact Closure	Normally Open - Momentary Contact Closure
Output	Pulse Count - Upward
Output Connector	5 Pin MS Connector
Orifice Diameter	12 Inch, 2.5 Inch Lip above Screen
Operating Temp	0°C to 60°C, 32°F to 140°F
Signal Output	Normally Open Contact Closure
Mounting	Standpipe Assembly
Cable	Shielded
Cable Length	25 Foot
Size	12" D x 22.5" H
Weight	11 Pounds
Shipping Weight	13 Pounds

02-2400-00(C)

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3200 SERIES ALERT/IFLOWS Data Transmitters

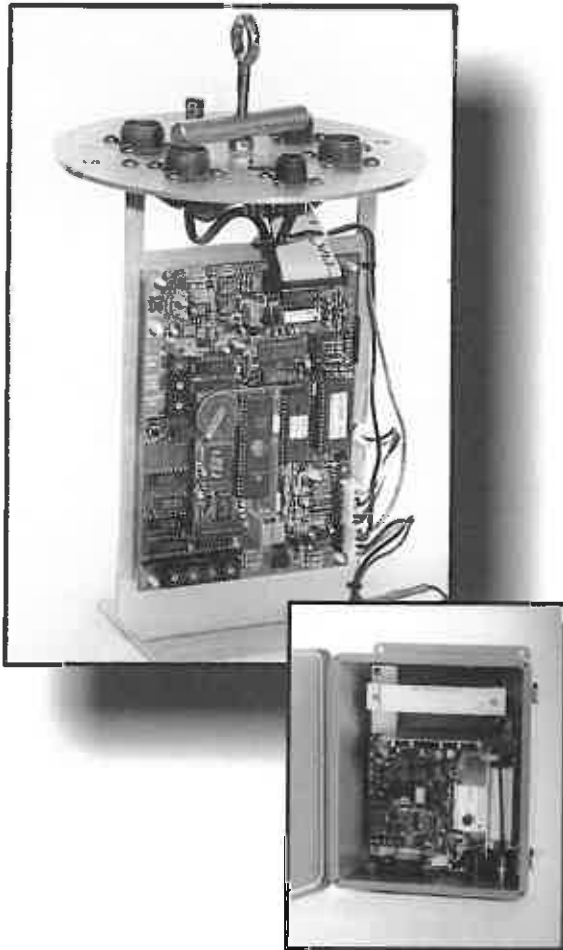
- Reliable, Highly Accurate Data
- Easy Field Set-up Without a Computer
- Universal Water Level Shaft Encoder Selection
- Digital Stilling Well Dampening



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The 3200 Series of ALERT/IFLOWS Data Transmitters are a versatile line of compact, full featured telemetry devices designed to meet the most rigorous hydrological and meteorological applications. No laptop computer terminals, optional analog cards or connector packages are required. Standard features include: VHF/UHF Transceiver, 11 Bit analog interface, sealed lead acid battery, connector compatible with third party hardware (i.e., Sierra Misco 5050 & sensors) and a water resistant canister or NEMA enclosure. To put the data transmitter into operation, you simply set some switches/jumpers, plug in the sensors & antenna cable, and connect the battery.

The analog interface includes an industry first 11-Bit (1 part in 2048) resolution. A pressure transducer with a 20' span will have a resolution of .01'. On the Model 3206-00, 4 single ended 0 to 5 VDC inputs or 2 single-ended and 1 differential inputs are possible. In addition, a battery sensor constitutes a 5th analog input. Any of the 5 inputs may be disabled by installing a jumper. The Model 3206-08 option replaces the second digital input with a 6-pin input that accepts the standard Handar Model 585 precip/solar/shaft encoder connector. The Model 3206-01 Wind Connector option adds another analog input. The Model 3208-01 is similar to the 3206-00 but includes either 8 single-ended 0 to 5 VDC inputs or 6 single-ended and 1 differential input. Any of the 8 analog inputs may be disabled by installing a jumper.

Digital dampening of noisy wells is accomplished with the use of the **HOLDOFF TIME** and the **WATER LEVEL ALARM OVERRIDE** switches. The **HOLDOFF TIME** switch allows transmission of incremental water level reports only at fixed intervals unless a change has occurred that is greater than or equal to the setting of the override switch. Then the **HOLDOFF** time is ignored and the transmission is sent anyway. The resolution of the shaft encoder is not affected by the settings of these switches. Three different incremental shaft encoders can be accommodated by simply changing a jumper.

The Models 3206-00 and 3208-01 come with several other features for improved maintenance at remote sites. Pressing both **TEST** and **RESET** at the same time will power the radio continuously, which simplifies power output measurements. Pressing **TEST** powers up all the analog section continuously, while releasing **TEST** will cause the enabled sensors to be read and transmitted. A battery saving feature disables transmissions if the voltage drops below 10.5 VDC, protecting the battery from deep discharge situations.

02-3206-00(A)

Environmental Monitoring Solutions

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3200 SERIES

Specifications, Ordering Guide & Options



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089

SPECIFICATIONS:

Inputs	Analog Inputs, either All Single-Ended 0 to 5 VDC or 2 Single-Ended & 1 Differential Input w/ Adjustable Signal Conditioning, User Selectable.	Programming	Mnl Jumpers/Rotary Switches ALERT Binary Standard Enhanced IFLOWS Format
Radio Range	VHF 136 to 174MHz @ 5W UHF and other bands available.	Temp Range	-50°C. to +70°C.
Transmission Modes	Incremental Inputs are on an EVENT Basis.	Operating Temp.	-40°C. to +60°C.
Analog Sensor	Modes are either Timed or Timed Event.	Radio Connector	BNC (3208 has screw terminals)
Timed	5, 10, 15, 20, 30, 45 Minutes or 1, 2, 3, 6, 12 Hours	Lightning Protection	Standard on All Inputs
Timed Event	Sensors scanned Every 1 Minute. The Change in Sensor Value from the Previous Transmission is Required to Initiate a transmission is either .05%, .25%, .5%, 1%, or 2% of Full Scale. (A report is also sent every 12 hours on Timed event Sensors.)	I.D. Number range	0 to 8191, Switch Selectable
Holdoff	Holdoff time for all Transmissions is 20 seconds so that a single 3200 Series Transmitter will transmit no more than every 20 seconds. The hardware circuit will disable the radio after 5 seconds of on-time. Battery: When the battery drops below 10.5V RF transmissions are disabled.	RF Warm-Up Time	Jumper Selectable to 180, 250 320 or 390 milliseconds
		Power	12 VDC @ 250µA, Solar Panel Connection Standard.
		Battery	12 VDC, 12 A/H
		Warranty	3 Years from Date of Shipment

OPTIONAL:

3206-01	3206 Data Transmitter w/Wind
3206-20	Data Logging; 512K Module
3801-01	Power Amplifier
3206-03	Conn. Circuit Board for Model 3206-00
3206-04	Conn. Circuit Board for Model 3206-00 w/Wind Modification
3206-06	Transmitter with UHF, AES Radio
3206-08	Handar 585 Connector
3206-09	Data Transmitter w/Audio Card
3206-12	Telephone Modem
3206-13	Cellular Telephone Modem
3206-14	Radio Modem Option
3206-22	Programming Kit for 3206-20
3206-24	Carrying Case for Data Modules (holds 5)

ORDERING GUIDE:

	3206-00	3208-01	3216-00	3216-02
ANALOG INPUTS	4	8	8	16
UP ONLY COUNTING	1	1	1	2
UP/DOWN COUNTING	1	1	1	2
INPUT CONNECTORS	MS	Terminal Strip	MS	MS
ENCLOSURE	Aluminium Canister	NEMA 4X Enclosure	NEMA 4X Enclosure	NEMA 4X Enclosure
SIZE	7" X 22.25"	12" X 10" X 4"	12" X 10" X 4"	14" X 12" X 8"
WEIGHT	9 Pounds	15 Pounds	15 Pounds	19 Pounds
SHIPPING WEIGHT	10 Pounds	20 Pounds	20 Pounds	24 Pounds

02-3206-00(A)

Environmental Monitoring Solutions

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MODEL 3300

Programmable
Store & Forward
Repeater

- Field Programmable
- Echo Suppression For Single Frequency Systems
- Digital Noise Suppression Of Extraneous Signals
- Self Reports It's Battery Voltage
- Optional Sensor Inputs



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



Model 3210-00
Rack Mount

DESCRIPTION:

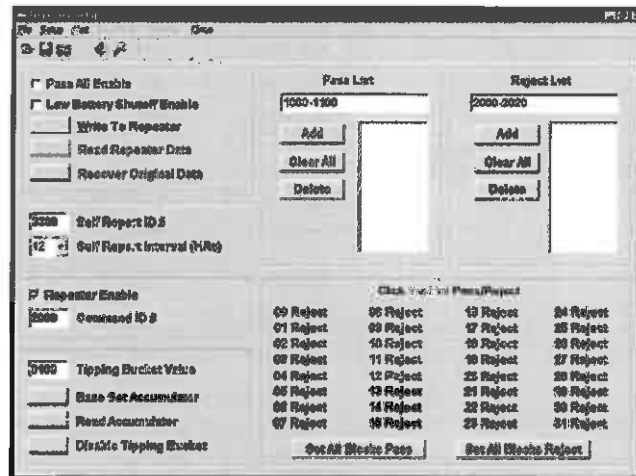
Repeaters are one of the key components of an ALERT/IFLOWS data collection network. Often an entire network or a significant portion of the system's gauges report through a single repeater. Given the critical nature of the role the Repeater plays in a system, High Sierra Electronics has always paid particular attention to repeater applications to insure system integrity. Over the years we have incorporated innovations to our repeater such as **Echo Suppression** which eliminates the "ping pong" or echo affect that could be a problem in some systems. The New Model 3300-00 includes Echo Suppression as a standard feature.

The 3300-00 can be supplied in a rack mount case for rack or wall mounting, or optionally in a NEMA 4 enclosure for installation in a standpipe. The speaker, speaker switch, external reset, and external LED's are not available with the NEMA 4 option.

User Programmable

The field technician can alter the Model 3300-00 configuration parameters in just minutes on-site with a laptop utilizing a Windows based set-up screen. These parameters include: Status Report ID and report interval, Command ID for remote control activation or de-activation of the Repeater and the Pass/Reject IDs. This in-field programming capability saves time and site visits for the field technician.

The Model 3300-00 can be programmed to pass all valid ALERT/IFLOWS IDs, pass or reject blocks of IDs and/or pass up to 255 individual IDs and reject up to 255 individual IDs.



The Programming Screen

See next page for Specifications, Ordering Guide, and Options

02-3300-00(B)

Environmental Monitoring Solutions

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MODEL 3300

Specifications & Ordering Guide



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An optional precipitation input allows the connection of a Rain Gauge. The software will allow the setting of an initial value for the precipitation accumulator and to enable/disable the precipitation input.

Duplex Mode

An optional duplex mode adds a second radio to the repeater and the associated electronics. This enables the repeater to continue to receive while messages are being transmitted. To prevent feedback from the transmit antenna to the receive antenna, a minimum frequency separation must be 2MHz between the receive and transmit frequency.

Remote Control of Repeaters

An Optional feature of the 3300-00 allows remote control of the repeater from the base station. This command capability allows for remote activation or de-activation of a repeater. This command signal capability can also be applied in applications where a back up or standby repeater is desired. If the primary repeater stops reporting, a signal can be sent from the base station to activate the standby repeater. This feature can minimize system downtime in the event of a repeater failure.

Status Reports

Repeater status reports containing battery level can be set by the user at intervals from two to twenty four hours. This allows the base station software to monitor repeater operation and issue an alarm if status reports are not received or if battery levels drop below an acceptable level or at an unacceptable rate.

Digital Filtering - Improved performance in noisy environment

There are times when Repeaters must be installed in the midst of mountain top antenna farms with a great deal of other radio equipment operating in close proximity. This equipment at times includes high power transmitters such as TV Broadcasting and NWS Weather Radio. A digital filtering process enables the repeater to pick out valid ALERT/IFLOWS data out of noise even with a completely unquelled radio.

SPECIFICATIONS:

RF Range	VHF 136 - 174 Mhz, other bands available
Programming	Pass or Reject Specified ID Numbers or Blocks of Numbers
Data Format	ALERT Binary Standard; Enhanced IFLOWS Format
Temp Range	-40°C. to +50°C.
Enclosure	Rack Mount (NEMA Fiberglass Optional)
Connection Types	Solar or AC Back-up Power (3-Pin MS type, BNC, Antenna)
Power	12VDC @ 90mA (may vary w/ different radios) 1.5 Amps when transmitting
Battery	2ea., 12 Amp 12 Volt DC
Rack Mount Size	5.25"H x 19.0"W x 11.75"D
NEMA 4 Size	15.75"H x 9.875"W x 4.875"D
Weight	28 Pounds
Shipping Weight	31 Pounds

NOTE: Radio & Battery are warranted by the Original Manufacturer.

ORDERING GUIDE:

Model 3300-00	Store & Forward Repeater w/Transceiver; NEMA 4X Enclosure. (please specify frequency)
Model 3310-00	Store & Forward Repeater w/ Transceiver; Rack Mount Enclosure. (please specify frequency)

OPTIONAL:

Model 3300-01	Sensor Input Option
Model 3300-09	Remote Control Capability
Model 3300-10	Chassis w/RF Coating & Conductive Gasket
Model 3300-11	Antenna Switch (for Dual Antenna Site)
Model 3300-20	Duplex Repeater; NEMA 4X Enclosure
Model 3801-00	Power Amplifier (VHF)
Model 7200-00	Lightning Protection Device

02-3300-00(B)

Environmental Monitoring Solutions

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MODEL 3306

ALERT/IFLOWS

Data Transmitter

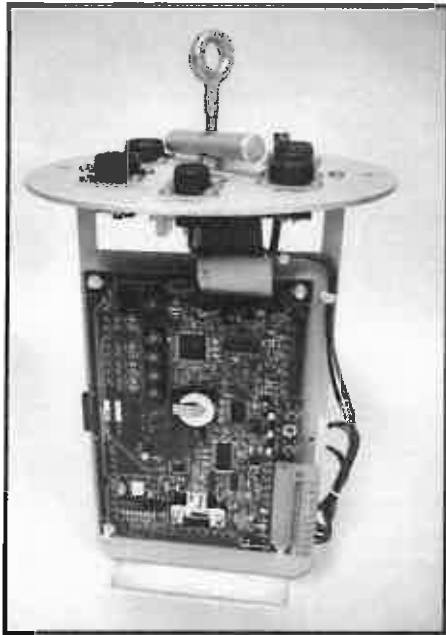
- 6 Analog/5 Digital Inputs including SDI-12
- Repeater Capability
- Switch Programmable OR Graphical User Interface
- Fuse Protection on Solar Panel, Battery, 12V Switched
- 2 Gigabytes of Removable Memory



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 3306 ALERT/IFLOWS Data Transmitter is a powerful and flexible addition to HSE's ALERT/IFLOWS family of products designed with the field technician in mind. The 3306 is housed in a 7" diameter aluminum canister for use in ALERT/IFLOWS standpipe applications. The 3316 is housed in a latching, hinged NEMA 4X enclosure. Sensor connections to both models are made via MS connectors. Refer to picture on Page 4.

