Instruction Sheet
Minimate Pro™ High Pressure Microphone

The High Pressure Microphone is an advanced sensor for the Minimate Pro4/Pro6 monitoring units, that measures air pressure up to 69 kPa (10 psi).
The High Pressure Microphone automates pressure monitoring from construction activities, mining operations, demolitions, pile driving, compaction and many other applications including research and educational purposes. The Minimate Pro combines pressure and vibration monitoring in the same unit, making it a cost effective and flexible monitor for these applications.

Range of Applications

- Construction Activity
- Near-Field Blast Analysis
- Mining
- Pile Driving

- Demolitions
- Research/Education
- Environmental
- Structural

- Compaction
- Excavation
- Tunnel Boring

Tools and Materials Required

- Minimate Pro4 monitoring unit. . . . . (P/N: 720A2301) or
- Minimate Pro6 monitoring unit. . . . . (P/N: 720A2401)
- High Pressure Microphone . . . . (P/N: 720A4801)
- Extension cables, as required
    - 30 m (100 ft) . . . . (P/N: 720A3301)
    - 75 m (250 ft) . . . . (P/N: 720A3302)
    - Custom Length Extension Cable . . . . (P/N: 301-000034-000)
    - Custom Cable Connector Assembly . . . . . (P/N: 720A3305)
- THOR Advanced software . . . . (P/N: 72300201)

Physical Installation

Locate the High Pressure Microphone in the desired location and point it in the direction of the pressure source. Connect the Microphone cable to the Minimate Pro4/Pro6. The event will appear on channel 1 or 4 depending on which connector is used. The various setup options are described on the following pages. If you require monitoring results to appear on a specific channel use a Splitter Box (P/N: 720A5501). If using multiple sensors, connect the Splitter Box to the monitor then attach combinations of High Pressure Microphones and other Minimate Pro4/Pro6 uniaxial sensors, as required.

Note: The Sensor Check function does not check the High Pressure Microphone advanced sensor.
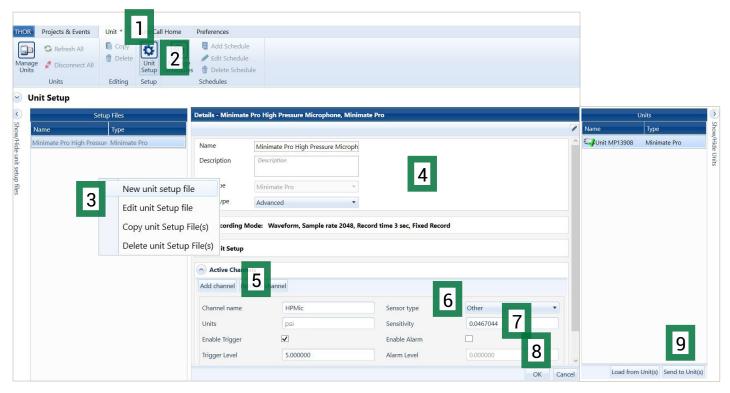
Monitor Setup

The three available record modes are:
1. Waveform (records up to 9,000 seconds at 512, 1024, 2048 S/s, 26,100 seconds at 4096 S/s, 12,300 seconds at 8,192 S/s, 6,190 seconds at 16,384 S/s, 3,180 seconds at 32,768 S/s, and 125 seconds at 65,536 S/s once it has been triggered)
2. Waveform Manual (can record up to 24 hours long at 1,024 S/s with extended memory).
3. Histogram (2 sec. to 1 hour recording intervals).
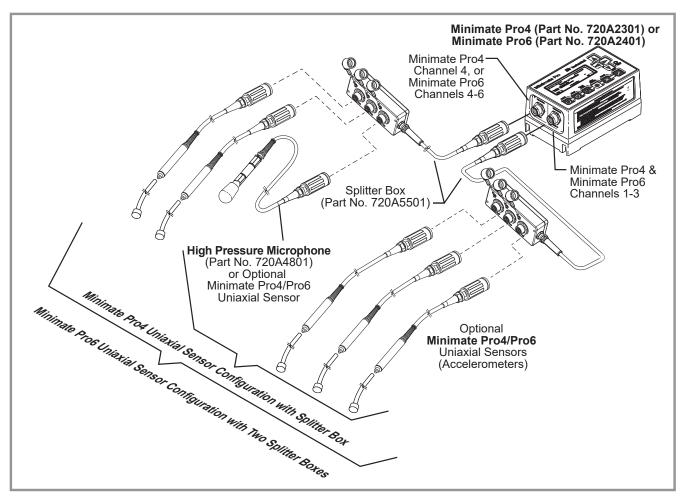
Software Setup

