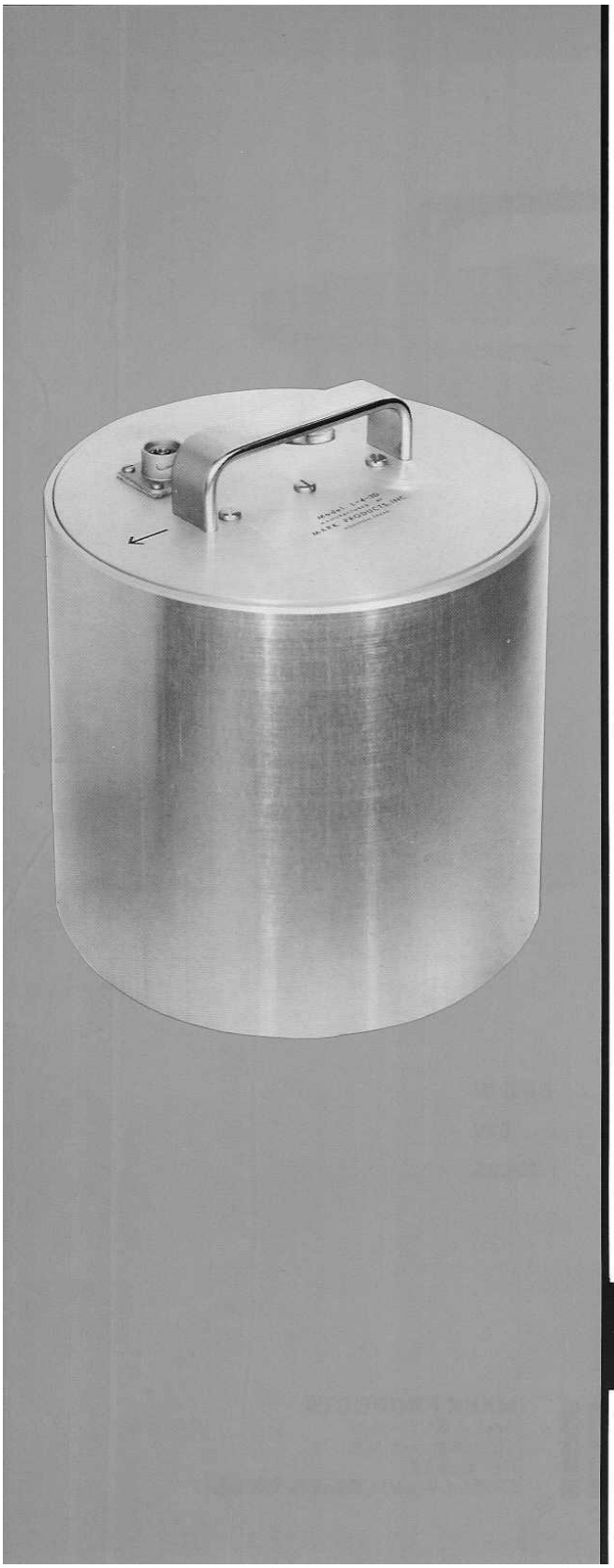
INNOVATION ET DEVELOPPEMENT TECHNOLOGIQUES

CAPTEUR TRIDIRECTIONNEL A GEOPHONES 1,0 Hz

- L 4 -



This low frequency orthogonal geophone, one vertical, and two horizontal elements, employs the INSTRUMENT QUALITY L-4 detector mounted in a solid cast block, and sealed in an aluminum case.

Designed for scientific studies and engineering evaluations, this system provides reliability and reasonable size, yet has a sufficient band pass and suspended mass to match most ground noise levels. These units are available with or without calibration coils and may be transported without clamping.

FEATURES

INSTRUMENT QUALITY

EASY HANDLING

NO CLAMPS

STABLE

ALSO AVAILABLE WITH CALIBRATION COILS

U.S. Patent 3,451,040. Other U.S. and Foreign Patents Pending.

VERY LOW FREQUENCY THREE DIRECTIONAL GEOPHONE

L-4-3D

Basic unit guaranteed for six months, external voltage and highline damage not included in warranty.

Warranty is subject to the terms and conditions listed on our General Warranty page in this catalog.