The 3306-00 standard configuration accepts up to 6 Analog inputs (plus internal battery), up to 2 shaft encoders, up to 2 precipitation, SDI-12, wind speed, wind direction and peak gust. The 3316 accepts up to 8 analog inputs. Note: The Model 3306-02 supports the ALERT2™ Protocol; information is available in a separate data sheet.

The basic programming mode allows the user to configure the unit simply by using rotary switches. Four switches are used to set the Station ID number and a fifth is used to select from factory-defined or user-defined preset sensor configurations for different station types. This allows for very quick set-up without the need for a laptop computer in the field.

Alternately, users can use HSE's Insight Software (a graphical user interface; GUI) for fast, easy set-up from either a desktop or laptop computer in the field. The user can program the following parameters independently for each sensor to be logged: ALERT/IFLOWS ID number, input number, multiplier and offset, sample interval, amount of change needed to generate an event, transmission hold-off time, amount of change needed to override transmission hold-off time, and a timed report interval.

The 3306 internal firmware is upgradable in the field. When new versions are released, they will be posted on our website for download. These versions are downloadable via the USB cable. The download process will take just a few seconds.

Data are logged on a Secured Data (SD) memory card and can be retrieved via the USB or serial port. The SD memory card can also be removed for later downloading and replaced with a spare card. The 3306 is supplied with a 2 Gigabyte SD card.

Additional features include fuse protection on solar input, battery and 12V switched to avoid damage to the unit through shorting (these fuses automatically reset when they cool off). Reversing the battery terminals will cause no damage. A dedicated USB port for programming, data retrieval, and uploading of new firmware versions will be accessible at HSE's website.

Available communication formats are ALERT/IFLOWS and SDI-12 Version 1.3. While the 3306 is supplied with a VHF or UHF data radio for ALERT/IFLOWS data transmission, other communication devices such as GPRS radio or CDMA (cellular) can utilize the serial port. Effective 2014, the 3306 acts as a repeater.

02-3306-00(C)

Environmental Monitoring Solutions

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MODEL 3306

Specifications



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HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089

SPECIFICATIONS:

Sensor Inputs 6 Analog 0-5V, Digital Inputs including SDI-12, up to 2 Up-Only Counters, up to 2 Shaft Encoders, Wind Run, ALERT Wind Format, Peak Wind Gust

Total Sensors..... 20

Real Time Clock Clock/Calendar with on-board Battery Back Up with Leap Year Correction

Programmable Parameters . . .

<u>Contents</u>	<u>Field Size</u>
Sensor ID	2 (Signed Int, Sign ignored if next byte=0)
Sensor Type #	1 (See Below)
SDI-12 Address	1
Analog Warmup	1
Sample Interval	2 (0-65535 sec or [18 hrs, 12 min, 15 sec.])
Report Interval	4 (0-2,147,483,647 or > 1 year)
Hold Off	2 (0-65535 seconds)
Change to Tx	2
Override to Tx	2
Precision	1
Adder	4 (float)
Multiplier	4 (float)
Base Set	2
Log on Tx	1

Sensor Type Definition SDI-12, Battery, Analog, Counters (e.g., Precip.), Shaft Encoders, Wind Run, ALERT Wind, Peak Gust.

Read Now Live sensor readings

Radio Range VHF 136 to 174 Mhz @ 5W UHF and other bands available.

Reporting Modes Each enabled sensor can be programmed to transmit on a user Timed-defined basis and/or on a user defined amount of change, also known as Event Mode.

Logging Each enabled sensor can log data on a user-defined time interval and can also be set to log data on Transmission.

Logging Medium Data are recorded on a removable SD Memory Card.

Logging Capacity The file format has a capacity of 512 files. The 3306 creates a file for each sensor each Month. To determine the capacity, divide 512 by the number of enabled sensors. This will give you the number of months of data storage capacity. For example, a site with 5 sensors can store 8.5 years of data [(512 files/5 sensors =102.4 months)/12=8.5333 years.] Logged data can be retrieved using the 3306 Windows GUI or via a HSE supplied supplication using a built-in or stand alone SD card reader.

Transmit Holdoff Holdoff time for all transmissions is 20 seconds so that a single 3306 Series Transmitter will transmit no more than every 20 seconds. The hardware circuit will disable the radio after 12 seconds on-time.

Low Battery Holdoff When the battery drops below 10.5V, RF Transmissions are disabled. Data Logging continues if transmissions stop due to low battery.

02-3306-00(C)

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MODEL 3306

Specifications and Ordering Guide



PHONE: (800) 275-2080

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FAX: (530) 273-2089

SPECIFICATIONS: (continued)

Programming	Rotary Switches or HSE Model 3306 Insight Software (Windows GUI)
Data Format	ALERT Binary Standard
Temperature Range	-50° C. to +70° C.
Operating Temp.	-40° C. to +60° C.
Radio Connector	BNC
Lightning Protection	Standard on ALL inputs.
ID Number Range	0 to 8191, Switch selectable or GUI programmable.
RF Warm-up Time	Programmable, default 180 milliseconds
Power	12 to 18 VDC < 1mA, Solar Panel connection standard 3-PIN MS Connector
Battery	12 VDC, 12 Amp Hour
Warranty	3 Years from date of shipment

OPTIONS:

Model 3306-03	Connector Circuit Board
Model 3306-06	Transmitter w/ UHF Radio
Model 3306-08	Handar 585 Connector
Model 3306-20	Insight Software / Graphical User Interface
Model 3306-51	Adapter Cable for Sierra Misco Format to 3306 Shaft Encoder #1 (12')
Model 3306-52	Optical Shaft Encoder to 3306 SDI-12 Cable (6')
Model 3306-53	Handar to 3306 Shaft Encoder #2 (6')
Model 3306-54	Optical Shaft Encoder to 3306 SDI-12 on Wind Connector
Model 3306-56	USB Cable
Model 3801-00	Power Amplifier

ORDERING GUIDE:

	3306-00	3306-16
Analog Inputs	6	8
Up Only Counting	1	1
Up/Down Counting	1	1
Input Connectors	MS	MS
Enclosure	Aluminum Canister	NEMA 4X Enclosure
Size	7" X 17"	12" X 14" X 5.5"
Weight	9 Pounds	15 Pounds
Estimated Shipping Weight	10 Pounds	20 Pounds

02-3306-00(C)

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MODEL 3306 INSIGHT Software Screen Shots



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FAX: (530) 273-2089

High Sierra Insight Software
File Transfer Help

RTU Reporting Clock Realtime Data Logged Data SDI 1.2 Transparent Mode Repeater

Defined I/O Points:

