PVM
Quick Start Guide

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PVM

The PVM encloses the vibration monitor in a strong weatherproof case that can be locked and easily secured. Portable and easy to deploy, the PVM can be left unattended on site for several days. Data transfers, processing, and reports are fully automated.

Components

- Weatherproof enclosure with external socket for charger, glands for geophone cable, etc.

- Micromate vibration monitor.

- Geophone with cable.

- Raven cell modem with voltage regulator.

- Campbell Scientific CH150 charger-regulator.

- 15 Ah battery.

- AC Wall adaptor for charging 15 Ah battery (also charges Micromate internal battery).

As Shipped

- Internal and external batteries are fully charged.

- CH150 is switched off.

- Micromate is switched off and disconnected from its internal battery.

- Micromate is pre-programmed with default settings unless other settings were specified.

Startup

Unpack

- Open the box. Keep the box and packing materials for the return shipment.

- Set aside the geophone and the AC wall adaptor.

- Check that the antenna is connected to the modem and is upright.

Power Up

1. Switch on CH150: Move toggle toward battery. (LED on CH150 does not turn on). You can verify power is on by looking at modem LEDs.

2. Switch on Micromate: Press and hold red power button until screen lights up. Skip this step if screen is already lit. Micromate goes through boot sequence.

3. (Optional) Plug in AC wall adaptor to outlet and charge socket (exterior of enclosure). CH150 LED should light.

Modem Check

- Modem has 4 LEDs.

- Power LED should be on.

- Network LED should be blinking as modem searches for network; then steady when connected.

- Signal LED shows signal strength.

- Activity LED blinks only when data is passing through.

Purpose

The bump test checks all the elements of the automated system.

Preparation

1. Slip geophone cable through cable gland and connect to Micromate. Connector is labelled "GEOPHONE" and is keyed for correct orientation.

2. Place geophone on a level surface.

3. Switch on the Micromate and wait until it displays "Ready to Monitor."

Start the test

1. Press Start Monitor.

2. Wait a few seconds, then bump the geophone.

3. The Micromate should begin a waveform recording. If it does not, bump the geophone again.

4. When the waveform recording has finished, Micromate displays "Calling home."

5. Check that the activity LED on the modem is blinking.

6. Transmission of waveform to the AMP server may take a few minutes.

Result

- The AMP server receives the data, processes it using Blastware, and send it to the website.

- The website registers an alarm on the plan view and sends an alarm notification by email to registered users. In addition, the website stores a downloadable PDF report of the event.

- Login to the website. Click "Select Plainview" to see a box representing the vibration monitor. The box should turn red to show a threshold has been exceeded.

- Choose file manager to access the PDF of the event, which is time stamped. The PDF report can be emailed automatically to specified recipients.

- Check your email for an alert announcing the exceedance event.

Default Settings

Record

Record Mode: Histogram Combo.

Interval: 15 minutes.

Sample Rate: 1024 samples / second.

Record Stop Mode: Fixed Stop Mode.

Record Time: 5 seconds (for waveform recording)

Source

Enable Standard Geophone: yes.

Enable Trigger: yes.

Trigger Level: 0.5 in/sec.

Microphone: none enabled.

Notes

Notes: User notes enabled:

No notes entered.

Special Setups

Sensor Check: Before monitoring.

Measurement Units: Imperial (US).

Time Format: 24 hour.

Power Saving Timeout: 60 minutes.

Scheduler

Call Home: midnight, 6am, noon, 6pm.