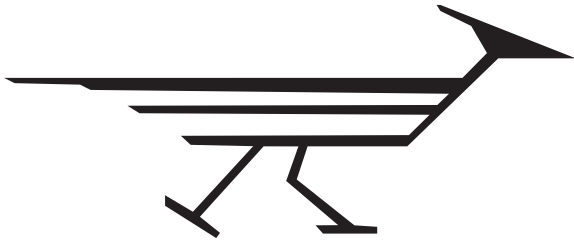


Chaparral Physics



Chaparral Physics ships the first batch of Model 50 infrasound sensors.

The Model 50 infrasound sensor is the first all new product since Chaparral Physics was acquired by the Geophysical Institute of the University of Alaska in 2004. The Model 50 encompasses all new electronic design and it is in an newly designed stainless steel enclosure, ideal for CTBT installations.

The new electronics promise: flatter response, less sensor self noise, better matching of sensor-to-sensor response, true differential output signals, robust no damage output short circuit protection, two remote commanded self tests, and remote command gain switching. Proven features from the Model 5, such as very low power consumption, have been incorporated into the Model 50. The new model also features greatly reduced low frequency self noise, and very low sensitivity to seismic noise. Standard multi-frequency calibrations, poles and zeros, and noise tests results are supplied with each sensor.

Field installations are quick and error free, since all set up steps are external to the sensor, which means there are no “in-field adjustments” for altitude of use. The stainless steel case is very corrosion resistant, quite strong, and self insulated. All the electronics are sealed within their own stainless steel chamber. The reference (back) volume of this differential pressure sensor is double hulled for its protection.

The Model 50 is so user friendly, one has to only install, on the exterior, two sealing vent screws, the single (power and signal) cable, connect the acoustic source, and it is operating. It is that easy.

To learn more about the Model 50 or to place an order, contact Daniel Osborne at (907) 474-7107.

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Model 50



Model 50

Standard Sensitivity:	Externally controlled, gain switching (via electrical connector)
High	2.0 volts/Pa @ 1 Hz, 0-20 Pa full scale *
Low	0.4 volts/Pa @ 1 Hz, from 0-20 Pa *
Nominal Low	0.4 volts/Pa @ 1 Hz, 0-100 Pa range, linearity not warranted above 20 Pascal *.

* Individual sensor's calibrated value is +/-5%, from the sensor's calibration sheet value.
Calibration value is traceable to the LANL calibration chamber.

Output:	
Maximum	40 volts peak to peak
Frequency Response:	
	Flat to within +0, -2 dB from 0.02 Hz to 50 Hz Flat to within +0, - 0.5 dB from 0.1 Hz to 10 Hz
Sensor Self Noise	Less than 5 milliPascal, 0.02 to 50 Hz, Low gain Less than 1 milliPascal, 0.5 to 2 Hz, Low Gain
Dynamic range	100 dB, @ 0.5 Hz to 2 Hz
Output Impedance	150 ohms non-reactive, recommend less than 10,000 pf loading
Short circuit protected	Signal+ to Signal-, & either to Signal Common
Output type	True differential output
Seismic sensitivity	Minimum detectable quake Mw=5.5 at epicentral distances of 10. Poles and zeros, transfer function, and noise data provided

Power Requirements:	
DC Source	12 volts, (9-18 volts) DC, Reverse voltage protected.
Current Drain	Less than typically 40 ma @ 12 volts

Physical:	Sensor will function in any position Sealed to IP-67 when connected and in operation
Operating Temperature	-45° C to +40° C
Humidity	<95% (non-condensing)
Dimensions	42 cm maximum overall height with manifold and cal port 25 cm maximum diameter
Weight	8 Kg, for 4 port version
Acoustic Inlet	Standard: 4 inlet ports (maximum 12), male, Garden-Hose-Thread, and a calibration port. Total fore-volume of a 4 port Model 50, with capped GHT inlets is ~55 cubic cm.

Chaparral sensors have a very low seismic sensitivity compared to other infrasound sensors. The extremely low mass of the capacitive element and patented capacitive measurement technique ensure wide bandwidth and precise low noise measurements. Each sensor used in an infrasound array should be phase matched, Chaparral sensors have good phase matching within the specified bandpass.

DISTRIBUTED BY
GEOTECH INSTRUMENTS, LLC
DALLAS, TEXAS

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