

ENVIRONMENTAL MONITORING EQUIPMENT DATA ACQUISITION SYSTEMS AND SENSORS

Applications in meteorology, climatology, hydrology,
agriculture, forestry and air quality.

Our dataloggers are designed to operate unattended
in remote and harsh environments.

They consume little power, are fully programmable,
accept a wide range of sensors and perform a variety
of data processing and archiving.

The data can be stored on site, or transmitted via:

- radio telemetry
- telephone
(telephone and radio combination)
- hard wire modems
- satellite (GOES and ARGOS)
- meteor burst communications

Software packages assist in programming dataloggers,
in processing, graphing and tabulating data
and in communicating with the datalogger
in manual or automatic modes.



campbell scientific canada corp.

9699 45 ave · edmonton · alberta · canada · T6E 5Z8 · (403) 434 9421
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QUALITY METEOROLOGICAL
INSTRUMENTS FOR OVER 90 YEARS.



ICE WARNING SYSTEMS
FOR AIRPORTS & RUNWAYS



FEEDBACK INSTRUMENTS LIMITED

WEATHER SATELLITE RECEIVING SYSTEMS.

REPRESENTED IN CANADA
BY.

Bendix Avelex Inc.

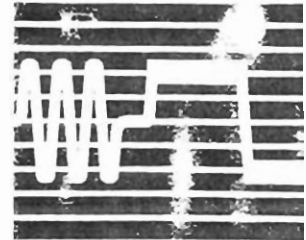
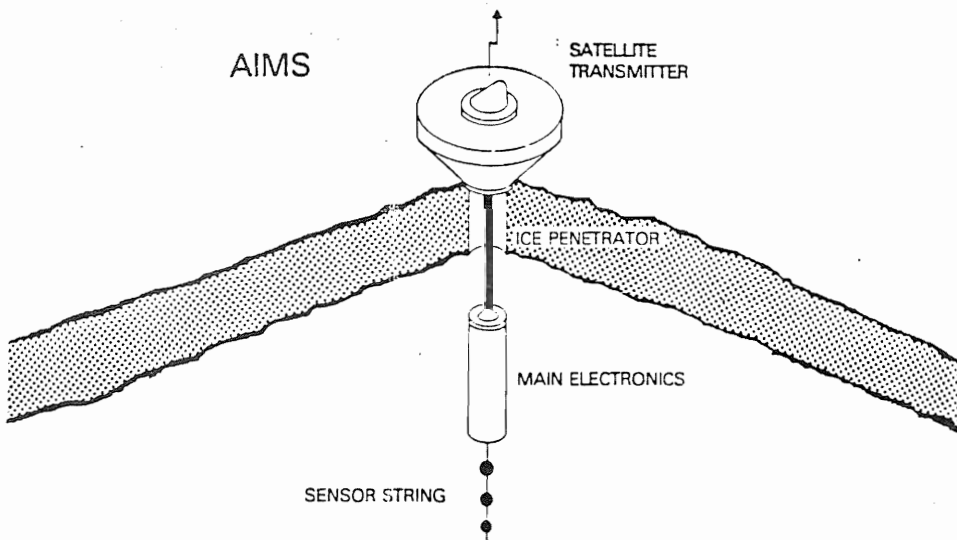
200 Laurentien Blvd.
Montreal, Que.
Canada H4M 2L5
(514) 744-2811



Bendix Avelex

Rugged Instrumentation

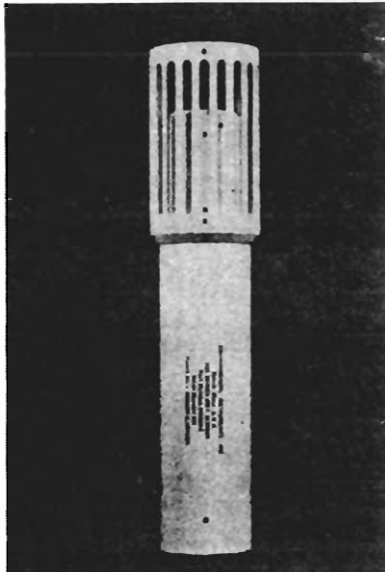
Seimac Limited



A Seimac Group Company
1378 Bedford Highway
Bedford, Nova Scotia
Canada, B4A 1E2

Tel: 902 835 9686
Fax: 902 835 6589
Telex: 019 22888

Shown above is the Arctic & Ice Monitoring System (AIMS). Seimac also designs and manufactures: • The Accurate Surface Tracker (AST), a Lagrangian drifter for surface water tracking in oil spill and acid rain studies • The Air Deployable Ice Beacon (ADIB), a low cost sonobuoy launched ARGOS PTT. Our Oceanographic Instrument Facility provides calibration, repair and field service.