ID / Relative	Offset	Addr	Type	Name	Addr	Multi
0000 Yes	Counter 1			Rain Gauge	0	1
0005 Yes	Battery			Battery	0	1
0001 Yes	Analog 1			Humidity	0	1
0002 Yes	Analog 2			Air Temp	0	1.8
0004 Yes	Analog 4			Baromet.Pres	0	.4
-0002 Yes	ALERT Wind			ALERT Wind	0	1
0007 Yes	Peak Gust			Peak Gust	0	.5482

Configure I/O Points:

Name: Rain Gauge Type: Counter

Channel #: 1 I/O / Offset: 0 Relative Addressing:

Address: 0 Multiplier: 1

Buttons: Add a Sensor, Delete a Sensor, Update a Sensor, Set Basecal

Retrieve RTU Parameters: Send RTU Parameters: Sensor Read: Start

Model 3316

- ✓ Accepts up to 8 Analog Inputs
- ✓ Fits in Standpipe or Telemetry Cabinet
- ✓ Supports ALERT2™ Protocol



02-3306-00(C)

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3350 SERIES ALERT Controller

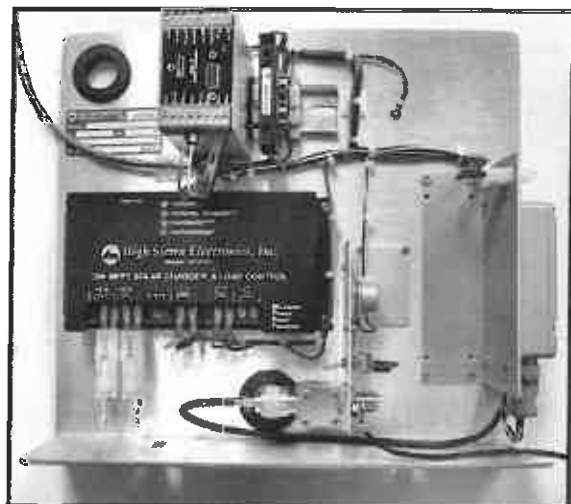
- Command & Response System
- User Selectable Alarms
- Local or Remote Control
- Rugged, Proven Performance



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 3350 Series of ALERT Controllers is an intelligent command and response control system for automatically turning on traffic warning signals. It is capable of real-time monitoring, using the ALERT format, for multiple sites where flow rate and water level poses a safety threat. Other applications include low water crossings, gate & pump controllers, and situations using alarms or automatic dialers.

The 3350 Series works with existing systems to receive and decode ALERT formatted messages. It gives users the ability to integrate "Master" & "Slave" Controllers with their remote data-collection stations. The Master can be programmed to pass control commands to as many as five Slave units. It will relay commands from the base station and/or create commands in response to preset sensor levels. The ID number and set points are programmed using a simple Windows based interface. It will also send timed reports, event generated reports and command generated response reports.

The Slave will have a relay controlled device, for example a traffic warning sign with flashing lights or an automatic road crossing-arm, and will send timed reports and command generated response reports to its Master controller and to the Base Station. All controllers, Masters and Slaves, have the ability to send timed (programmable) reports to the base station. This report consists of the battery voltage, sensor value and status information.

In communications between controllers or the base station and controllers, commands expect a return response within 10 seconds. All of the radio traffic is displayed and archived at the base station, which can also issue commands to override local control at the Master sites. As an additional safety feature, if a Master receives no response or an incorrect response from a Slave unit, that information is included in the Status Report transmitted to the Base Station. Software can be programmed to activate an alarm under this condition. The personnel can then attempt to control the Slave unit directly and/or dispatch maintenance personnel to the site.

The 3350 Series uses solar panel or AC charged batteries for power to energize the various operating components.

See Other Side for Specifications, Ordering Guide and Options

02-3350-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

3350 SERIES ALERT Controller



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089

SPECIFICATIONS:

Power Supply.....	12 Volts Nominal
Current	Receive - 50mA with Model 3703 Radio Transmit - 2 Amps. Maximum
Digital Output	250 mA Open Collector
Analog Input	0-5 Volts (4-20 mA, 0-1 mA with External Resistor)
Status Input	Contact Closure
12 Volt Switched Output ...	2 Amps Maximum
Radio Frequency	(166 - 171 MHz) - Standard (406 - 412 MHz) - Optional
Protocol	ALERT Binary Standard
Tone In	700 mV Peak to Peak
Tone Out	700 mV Peak to Peak
Push to Talk	Active Low
LED Indicators	1 Transmit / 1 Receive
Size	4" Height X 3" Length X 1.75" Deep
Weight	4 Ounces

ORDERING GUIDE:

Model 3350-05	ALERT Controller Decoder / Serial Transmitter
Model 3354-01	ALERT Controller; 4 Digital Output with Transceiver (Din Rail)
Model 3355-01	ALERT Controller with Data Transceiver & Relay
Model 3355-02	ALERT Controller with Data Transceiver, Relay & 1 Analog, 1 Digital Input
Model 3356-01	ALERT Controller with Data Transceiver, 2 Analog & 1 Digital Input (NEMA)
Model 3356-02	ALERT Controller with Data Transceiver, 2 Analog & 1 Digital Input (Cannister)
Model 3480	Advanced Warning Station Includes: 16 Foot 4" Spun Aluminum Pole, Breakaway Base, Anchor, 12" Diameter Yellow Beacon Signal (Quantity 2) with Mounting Brackets, 50 Watt Solar Panel with Mounting Brackets, All Hardware and Mounting Brackets for Attaching a 48" Warning Sign, Antenna & Antenna Cable, ALERT Controller Electronics Package Mounted Inside a Locking Aluminum 26" X 17" X 16" Cabinet.

OPTIONAL:

Model 3703	Data Radio
5600 Series	Battery

02-3350-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 3701

Data Transceiver

- Programmable Narrow or Wide Band
- Factory Alignment for Peak Performance
- Water Proof Casing
- Programmable up to 16 Channels



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



A 3701 configured for 16 channels

DESCRIPTION:

The Model 3701 Data Transceiver is designed for use with data generating devices using AFSK type modulation systems. It provides outstanding frequency stability and control.

The Model 3701 comes in VHF and UHF frequency ranges (see Ordering Guide for dash number) and features 16 programmable channels. Each has extremely short turn-on time that conserves power in battery operated systems. Multiple functions include 1200 to 9600 baud rates, and AC and/or DC audio coupling. When used in a repeater, the transmit frequency typically is specified as the receive frequency when using the 3701 in an ALERT/IFLOW Transmitter.

This Radio, with 16 dip switch selectable channels, is the standard transceiver featured in High Sierra Electronics' ALERT/IFLOWS transmitters and repeaters. For certain applications, however, other radios or technology may be more appropriate. A High Sierra Electronics' Systems Engineer can recommend the telemetry solution best suited to a specific situation. These alternatives include Spread Spectrum, RS-232 radio modems, GOES radio modules, crystal controlled radios, and telephone modems. Please contact High Sierra Electronics technical support for more specifications.

