

Borehole Triaxial Geophone

Explanation

The Borehole Triaxial Geophone is lowered into a borehole to measure vertical, transverse, and longitudinal ground vibrations.

Package Contents

This kit contains one of the following borehole transducers:

Part No.	Series	Specification
714A8501	Series III	ISEE Specification
718A4501	Series III	DIN Specification
720A5601	Series IV	ISEE Specification
720A5701	Series IV	DIN Specification
718A4601	Series III	High Frequency
720A5801	Series IV	High Frequency

Tools and Materials Required

- Series III or Series IV Monitor,
- Adapters, Splitters, or Extension Cables for the Series of instrument you are installing, as required,
- **Instantel® BlastWare® Software** – The Advanced Module is required to configure a Series III or Series IV unit for use with the HF Borehole Geophones. It is optional when configuring the unit for use with an ISEE or DIN geophone, and
- Steel cable to position the geophone into the borehole (length as required).

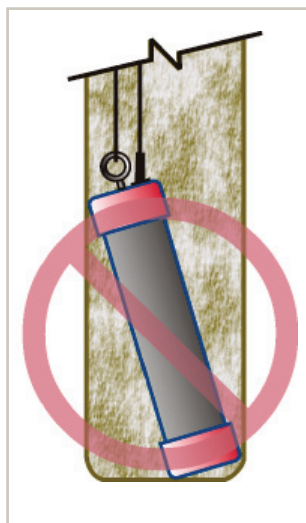


Physical Installation

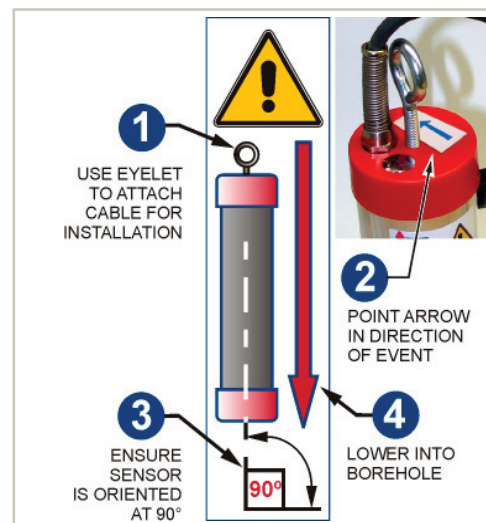
Installation of the Borehole Triaxial Geophone requires a minimum borehole diameter of 76.62 mm (3 inches).

1) Thread a steel cable through the Borehole Triaxial Geophone's mounting eyelet bolt and securely bind. **DO NOT** use the connecting cable to lower or raise the geophone. 2) Point the arrow located on the top of the geophone in the direction of the event. 3) Maintain this orientation while lowering into the borehole, and once positioned, connect the connector to the monitor and perform a sensor check. 4) After a successful sensor check (not available on HF Borehole Geophones), ensure that the geophone is at a 90 degree angle, and carefully fill in around the triaxial geophone with cement or grout to secure its orientation.

WARNING: To avoid damaging the geophone, do not pull on the connecting cable.



**INCORRECT
INSTALLATION**



**CORRECT
INSTALLATION**

Monitor Setup

With the exception of the High Frequency Borehole Triaxial Geophones, which are only compatible with the optional Blastware Advanced Module software, all borehole geophones may be used in both compliance or advanced modes of operation. For the Advanced Module setup, enter the geophone sensitivity in the Unit Menu→Setup→Advanced Setup Dialogue Box. Refer to the Specifications table on the next page to determine what sensitivity value to input into the Setup Dialog Box.

Specifications

Part No.	Compatible Instrument	Frequency Range	Sensitivity	Specification	Standard Cable Length	Maximum Cable Length	Advanced Software
714A8501	Series III	2 Hz - 250 Hz	0.0063438 V/mm/s (0.1611330 V/in/s)	ISEE 2011	30 m (100 ft.)	75 m (250 ft.)	Optional
718A4501	Series III	1 Hz - 315 Hz	0.0063438 V/mm/s (0.1611330 V/in/s)	DIN 45669-1	30 m (100 ft.)	1000 m (3250 ft.)	Optional
718A4601	Series III	30 Hz - 1 kHz	0.0006343 V/mm/s (0.0161133 V/in/s)	High Frequency	30 m (100 ft.)	75 m (250 ft.)	Required
720A5601	Series IV	2 Hz - 250 Hz	0.0126874 V/mm/s (0.3222605 V/in/s)	ISEE 2011	30 m (100 ft.)	75 m (250 ft.)	Optional
720A5701	Series IV	1 Hz - 315 Hz	0.0126874 V/mm/s (0.3222605 V/in/s)	DIN 45669-1	30 m (100 ft.)	1000 m (3250 ft.)	Optional
720A5801	Series IV	30 Hz - 1 kHz	0.0012687 V/mm/s (0.0322260 V/in/s)	High Frequency	30 m (100 ft.)	75 m (250 ft.)	Required

Example Installation



1. Prepare the Borehole Geophone by wrapping the connections with electrical tape to keep them clean.



2. Drill the borehole and slide the Borehole Geophone into place.



3. Remove the auger and fill around the Borehole Geophone and cable with Gravel Pack.



4. Fill the hole with cement.



5. Hole filled with connectors ready.



6. Borehole Geophone location clearly marked and monitor placed in a secure lock box.

Warranty

Instantel's products are warranted against defects in materials and workmanship and shall perform in accordance with published specifications for a period of ninety days. This warranty is void if the protective heat-shrink is removed from the cables. The company makes no warranty, expressed or implied of fitness for purpose, merchantability or function of the products. Instantel does not represent that any product will prevent bodily injury or damage to property.

Should a product fail to operate to these specifications within the warranty period it shall be repaired or replaced free of charge. This warranty is void if the equipment has been dismantled, altered or abused in any way. Authority to return the product must be obtained from Instantel prior to shipment. Shipping charges to Instantel's factory will be paid by the customer and Instantel shall pay for the return freight.

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. Instantel retains the right to change specifications without notice.

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.



Corporate Office:
309 Leggett Drive,
Ottawa, Ontario K2K 3A3
Canada

US Office:
808 Commerce Park Drive,
Ogdensburg, New York 13669
USA

Toll Free: (800) 267 9111
Telephone: (613) 592 4642
Facsimile: (613) 592 4296
Email: sales@instantel.com

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980-000399-000 Rev 04 - Product Specifications are subject to Change

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