

Mount Washington Observatory



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Research Facilities and Programs

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KNOWING THE EXTREMES REQUIRES TOLERATING THE EXTREMES

Peter Sink is a relatively inaccessible area in the mountains about 30 miles northeast of Logan, Utah. This high altitude sink hole develops incredible night time inversions of as much as 60°F in 300 feet of elevation resulting in record setting low temperatures.

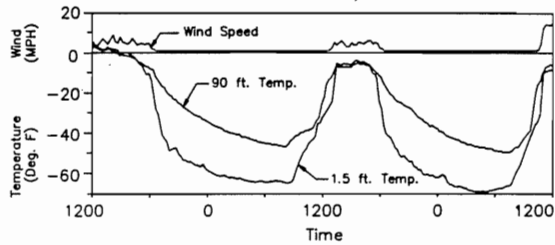
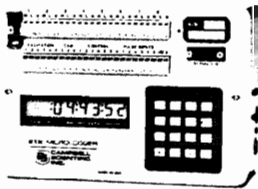
CSI installed and operated equipment in Peter Sink to gain experience with logistics and design requirements. The station was set up to make precision measurements of temperature using fine-wire thermocouples. Fifteen minute averages and daily minimums were transmitted through an RF repeater to our office 30 miles away.

Besides providing interesting information about Peter Sink, this test has helped our ability to support customers with similar demanding problems.

Please call or write for information on rugged field dataloggers and telemetry.



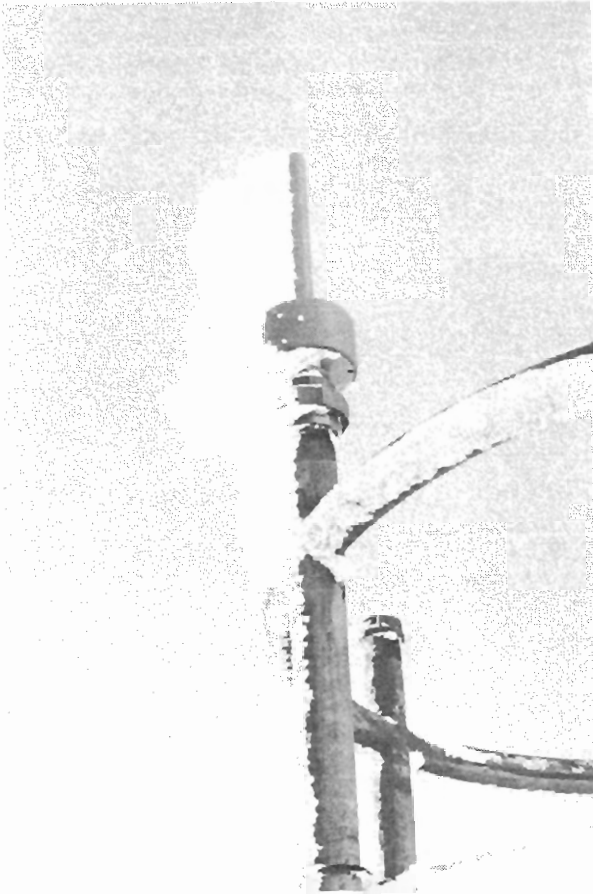
PETER SINK, UTAH
Jan. 30 — Feb. 1, 1985



CAMPBELL SCIENTIFIC, INC.

P.O. Box 551 • Logan, Utah 84321 • (801) 753-2342 • TLX 453058

Franklin Engineering Co. specializes in the design, development, and production of Atmospheric Sampling Instruments. Franklin's latest innovation, The Franklin ProbeTM, is an all-weather anemometer.