SPECIFICATIONS:

GENERAL:

Frequency range	V2: 148-174MHz VHF (U2: 440-470MHz)
Frequency stability	±5.0 ppm VHF (±2.5 ppm)
Channel spread	V2: 26MHz VHF (U2: 30MHz)
Channel spacings	25KHz, 12.5KHz programmable
RF output power	5/1 watt
Number of channels	16
Frequency source	Synthesizer
Power supply	Ext. power supply (12 VDC nominal voltage)
Temperature range	
Storage	-40°C. to +80°C.
Operating	-30°C. to +60°C.
Current consumption	
Standby (muted)	25mA receive w/power save mode
Transmit 5W RF power	<2.0A
Transmit 1W RF power	<1.0A
Connector	9dB
Dimensions	30mm H x 62mm W x 118mm D
Weight	253grams

TRANSMITTER:

Carrier power	Nom.	Max	Min
Hi	5W	<6W	>4.5W
Low	1W	<1.5W	>0.8W

Frequency deviation:

25KHz ch spacing	Peak -5.0, min. -3.8
12.5KHz ch spacing	Peak -2.5, min. -1.9

SPECIFICATIONS:

TRANSMITTER cont.:

Frequency error	<0.5KHz nom. condition for VHF <0.75KHz nom. condition UHF -3.0 ppm max. condition UHF -5.0 ppm max. condition VHF
Spurious emission	<-57dBc
Modulation sensitivity ..	100mV rms @ 60% peak dev.

RECEIVER:

Sensitivity (12dB sinad) ..	UHF <-117dBm, VHF <-118dBm @ nominal condition UHF <-115dBm, VHF <-118dBm @ maximum condition
Adjacent ch Selectivity:	
25KHz ch spacing	>60dB @ nom., >55dB @ maximum
12.5KHz ch spacing	>50dB @ nom., >45dB @ maximum
Spurious rejection	70dB (100KHz - 4GHz)

ORDERING GUIDE:

Model 3701-00	Data Transceiver, VHF
Model 3701-01	Data Transceiver, UHF

OPTIONAL:

Model 3701-15	Data Transceiver Programming Kit w/Extender Board
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02-3701-00(B)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

3800 SERIES RF Power Amplifiers

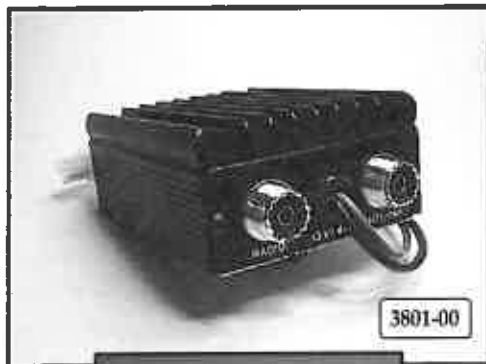
- Strengthen Weak Radio Paths
- 3 Frequency Ranges
- Solid-State Design



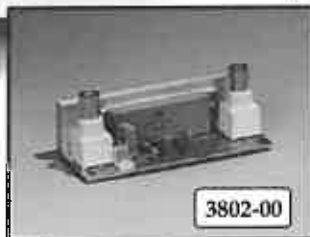
PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



3801-00



3802-00

DESCRIPTION:

The 3800 Series of RF Power Amplifiers are compatible with most ALERT/IFLOWS manufacturer's equipment.

All of the units are class "C" tunable amplifiers. Each have an internal transmit/receive switching circuit, an RF power stage, and a low-pass filter section. The 3 frequency ranges are:

Model 3801-00 - VHF 148 to 174MHz

Model 3802-00 - UHF 400 to 440MHz

Model 3803-00 - UHF 450 to 470MHz

The 3800 Series of RF Power Amplifiers would be appropriate to add to any of High Sierra Electronics' repeaters or data transmitters whenever a radio path would be unreliable without it. Examples would include very long paths and paths without a line of sight.

SPECIFICATIONS:

	3801-00 (VHF)	3802-00 (UHF)	3803-00 (UHF)
Range	148 - 174MHz	400 - 440MHz	450 - 470MHz
Temp Range	-30°C. - +60°C.	-30°C. - +60°C.	-30°C. - +60°C.
Operating Temp	-30°C. - +60°C.	-30°C. - +60°C.	-30°C. - +60°C.
Enclosure	Black Aluminum	Black Aluminum	Black Aluminum
Connector Types	PC-259, Molex, PL-259	BNC, Molex, BNC	BNC, Molex, PL-259
Power Output	25.0W @ 5.0W	15.0W @ 5.0W	15.0W @ 5.0W
Nominal Input	Nominal Input	Nominal Input	Nominal Input
Reduced Power	Reduced Power	Reduced Power	Reduced Power
Operation @ 2 -4W.	Operation @ 1.4W.	Operation @ 1.4W.	Operation @ 1.4W.
Power	13.8 VDC	13.8 VDC	13.8 VDC
Size	4.88"L x 1.575"W x 1.563"H	1.531" W x 1.563" H x 3.906"L	1.531" W x 1.563" H x 3.906"L
Weight	1 Pound	1 Pound	1 Pound
Shipping Weight	2 Pounds	2 Pounds	2 Pounds

ORDERING GUIDE:

Model 3801-00	Power Amplifier, VHF
Model 3802-00	Power Amplifier, Low Band UHF
Model 3803-00	Power Amplifier, High Band UHF

02-3800-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 4500

Base Station Receiver

- Compact and Lightweight
- Includes VHF/UHF Data Transceiver
- Low Power Consumption
- Internal Speaker



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The 4500-02 Base Station Receiver accepts transmitted data from field transmitters or repeater stations. It is small and lightweight for convenient placement close to the antenna, and is powered by a 12 VDC charger. (As an option, the Model 5601-00, 12Volt, 7 Amp Hour Battery is recommended for un-interruptable power.)

The 4500-02 has an internal speaker with an on/off switch located on the front panel. This speaker allows the system operator or technician to hear the quality of the data signals. Equally important, the speaker is capable of revealing radio interference present on the system frequency.

The 4500-02 includes a VHF/UHF narrowband receiver which is tuned to a specific frequency. The audio output of the receiver is connected to the Model 1000-03 ALERT Decoder. The 4500-02 comes with a 12 VDC charger, 6' audio cable, and harness for optional battery.

SPECIFICATIONS:

Inputs	RF (VHF or UHF)
Frequency Stability . . .	±2.5 ppm
Sensitivity	0.25µV Minimum @ 12dB SINAD
Noise Squelch	1 - .35µV Adjustable
Spurious Rejection . . .	7dB Minimum
Image Rejection	70dB Minimum
Selectivity	60dB Minimum @ 12.5KHz
Frequency Range	VHF 135 -174MHz; UHF 406 - 470MHz
Outputs	Audio is set for 700mV pp @ System Deviation. Output Connector is 1/8" Phone Jack.
Audio Output Imped. . .	8ohms
Temp Range	-30°C to +60°C
Operating Temp.	-30°C to +60°C
Enclosure	Aluminum Box w/External Connectors (BNC, Screw Terminals, 1/8" Phone Jack)
Power	12 VDC (300mA Charger is Included) Active <220mA; Standby 13mA
Size	2.062" H x 6.375" W x 8.375" L
Weight	2 Pounds
Shipping Weight	3 Pounds
Regulatory	FCC Parts 90,15. Canada: RSS-119 Issue 5

ORDERING GUIDE:

Model 4500-02 ALERT Base Station Receiver

OPTIONAL:

Model 1000-03 ALERT Decoder
Model 5601-00 12 Volt, 7 Amp Hour Battery

02-4500-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 5310

Solar Panel Voltage Regulator

- Useable with Any Size Lead-Acid Battery
- No Reverse Current Flow
- Safe Float Charging for Long Battery Life



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089

DESCRIPTION:

The 5310 ProTech Solar Panel Voltage Regulator is intended for float charging of lead acid batteries. It is compatible with solar arrays whose current output is less than or equal to 3 Amperes. It may be used with any size lead-acid battery. Unlike some other regulators, the 5310 will not damage your battery due to overcharging.

