

Instruction Sheet

Minimate Pro™ Monitoring Unit High Frequency Triaxial Geophone

The High Frequency Triaxial Geophone is intended for use with Minimate Pro4/Pro6 monitoring units. The geophone may be attached to the "Channel 1-3" connector on both the Minimate Pro4 and Minimate Pro6 units or on the "Channel 4-6" connector on the Minimate Pro6 monitoring unit. Extension cables can also be used to operate the Minimate Pro4/Pro6 units a safe distance from the vibration source.

Tools and Materials Required

- High Frequency Triaxial Geophone (P/N: 720A4701)
- Minimate Pro4 monitoring unit (P/N: 720A2301) or
- Minimate Pro6 monitoring unit (P/N: 720A2401)
- Extension cables, as required
 - 30 m (100 ft) (P/N: 720A3301)
 - 75 m (250 ft) (P/N: 720A3302)
 - Custom Length (P/N: 301-000034-000)
 - Custom Cable Connector Assembly (P/N: 720A3305)
- Wall Mount Kit, as required (P/N: 718A0101)
- THOR Advanced software (P/N: 72300201)
- Leveling Plate, as required (P/N: 714A1801)



Range of Applications

- Construction Activity
- Near-Field Blast Analysis
- Multi-Point Monitoring
- Pile Driving
- Demolitions
- Research/Education
- Environmental
- Structural
- Compaction

Physical Installation

The High Frequency Triaxial Geophone can be bolted or securely attached to a surface, either directly or with the aid of the optional leveling plate. Position the sensor with leveling plate, if attached, on the surface and mark the position of the bolt. Use a 9.5 mm (3/8 inch) bolt or threaded rod. Install the bolt according to the manufacturer's instructions. Slide the geophone, and leveling plate over the bolt. Slide a 9.5 mm (3/8 inch) washer and a 9.5 mm (3/8 inch) lock washer over the bolt. If using the leveling plate, level the geophone using the leveling feet and integrated bubble level. Tighten the retaining nut to complete the installation.

Specifications	Metric	Imperial
Amplitude Range	2540 mm/s	100 in/s
Frequency Range	30 - 1,000 Hz	
Sensitivity	0.00126874 V/mm/s	0.032226 V/in/s
Resolution	0.0788 mm/s	0.00310 in/s
Trigger Levels	1.27 to 2543 mm/s	0.05 to 100 in/s
Sensor Density	2.3 g/cc	144 lbs/ft ³
Recommended Sample Rate	4,096 S/s	
Cable Length	1.8 m	6 ft

Software Setup

The High Frequency Triaxial Geophone 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.
6. Under **Sensor Type** select "**Other**".
7. Fill in the **Sensitivity** of the Geophone. (To setup all three axes, you must add three channels in the this manner.)
8. Click on **OK** to save the Setup File.
9. Select the Minimate Pro unit and click **Send to Unit(s)** to send the configuration file to the Minimate Pro unit.

The screenshot displays the THOR software interface with the following components and callouts:

- 1**: Points to the 'Unit' tab in the top navigation bar.
- 2**: Points to the 'Unit Setup' icon in the 'Editing' section.
- 3**: Points to a context menu with options: 'New unit setup file', 'Edit unit Setup file', 'Copy unit Setup File(s)', and 'Delete unit Setup File(s)'. The 'New unit setup file' option is highlighted.
- 4**: Points to the 'Unit Type' dropdown menu, which is set to 'Minimate Pro'.
- 5**: Points to the 'Add channel' button in the 'Active Channels' section.
- 6**: Points to the 'Sensor type' dropdown menu, which is set to 'Other'.
- 7**: Points to the 'Sensitivity' input field, which contains the value '0.0126874'.
- 8**: Points to the 'OK' button at the bottom of the 'Details' window.
- 9**: Points to the 'Send to Unit(s)' button in the bottom right corner of the interface.

The 'Details - Advanced, Minimate Pro' window shows the following configuration:

- Name: Advanced
- Description: (empty)
- Unit Type: Minimate Pro
- Setup type: Advanced
- Recording Mode: Waveform, Sample rate 65536, Record time 3 sec, Fixed Record
- Unit Setup: (empty)
- Active Channels: Three channels are listed, each with the following settings:
 - Channel name: Tran, Vert, Long
 - Units: mm/s, mm/s, mm/s
 - Sensor type: Other, Other, Other
 - Sensitivity: 0.0126874, 0.0126874, 0.0126874
 - Enable Trigger: , ,
 - Enable Alarm: , ,
 - Trigger Level: 4.0000000, 4.0000000, 4.0000000
 - Alarm Level: 25.4000000, 25.4000000, 25.4000000

EC Warning

This is a Class B 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, alterations, 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.