FRANKLIN PROBETM

Measures:

- * Wind speed
- * Wind direction
- * Ice loads
- * Temperature

Operating Conditions:

- * To 240 mph winds
- * Sleet, hail, rime ice, etc.
- * Entire range of temperatures

Features:

- * Automatic self de-icing
- * Integratable into a computer network
- * AC or battery powered
- * Adaptable to manned or remote stations

Other Franklin Engineering services include:

- | | |
|----------------------------|--|
| - Consulting | - Software development |
| - Site surveys | - Installation, debugging and maintenance of instruments |
| - Equipment specifications | |
| - Prototypes | |

Consulting, ice detection, anemometry

A ComSource Systems Company



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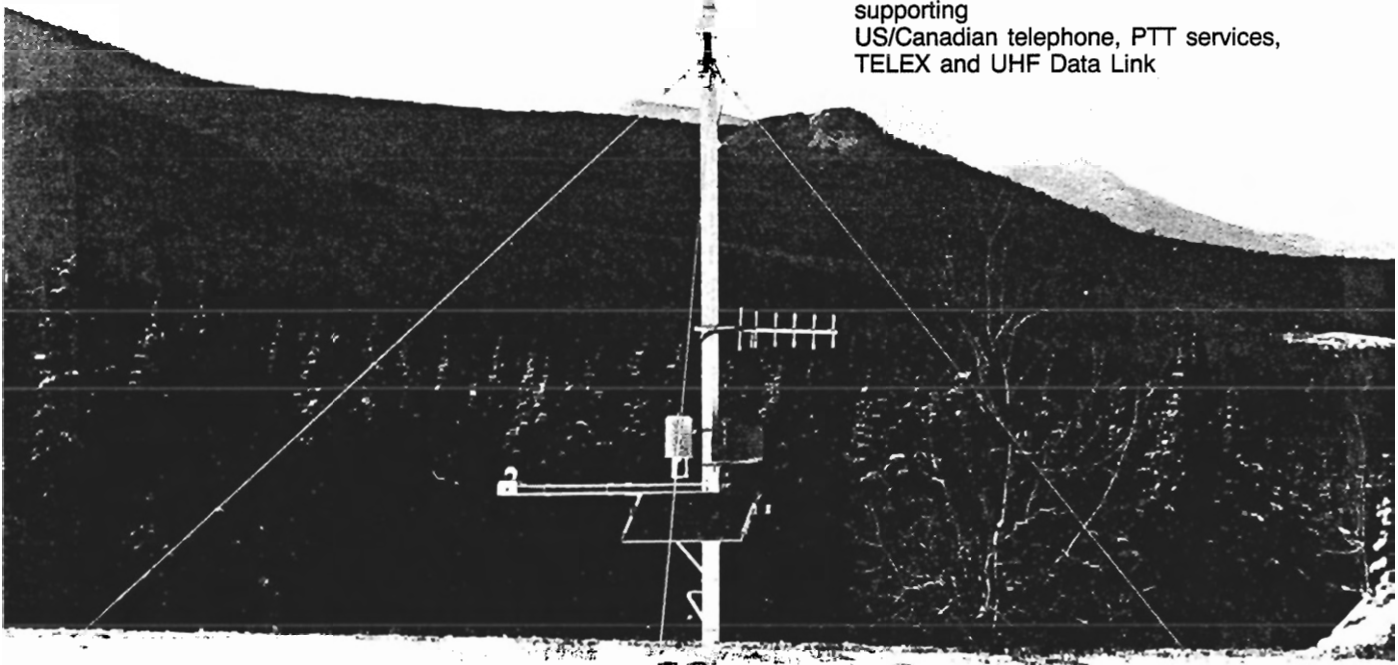
Remote

Intelligent

Alone

AUTOMATIC SURFACE METEOROLOGICAL SYSTEMS

- A complete remote MET system concept - totally defined and integrated
- Advanced communication and software supporting US/Canadian telephone, PTT services, TELEX and UHF Data Link