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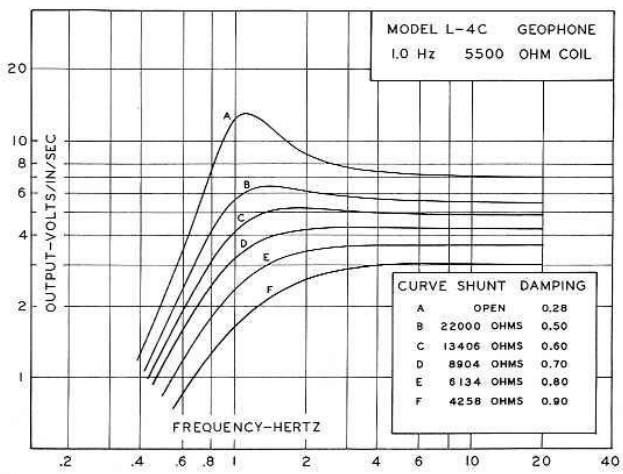
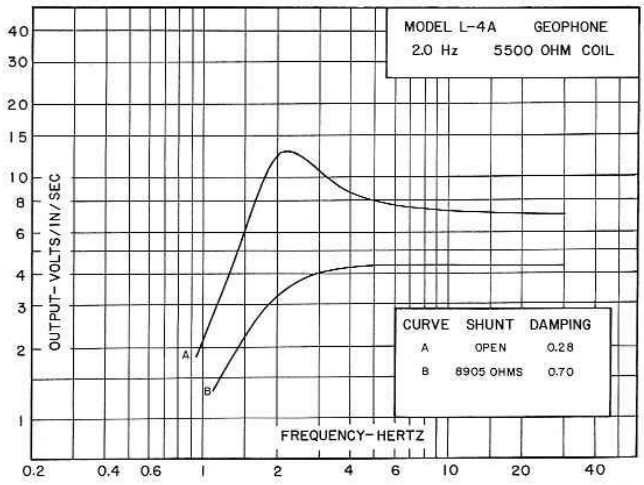
	L-4C 1.0 Hz GEOPHONE	L-4A 2.0 Hz GEOPHONE
TYPE	Moving dual coil, humbuck wound	Moving dual coil, humbuck wound
FREQUENCY	1.0 ± 0.05 Hz measured on 200 pound weight at 0.09 inches/second	2.0 ± 0.25 Hz measured on 200 pound weight at 0.09 inches/second
FREQUENCY CHANGE WITH TILT	Less than 0.05 Hz at 5° from vertical	less than 0.10 Hz at 10° from vertical
FREQUENCY CHANGE WITH EXCITATION	Less than 0.05 Hz from 0 to 0.09 inches/second	Less than 0.10 Hz from 0 to 0.18 inches/second
SUSPENDED MASS	1000 grams	500 grams
STANDARD COIL RESISTANCES	500, 2000, 5500	500, 2000, 5500
LEAKAGE TO CASE	100 megohm minimum at 500 volts	100 megohm minimum at 500 volts
TRANSDUCTION POWER	$8.8\ 10^{-3}$ watts/inch/second or 13.6 watts/meter/second	$8.8\ 10^{-3}$ watts/inch/second or 13.6 watts/meter/second
OPEN CIRCUIT DAMPING	(bo) = 0.28 critical	(bo) = 0.28 critical
CURRENT DAMPING	$(bc) = \frac{1.1\ Rc}{Rs + Rc}$	$(bc) = \frac{1.1\ Rc}{Rs + Rc}$
COIL INDUCTANCE	Lc = 0.0011 Rc Lc in henries	Lc = 0.0011 Rc Lc in henries
CASE TO COIL MOTION	PP 0.250 inches	PP 0.250 inches
ELECTRIC ANALOG OF CAPACITY	$Cc = \frac{73{,}500}{Rc}$ (microfarads)	$Cc = \frac{36{,}500}{Rc}$ (microfarads)
ELECTRIC ANALOG OF INDUCTANCE	Lm = 0.345Rc (henries)	Lm = 0.17Rc (henries)
CASE HEIGHT	5⅛ inches—13 cm.	5⅛ inches—13 cm.
CASE DIAMETER	3 inches—7.6 cm.	3 inches—7.6 cm.
TOTAL DENSITY	3.7 grams/cm^3	2.9 grams/cm^3
TOTAL WEIGHT	4¾ pounds—2.15 kilograms.	3¾ pounds—1.7 kilograms.
OPERATING TEMPERATURE	Range: −20° to 140°F or −29° to 60°C.	Range: −20° to 140°F or −29° to 60°C.

	L-4C 1.0 Hz GEOPHONE			L-4A 2.0 Hz GEOPHONE		
COIL RESISTANCE, OHMS	**500**	**2000**	**5500**	**500**	**2000**	**5500**
TRANSDUCTION, VOLTS/IN/SEC	2.12	4.23	7.02	2.12	4.23	7.02
COIL INDUCTANCE, HENRIES	0.55	2.20	6.05	0.55	2.20	6.05
ANALOG CAPACITANCE, MICROFARADS	147	36.8	13.4	73.0	18.3	6.64
ANALOG INDUCTANCE, HENRIES	173	690	1900	85.0	340	935
SHUNT FOR 0.70 DAMPING, OHM	810	3238	8905	810	3238	8905

Open Circuit Damping (b_o) = 0.28 Critical Coil Current Damping (b_c) = $\frac{1.1\ Rc}{Rc + Rs}$ Total Damping (b_t) = $b_o + b_c$





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