The High Pressure Microphone setup requires Instantel's THOR Advanced software.
1. Click on the **Unit Tab**.
2. Click on the **Unit Setup** icon.
3. In the Unit Setup section, right-click and select "**New unit setup file**".
4. Fill in the details and select **Unit Type: Minimate Pro**, then **Setup Type: Advanced**.
5. Under Active Channels, add the necessary channels by clicking the "**add channel**" button.
6. Under Sensor Type select "**Other**".
7. Fill in the **Sensitivity** and the units of measurement of the Microphone (kPa or psi).
8. Click **OK** (and save the changes in the popup dialog box).
9. Send the Setup File to the unit by selecting the unit from the list and clicking the "**Send to Unit(s)**" button.

Specifications

Field	Metric	Imperial
Amplitude Range	69 kPa	10 psi
Frequency Range	5 Hz to 1,000 Hz	
Sensitivity (See calibration certificate for nominal values.)	0.0467044 V/kPa	0.3222605 V/psi
Resolution	0.00214 kPa	0.00031 psi
Trigger Levels	0.03425 to 69 kPa	0.005 to 10 psi
Sample Rates	512 - 65,536 S/s (Recommended 4,096 S/s)	
Cable Length	2 m (maximum length 75 m)	6.5 ft (maximum length 250 ft)
Maximum Pressure	1,724 kPa	250 psi

Minimate Pro4 (Part No. 720A2301) or Minimate Pro6 (Part No. 720A2401)

Minimate Pro4 Channel 4, or Minimate Pro6 Channels 4-6

Splitter Box (Part No. 720A5501)

Minimate Pro4 & Minimate Pro6 Channels 1-3

High Pressure Microphone (Part No. 720A4801) or Optional Minimate Pro4/Pro6 Uniaxial Sensor

Optional **Minimate Pro4/Pro6** Uniaxial Sensors (Accelerometers)

Minimate Pro4 Uniaxial Sensor Configuration with Splitter Box

Minimate Pro6 Uniaxial Sensor Configuration with Two Splitter Boxes

Minimate Pro4/Pro6 High Pressure Microphone Configuration with Splitter Boxes

Warranty

Instantel products come with a one-year warranty. Monitoring units and sensors will have the warranty extended for a second year if they are returned to the Instantel factory for service and calibration within 30 days of the 'Next Calibration' date printed on the calibration label located on the product.

If within a period of one year from the date of shipment to a customer, the instrument fails to perform in accordance with Instantel's published specifications and the operator's manual, due to a defect in materials or workmanship, it will be repaired or replaced at Instantel's option, free of charge. This warranty is void if the equipment has been dismantled, altered or abused in any way. This warranty is nontransferable.

This warranty does not include any implied warranty of functionality for a particular purpose. Instantel assumes no responsibility for damages of any description resulting from the operation or use of its products. Since it is impossible to anticipate all of the conditions under which its products will be used either by themselves or in conjunction with other products, Instantel cannot accept responsibility for the results unless it has entered into a contract for services which clearly define such an extension of responsibility and liability.

Any shipments returned directly to Instantel Inc. must have our prior approval and all packages must display the Return of Material Authorization (RMA) number issued by Instantel. Shipping charges to Instantel's plant will be paid by the customer and those for return to the customer will be paid by Instantel.

To protect your warranty, you must complete and return a Warranty Registration Certificate, or complete the online Warranty Registration Form, within ten days of purchase. Products will be assumed out of warranty if there is no warranty card on file at Instantel. Retain this portion and the proof of purchase for your records.

EC Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.