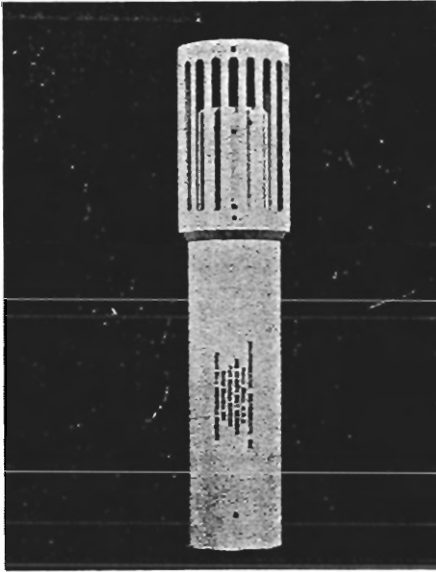


For Applications in:

- Synoptic station reporting
- Airport perimeter turbulence
- AWOS
- Climatic and hydraulical monitoring

- Forestry
- Agricultural Research
- Watershed management

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Solid State Automatic Wind System

FEATURING:

- o Combination wind speed and direction
- o Optional temperature, pressure and humidity
- o Long life (up to 15 years without maintenance or recalibration)
- o Dependable operation in high winds, rain, snow, sleet, freezing rain, dust storms, sand storms, and salt spray.

GENERAL DESCRIPTION

The 200M wind probe has no moving parts to wear out. It is a fully integrated solid state wind system designed to operate in the most severe environments. The probe combines the accuracy of a research tool with the durability of an environmental instrument.

The platinum film sensors which are immune to shock, vibration and contamination are used to sense wind speed and direction. The sensors are guaranteed to retain their electronic characteristics indefinitely.

CUSTOMERS INCLUDE:

Hughes Aircraft, General Dynamics, Kollsman Instrument, Martin Marietta, Rock Island Arsenal, US Navy Air Engineering Center, US Army Cold Regions, M.I.T., Mt. Washington Observatory, GE, RCA, TVA, Texas Instruments, Univ. of Arizona, FAA, Channel 7 TV, Univ. of New Mexico, US Navy Research Lab., White Sands Atmospheric Div., Holland Signal-Netherlands, Alberta Environmental, Belvoir R&D Center, D-Tech-Australia, Hyundai, Krupp Atlas-Germany, Marconi Command Systems, Ltd., Australian Army, Data Buoy, Cardian Electronics, S.A.B.C.A.-Belgium, AMX-APX-France, Ferranti Electronics - England, Canadian Army

SPECIFICATIONS:

Wind Speed Performance:

Range: 0 to 200 knots
 Survival Range: No limitation
 Low Speed Threshold: .05 M/S
 Accuracy: $\pm 3\%$ (U.S. Bureau of Standards traceable)
 Operating Temperature Range: -40°C to 70°C
 Response Time: Instantaneous (no time lags in gust detection)

Wind Direction Performance:

Range: 0 to 360° (100% of degree scale)
 Survival Range: No limitation
 Low Wind Measurement Threshold: .05 M/S
 Accuracy: $\pm 3^{\circ}$ (U.S. Bureau of Standards traceable)
 Operating Temperature Range: -40°C to $+70^{\circ}\text{C}$
 Response Time: Instantaneous (no time lags in gust detection)

Temperature Sensor Performance:

Range: -40°C to $+70^{\circ}\text{C}$
 Accuracy: $\pm 0.5^{\circ}\text{C}$

Pressure Transducer Performance:

Range: 630mb to 1080mb
 Accuracy: $\pm 2\text{mb}$

*Humidity Sensing Performance:

Range: 10% to 100%
 Accuracy: $\pm 2\%$

Sensor Type:

Wind Speed and Direction: Platinum film
 Temperature: Platinum RTD
 Pressure: Piezo resistive silicon chip
 Humidity: Converter module

Electrical Characteristics:

Input Power: 24 VDC or 110/220 VAC
 Power Requirement: 2 amps
 Analog Output Signals: 0 to 10 VDC

Physical Characteristics:

Probe Height: 13.35 in./26 cm
 Probe Weight: 3 pounds/1.4 Kg
 Probe Finish: Black anodized aluminum or white epoxy

For Additional Information Write to Manufacturer:

Environmental Instruments Inc.
 6 Mercer Road
 Natick, Massachusetts 01760
 Tel. (617) 235-2525
 Telex: 948343 "EINTIK"