The 5310 will act as a blocking diode when the battery voltage is greater than the solar array voltage. There will be no reverse current flow. The 5310 draws no current from the battery.

The regulator includes a thermal switch which will momentarily interrupt the current flow when the 5310 is dissipating too much heat.

While the 5310 can be installed outdoors, it is best to choose a mounting position which is protected from direct falling rain and from direct sunlight. This can usually be accomplished by mounting the regulator on the backside of the solar panel.



SPECIFICATIONS:

Input Voltage.....	12 to 20 VDC
Output Voltage.....	13.7 VDC
Output Current Limit...	3 Amps
Operating Temp Range .	-40° F to 140° F (-40° C to 60° C)
Max/Min Wire Size	12 AWG / 24 AWG
Size	1.5" x 1.5" x 3"
Mounting Holes	2 Each - 3/16" Holes, 2.5" Apart
Weight.....	4 Ounces
Shipping Weight	1 Pound

ORDERING GUIDE:

Model 5310.....	ProTech Solar Panel Voltage Regulator
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02-5310-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 5712 Wind Monitor

- High Performance
- Low Aspect Ratio
- Corrosion Resistant Construction
- Lightweight, Compact Size



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 5712-00 Wind Monitor is a rugged, accurate wind sensor. The simple, lightweight corrosion-resistant construction makes it well suited for a wide range of wind measurement applications.

The Model 5712-00 uses a four blade helicoid propeller. The propeller rotation produces an AC voltage signal with a frequency directly proportional to wind speed. Slip rings and brushes are not used resulting in improved reliability and lower cost.

The wind direction sensor is a rugged, lightweight vane with a low aspect ratio to assure good fidelity in fluctuating wind conditions. The vane angle is sensed by a precision potentiometer housed in a sealed chamber. With a known excitation voltage applied to the potentiometer, the output signal is directly proportional to azimuth angle. An orientation ring is supplied for preserving wind direction reference when the 5712-00 is removed for maintenance.

SPECIFICATIONS:

Wind Speed Range . . .	0-60 m/s (134 mph)
Gust Survival Range . .	98 m/s (220 mph)
Azimuth	360° Mechanical, 355° Electrical (5° open)
Wind Speed Accuracy .	±0.3 m/s (0.6 mph)
Wind Direction Accuracy	±3 Degrees
Propeller Sensitivity. . .	1.1 m/s (2.4 mph)
Vane Sensitivity	0.5 m/s (0.1 mph)
Signal Output	3 Pulses per Revolution 1800 rpm (90 Hz) = 8.8 m/s, 456 Hz = 100 mph (161 kmph)
Azimuth	Analog DC Voltage from Conductive Plastic Potentiometer - Resistance 10K ohm, Linearity 0.25%, Life Expectancy 50 Million Revolutions.
Overall Size	14.6" Height x 21.7" Length
Propeller	7" Diameter
Mounting.	1.34" Diameter; 1" Pipe
Weight	2.2 Pounds
Shipping Weight	5 Pounds

ORDERING GUIDE:

Model 5712-00 Wind Monitor

OPTIONAL:

Model 5102-00	Extra Cable, 5 Conductor (1 Foot Increments)
Model 5712-01	Mounting Bracket
Model 3206-01	Wind Connector

02-5712-00(B)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 5720 SERIES

Signal Conditioning
Module

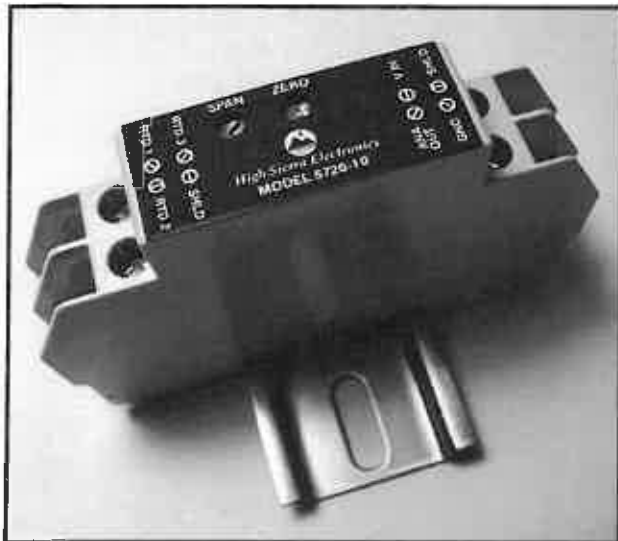
- -40°F to 140°F
- Excellent Linearity
- Wide Power Supply Range
- Current or Voltage Output



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089

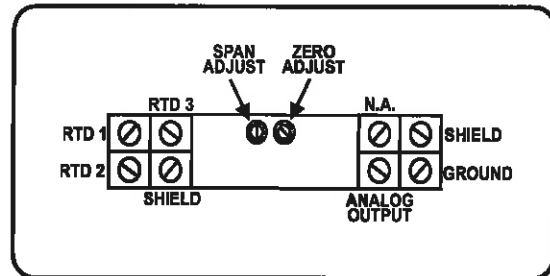


DESCRIPTION:

The Model 5720 Series converts the Model 5720-00 Temperature Sensor to either a 4-20mA output or 0.3 to 1.5 volt output; jumper adjustable setting. It linearizes the sensor output and provides a second order correction to the RTD typically providing a 40:1 improvement in linearity. The 5720 Series will operate on loop voltages down to 9 volts. Separate zero and span adjustments are factory calibrated.

SPECIFICATIONS:

Input	PT100 3-Wire RTD (Model 5720 Temperature Sensor)
Output	4-20mA, 0.3V to 1.5V (Jumper Set)
Calibrated Range	-40°C. to 60°C. (-40°F. to 140°F.)
Calibrated Accuracy	Total Error <1% over the full operating temperature range of -40°C. to +85°C., including zerodrift, span drift, the RTD, and non-linearity.
Operating Temp Range.	Model 5720-11 0°C. to +50°C. Model 5720-12 -40°C. to +60°C. Model 5720-13 -40°C. to +70°C.
Power Supply	9-33 VDC at 20mA Max
Size	1.5" x 2.25" x 3.625"
Weight	1 Pound
Shipping Weight	3 Pounds



ORDERING GUIDE:

Model 5720-22	Signal Conditioning Module with Model 5720-00 Temperature Sensor (Includes Standpipe Mounting Bracket)
Model 5720-11	Signal Conditioning Module (0° to +50°C.)
Model 5720-12	Signal Conditioning Module (-40°C. to +60°C.)
Model 5720-13	Signal Conditioning Module (-40°C. to +70°C.)

