

# Instruction Sheet

## Minimate Pro™ Monitoring Unit

### High Pressure Microphone

The High Pressure Microphone is an advanced sensor for the Minimate Pro4/Pro6 monitoring units, that measures air pressure up to 68.9 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 monitoring unit 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 (98.4 ft) . . . . . (P/N: 720A3301)
  - 75 m (246.1 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 unit. 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

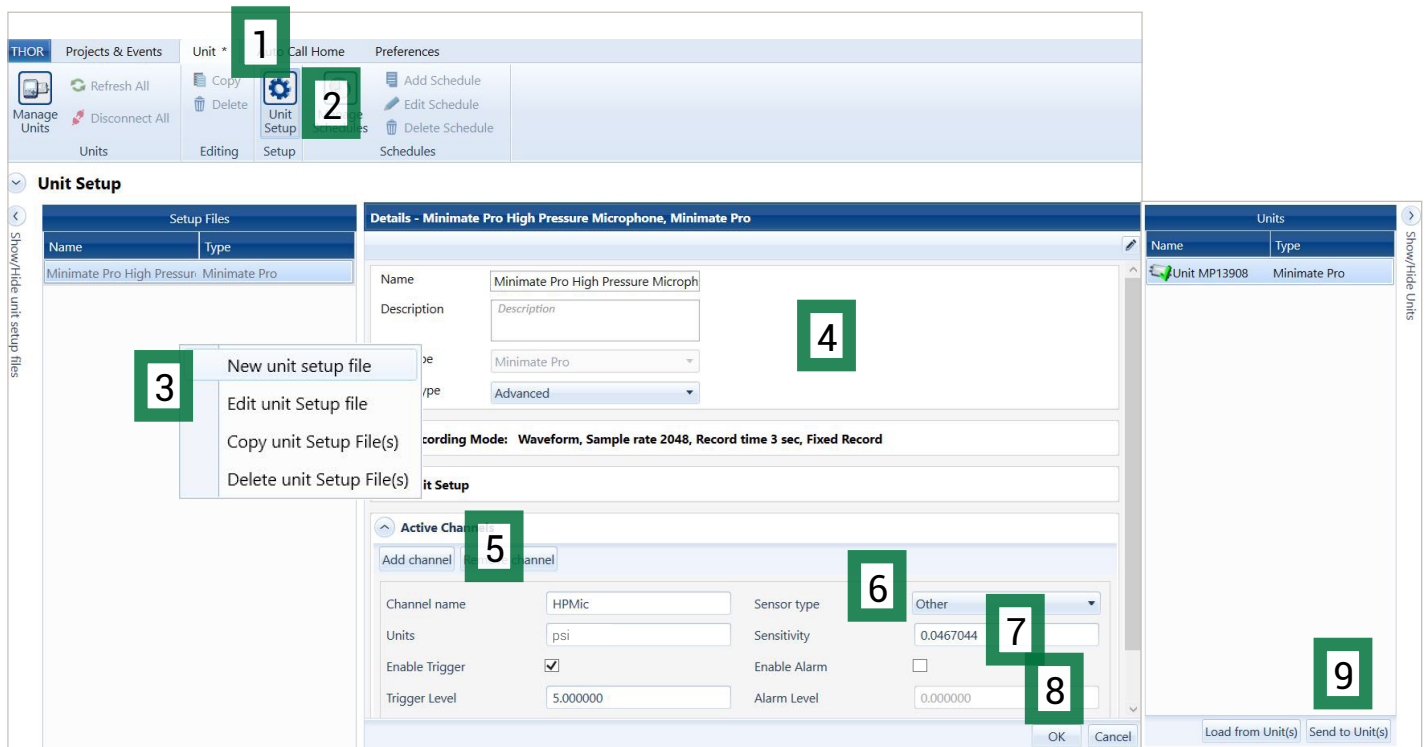
The three available record modes are:

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

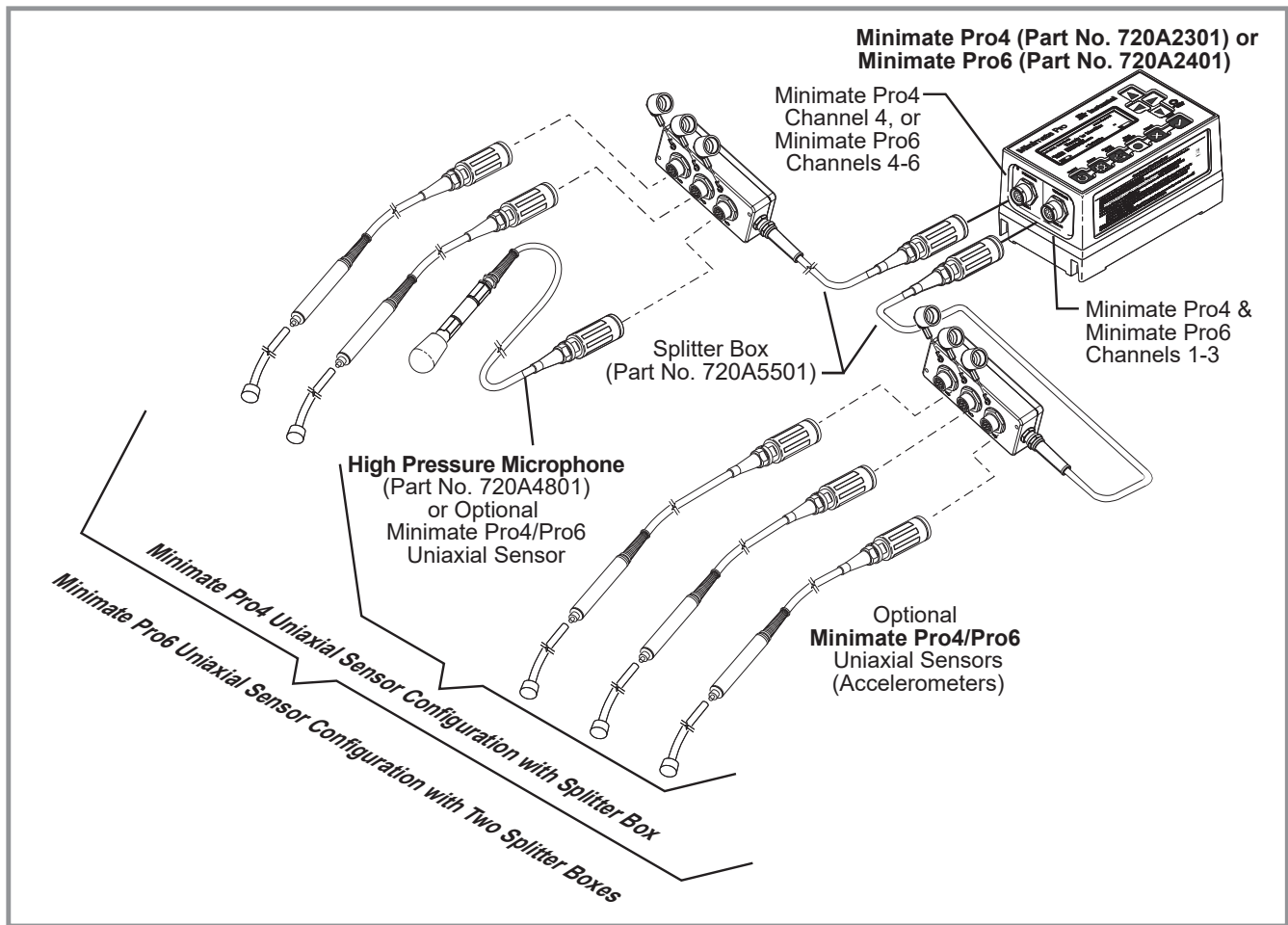
The High Pressure Microphone setup requires InstanTel's THOR Advanced software.

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   | 68.9 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)                | 6.6 ft (maximum length 246.1 ft) |
| Maximum Pressure  | 1,724 kPa                                | 250 psi                          |



**Minimate Pro4/Pro6 High Pressure Microphone Configuration with Splitter Boxes**

## 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.

## Warranty

InstanTEL products come with a limited one-year warranty against defects in materials or workmanship unless otherwise stated. The warranty begins on the date of shipment from the InstanTEL factory to the customer and is subject to certain exclusions and conditions as stated below. 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 under normal use and operating conditions, it will be repaired or replaced at the sole discretion of InstanTEL free of charge. Components subject to fair wear and tear in regular use, as solely determined by InstanTEL, are excluded from this coverage. This warranty will not apply if the damage or malfunction occurs due to (i) adjustments, additions, alternations, abuse, misuse or tampering of the instrument; (ii) instrument operation or use contrary to the operating instructions; (iii) power fluctuations; or (iv) any other cause not within the cause or control of InstanTEL. If inspection by InstanTEL fails to disclose any defect covered by this limited equipment warranty, the instrument will be repaired or replaced at customer's expense and InstanTEL's regular service charges will apply. This warranty is non-transferable.

Any shipments returned directly to InstanTEL must have prior approval, and all packages must display the Return of Material Authorization (RMA) number issued by InstanTEL. Shipping charges to InstanTEL's factory will be paid by the customer and return shipment 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 no warranty card is on file at InstanTEL. Retain this warranty statement and the proof of purchase for your records.

Except for the foregoing limited equipment warranty, InstanTEL makes no other warranties and hereby disclaims and excludes all other warranties, whether statutory, express or implied, whether arising under law or equity or custom or usage, including any implied warranty of merchantability, fitness for a particular purpose, non-infringement, satisfactory quality, or quiet enjoyment, and any warranty that the product supplied may not be compromised, or that the product will in all cases provide the function for which it is intended.