Solid State Automatic Wind System

FEATURING:

- Combination wind speed and direction
- Optional temperature, pressure and humidity combined in same probe body
- Indestructable
- Long life (up to 15 years without maintenance or recalibration)
- Dependable operation in high winds, rain, snow, sleet, freezing rain, dust storms, sand storms, salt spray and other extreme weather conditions
- Microprocessor computing available

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

*Available 1985

GENERAL DESCRIPTION:

The 200 M 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.

Thermal resistive film sensors which are immune to shock, vibration and contamination are used to sense wind speed and direction. These sensors are fabricated by the method of refractory ceramic oven firing. A cylindrical ceramic tube receives up to 30 coats of platinum and an outer protective silica coating. The sensors are guaranteed to retain their electronic characteristics indefinitely.

Two pairs of sensors are stacked at right angles to each other in order to sense two components of the wind vector ("x" and "y"). Wind speed is a function of the magnitude of the two signals. Wind direction is the arctangent of the magnitude of the two orthogonal signals.

ORDERING INFORMATION:

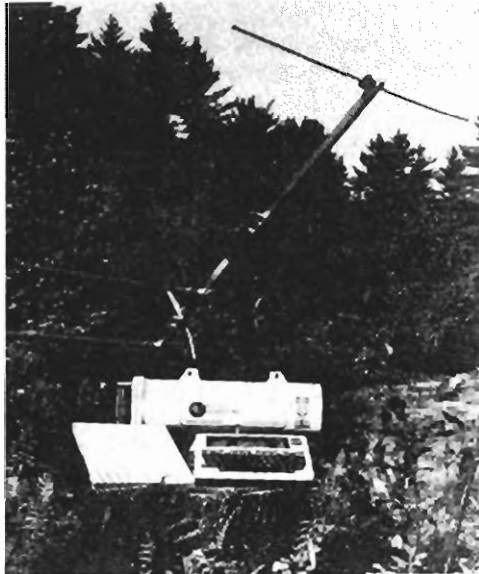
Model 200 M001	Probe only
Model 200 M001t	Probe with temperature
Model 200 M001p	Probe with pressure
Model 200 M001p-t	Probe with pressure and temperature
Model 200 M001p-t-h	Probe with pressure, temperature and humidity
Model 200 M003	Signal conditioner for resolved output
Model 200 M004	Signal conditioner with microprocessor for maximum accuracy
Model 200 R24	Mounting adapter
Model 200 R23	5 meter cable with 104°C vinyl jacket

Authorized Agent:

For Additional Information Write to Manufacturer:

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

A Meteor Scatter Communications System



Providing remote data communications ramSCAT-A has a field operating range in radius around any terminal of 0 to 2000 kilometers, independent of propagation conditions, weather, or terrain.

Originally the ramSCAT-A concept was developed for Hollis International as MET-127 remote meteorological stations and to avoid the third party network difficulties experienced with satellite data communications systems.

The technique of meteor scatter communications relies on detecting the presence of meteor trails, which are used to reflect radio signals to a remote receiver. The use of this exotic propagation path provides the best alternative to satellite service, with nearly all of its advantages. The phenomenon is always available to the user. Unlike satellite

Designed for

- Military Applications
- Police & Frontier Communications
- Remote sensing and telemetry

Features

- Rugged
- Very Portable
- Self-contained Network Protocol
- ramSCAT-A is an RS-232 Communications Device

systems, meteor scatter transmission is not controlled by a third party; it will always be there. Stations or networks of stations may be added at will. Data throughput on a minute to minute basis exceeds that of conventional TELEX.

As presented here, the ramSCAT-A product is described as a Terminal-to-Terminal data communications system. Each unit is complete in itself. Powered from a 12 VDC source, each unit is a long range RS-232 communication device. In the Extreme, ramSCAT-A is designed to cover data communications where conventional HF, VHF-UHF, telephone or cable are not possible, and satellite is not desirable. ramSCAT-A will provide "FOXHOLE-to-FOXHOLE" data communications with a major mountain range in between.

17 CLINTON DRIVE • HOLLIS • NEW HAMPSHIRE 03049
TEL: (603) 882-5017 • TELEX 6503157219 MCI or 953061 HOLLIS OB NASU