OPTIONAL:

Model 5720-02 Extra Cable (1' Increments)

02-5720-10(B)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 5722-01

Relative Humidity & Temperature Probe

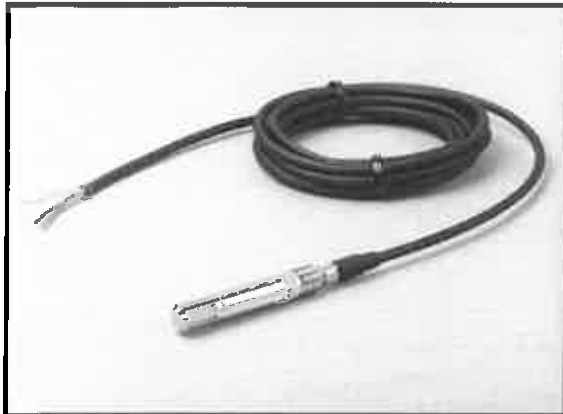
- High Accuracy & Good Stability
- Low Power Consumption
- Optional Dew Point Calculation
- Several Voltage Outputs Available



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 5722-01 Relative Humidity and Temperature Probe was specifically designed for use in complex systems such as weather stations. The probe features low power consumption and fast startup for battery powered applications.

The 5722-01 measures relative humidity over the full range of 0 to 100% RH both quickly and accurately. Humidity is measured by the capacitance change of a thin polymer film as it absorbs or releases moisture. The sensor provides long-term stability and is insensitive to dust or industrial pollutants -- important features for a sensor located in outside ambient conditions. The 5722-01 has temperature compensation, allowing high accuracy to be maintained over a broad temperature operating range.

The temperature measurement is a standard feature; dew point measurement is optional. Three standard voltage outputs are available, plus an optional RS485 digital output.

A waterproof quick disconnect feature allows the sensor and its associated electronics to be removed from the cable in a few seconds while in the field.

SPECIFICATIONS:

MEASUREMENT RANGE ACCURACY

	-40° C. to 0° C.	0° C. to +40° C.	+40° C. to +80° C.
Temperature	±0.4° C.	±0.2° C.	±0.4° C.
Relative Humidity 0-90%	±3.0%	±1.7%	±3.0%
Relative Humidity 90-100%	±4.0%	±2.5%	±4.0%
<u>Dew Point</u>			
Dew Point Depression < 15° C.	±2° C.	±1° C.	±2° C.
Dew Point Depression 15° - 25° C.		±2° C.	

Operating Voltage.....	5 to 28 VDC (8 to 28 VDC w/ 5V Output)
Current Consumption.....	1mA Average, Max peak 5mA
Housing.....	IP65
Body Thread.....	M12x1/10mm
Cable Connector.....	4-Pin M8
Weight.....	1 Pound
Shipping Weight.....	3 Pounds

ORDERING GUIDE:

Model 5720-01	Relative Humidity & Temperature Probe
Model 5102-00	Extra Cable, 5 Conductor

OPTIONAL:

Model 5728-01	Multiplate Solar Radiation Shield (10 Plates)
Model 5727-00	Aspirated Radiation Shield; 12 VDC
Model 5727-01	Aspirated Radiation Shield; 230 VAC

02-5722-01(A)

ACCURACY YOU CAN COUNT ON

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 5723

Relative Humidity & Temperature Probe

- Long Term Calibration-Free Operation
- High Accuracy & Repeatability
- Resists Condensation & Contaminants
- Fully Interchangeable with No Loss of Accuracy



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 5723-00 Relative Humidity & Temperature Probe is designed for use outdoors as a stand-alone sensor or with data loggers, transmitters, or other remote processing units. The probe operates from AC or DC voltage. Calibration data, sensor characteristics, serial number, etc. are retained in a non-volatile memory within the probe. As such, the probe can be changed within seconds without any calibration and without any loss of accuracy.

The 5723 is easy to integrate into any system. It has two analog output signals and a one-wire digital output.

The 5723 is based on HygroClip2 technology. This enables the probe to compensate humidity and temperature over 30,000 reference points, calculate the dew/frost point, provide active alarming, and perform sensor auto-diagnostics and automatic correction.

By decoupling the temperature sensor from the probe, thermal response is significantly improved. The latest in filter technology provides a high level of protection and maintains the optimum measurement environment for the humidity and temperature sensors.

The operating range is 0 to 100% RH and -40° C. to 60° C. Standard factory calibration results in an accuracy of $\pm 0.8\%$ RH and $\pm 0.2^\circ$ C. at 23° C.

SPECIFICATIONS:

Sensor Protection	Wire Mesh Filter, standard (Foam filter optional)
Operating/Measuring Range	-40° C. to +60° C., 0 to 100 RH%
Accuracy at 23 C	$\pm 0.8\%$ RH & $\pm 0.2^\circ$ C.
Voltage Supply	5-24 VDC / 5-16 VAC
Current Consumption	4mA
Output Signal	
Humidity	0 - 1 VDC = 0 to 100% RH
Temp (active)	0 - 1 VCD = -40° C. to 60° C.
Humidity Sensor Stability	Better than 1% RH Over a Year
Cable Length Compensation	Effective up to 300' (100mm)
Size	4.7"L (119mm)
Weight	7.5 oz. (210g)
Shipping Weight	2 Pounds

ORDERING GUIDE:

Model 5723-00.....	Relative Humidity & Temperature Probe with 16 Foot Voltage Regulator Cable (5M)
Model 5102-00.....	Extra Signal Cable (per Foot)

OPTIONAL:

Model 5723-03.....	Cap with Non-Replaceable Wire-Mesh Filter Insert
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02-5723-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

MODEL 7200

Lightning Protection Device

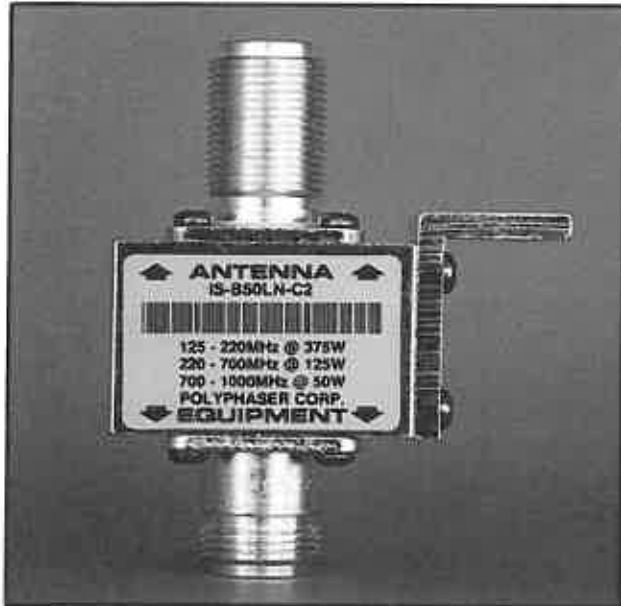
- 1.5 to 1000 MHz Frequency Range
- Multi-Stroke Capability
- Low Strike Throughput Energy
- DC Blocked



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The Model 7200-00 Lightning Protection Device reduces the risk of system failure for equipment frequently exposed to lightning storms. Electrical surges due to lightning are common sources of sensor and data acquisition equipment failures. Although protection against a direct lightning strike can not be guaranteed, the Model 7200-00 minimizes the amount of energy that will get through to the equipment. It diverts the strike energy to the Earth through a deliberate and controlled path so that no damage will be incurred.

As a broadband VHF/UHF coaxial protector, the 7200-00 is designed for general radio use where transmitter combining is *not* done. It works on all equipment unlike DC continuity protectors which can not protect receivers, shunt fed cavities, etc. Other features include multi-strike capability and bulkhead mounting for antenna connections to the chassis.

The 7200-00 has an aluminum enclosure, UHF nickel shell (silver center) TFE or N silver shell and gold center pin. Its small size makes it ideal for mounting in ALERT standpipes and inside NEMA enclosures. Specify connector types when ordering.

SPECIFICATIONS:

Connectors	Type "N" (Standard)
Size	1"D x 1.5"W x 2.75"H
Weight	5 ounces
Shipping weight	1 pound

ORDERING GUIDE:

Model 7200-00 Antenna Lightning Protection Device

OPTIONAL:

Model 8000-03 Telephone Modem Lightning Protection

02-7200-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

5300 SERIES Solar Panels

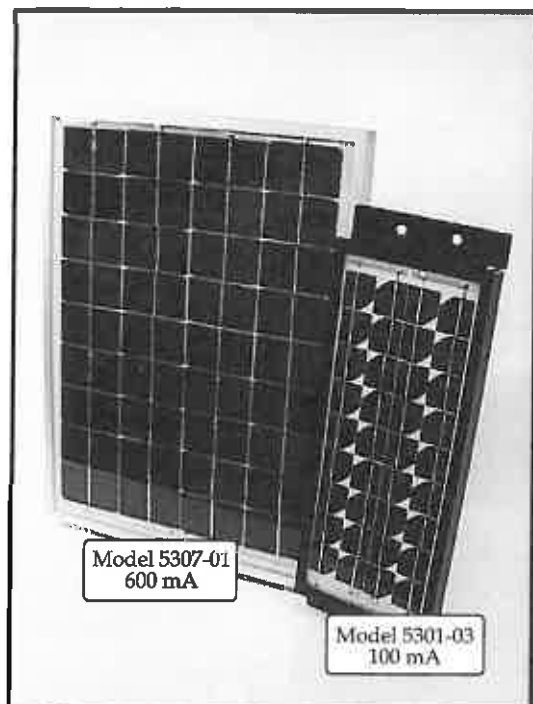
- Long Outdoor Life
- Effective In Virtually Any Climate
- Mounts Easily
- Includes Mounting Bracket, Regulator, & Cable



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089



DESCRIPTION:

The 5300 Series of Solar Panels are used for maintaining a battery charge at sites that include control, telemetry, remote sensing, data collection, and other instrumentation systems. High Sierra Electronics uses photovoltaic and thin film technology for reliable, long-term operation. The modules generate direct current (DC) when exposed to sunlight or other sources of light.

When using photovoltaic, single crystal silicon cells are the most efficient. Polycrystalline (or multi-crystalline) cells are slightly less efficient than single crystal cells. Efficiency is also affected by cell coverage in the PV module. Square cells can be packed very closely, allowing most of the module surface to generate power. Modules made with round cells will have a lower cost, but the space between these cells is effectively wasted space, and causes the module to have less power output for any given area. Some cells are semi-round and will have an efficiency between round and square cells.

Thin-film modules are less fragile than crystalline modules and use much less silicone, but are about 1/2 as efficient as PV Modules. There is also a shorter panel life expectancy for thin-film panels.

High Sierra Electronics has many different solar panels in the 5300 Series. Each comes complete with mounting brackets, hardware, blocking diode function, and voltage regulator circuits engineered to efficiently charge 12 volt batteries in any climate without overcharging or discharging.

Providing virtually maintenance-free power to maintain batteries, the 5300 Series offers a durable system design for long outdoor life.

The module should be inspected a least twice a year for overall integrity.

SPECIFICATIONS:

DIMENSIONS

Model 5301-03	14.2 x 5.2 x 1"
Model 5302-00	29.5 x 12.9 x 1.3"
Model 5303-00	10.6 x 9.5 x 1.2"
Model 5305-00	24.9 x 20.8 x 2.2"
Model 5306-00	48.0 x 13.0 x 1.3"
Model 5307-01	14.2 x 13.0 x 1.4"

SHIPPING WT.

Model 5301-03	2 lbs
Model 5302-00	11 lbs
Model 5303-00	2 lbs
Model 5305-00	12 lbs
Model 5306-00	16 lbs
Model 5307-01	6 lbs

ORDERING GUIDE:

Model 5301-03	100 mA; 1.3 Watts regulated
Model 5302-00	1.2Amp; 19.8 Watts regulated
Model 5303-00	300 mA; 4.1 Watts regulated
Model 5305-01	2.25 Amp; 37.0 Watts regulated
Model 5306-01	3.0 Amp; 50.0 Watts regulated
Model 5307-01	600 mA; 10.0 Watts regulated
All Models Include Regulator, Mounting Bracket & Hardware, Cable & Connector.	

OPTIONAL:

Model 5310-00	Solar Panel Voltage Regulator, 3 Amps
Model 5100-00	Extra Signal Cable, 2-Conductor
Model 5507-00	Solar Panel Test Kit

02-5300-00(A)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: info@highsierraelectronics.com

OUR WARRANTY



PHONE: (800) 275-2080

HIGH SIERRA ELECTRONICS

FAX: (530) 273-2089

High Sierra Electronics, Inc. (HSE) warrants to the original purchaser and/or end user, that the equipment it manufactures is free from defects in materials and workmanship, as follows:

- Non-Intrusive Road Surface Sensors for 1 Year from Warranty Start Date
- All other HSE manufactured equipment for 3 Years from Warranty Start Date

For product purchases, warranty shall begin upon delivery of product to the purchaser. For system/construction contracts and projects, the warranty start date for each site or installation shall be the first of; the date of the commencement of beneficial customer use of the product (even if certain sites, components, options or accessories included in the project are scheduled for later delivery or installation), upon completion of system installation, or 3 months from the date of factory shipment.

If equipment fails because of such materials and workmanship defects and High Sierra Electronics is notified of the failure within the warranty period, the following shall apply. Purchaser obtains a Return Materials Authorization (RMA) from HSE and returns the equipment to the HSE factory for diagnosis at Purchaser's expense. HSE will correct any such failure by, at its sole discretion, either repairing any defective or damaged equipment, or by providing a replacement in exchange for the defective product, and will return it to Purchaser at HSE's expense.

This warranty shall be void in its entirety if equipment is damaged by Acts of God, power surge, misuse, abuse, negligence, modification without prior approval, breaking of factory seals, improper installation, accident, wear and tear, mishandling, misapplication, intrusion of or exposure to liquids, or other causes unrelated to defective materials or workmanship. Any equipment repaired or replaced by HSE shall be covered by this warranty for the longer period of ninety (90) days from date of repair or the remainder of the original warranty.

Equipment that fails under conditions other than those covered above will be repaired at the Buyer's expense at the price of parts and labor in effect at the time of repair. Such repairs are warranted for a period of ninety (90) days from the date of reshipment to the Buyer. Replacement or spare components are also warranted for a period of ninety (90) days from the date of shipment.

High Sierra Electronics warrants that the installation material and the quality of installation is free from defects in materials and workmanship and is warranted for one (1) year.

Equipment supplied by HSE and manufactured by others carries the respective manufacturer's warranty. HSE assumes no warranty obligation either expressed or implied for equipment manufactured by others and supplied by HSE. Other manufacturer's equipment supplied by HSE can be serviced through HSE, using the RMA procedure outlined above.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

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Environmental Monitoring Solutions

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