

TYPE H52 HYDROPHONE



Fig. H52-1 - Type H52 hydrophone.

FUNCTION: Wideband standard hydrophone for general use in RDT&E measurements.

DESIGN: A 5-cm vertical line array of eight lithium sulfate crystals in an oil-filled boot and a solid state preamplifier.

FREQUENCY RANGE: 20 Hz to 150 kHz

FFVS: See Fig. H52-2

NORMAL WORKING DEPTH: 460 m

MAXIMUM DEPTH: 6,850 m (requires special request)

TEMPERATURE RANGE: 0 to 35°C

ACOUSTIC OVERLOAD: 188 dB re 1 μ Pa

PREAMPLIFIER OUTPUT IMPEDANCE: <35 Ω in series with 100 μ F

EQUIVALENT NOISE PRESSURE LEVEL: See Fig. H52-3

DIRECTIVITY: See Fig. H52-4 for patterns in the horizontal (XY) plane

See Fig. H52-5 for patterns in the vertical (XZ) plane

WEIGHT: 5.0 kg (11 lbs)

SHIPPING WEIGHT: 12 kg (26 lbs)

INTERNAL RESISTOR (for coupling measurements): 10 Ω

NORMAL CABLE LENGTH: 30 m

CABLE CODE:

red or black	B	24 V preamp supply at 9 mA
coaxial center	G	high output signal
coaxial shield	A,F	low output signal, low coupling input, and 24 V return
white or green	D	high coupling input
Cable Shield	E	Case ground

INSTRUCTIONS FOR THE USER:

- See Appendix D for preparing for use
- See Appendix B for voltage coupling loss measurement
- See Fig. H52-6 for acoustic center
- Keep protective guard on at all times
- Do *not* support the hydrophone by the cable
- Note in Fig. H52-4 that the hydrophone becomes less than omnidirectional in the horizontal (XY) plane >100 kHz

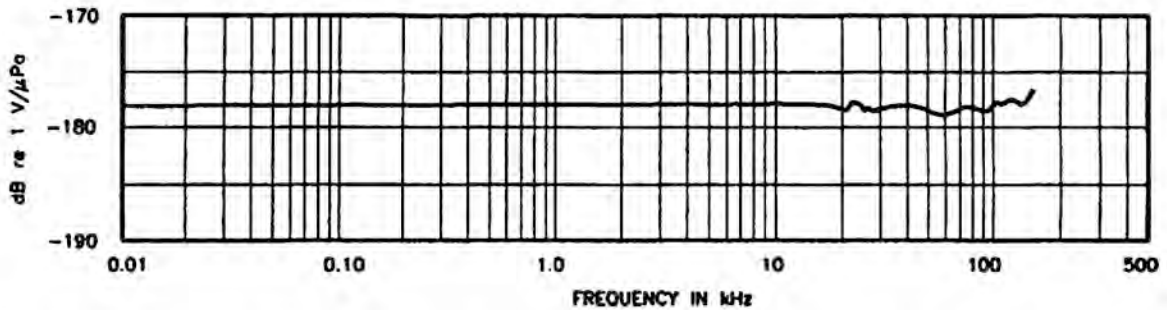


Fig. H52-2 - Typical FFVS for Type H52 hydrophone (open-circuit voltage at end of 30-m cable).

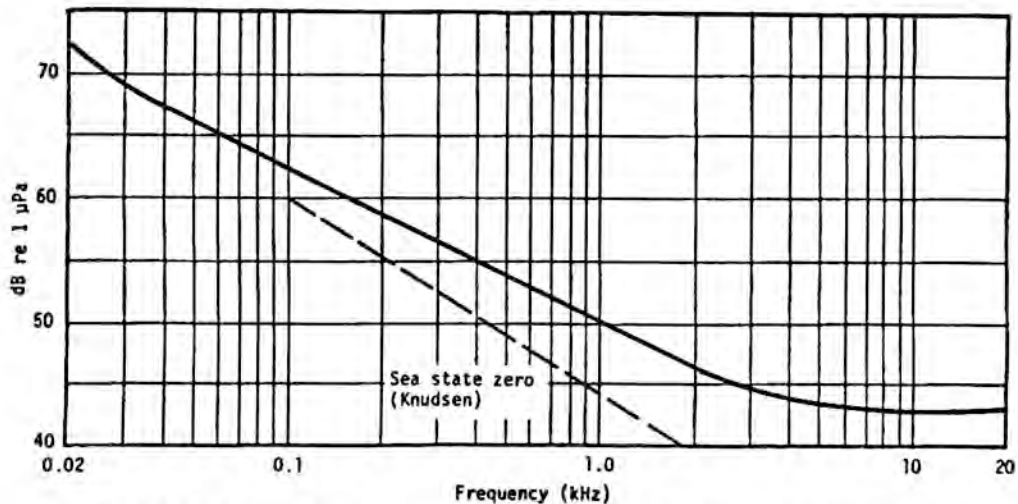


Fig. H52-3 - Typical equivalent noise pressure for Type H52 hydrophone (computed from noise voltage measured at end of 30-m cable).

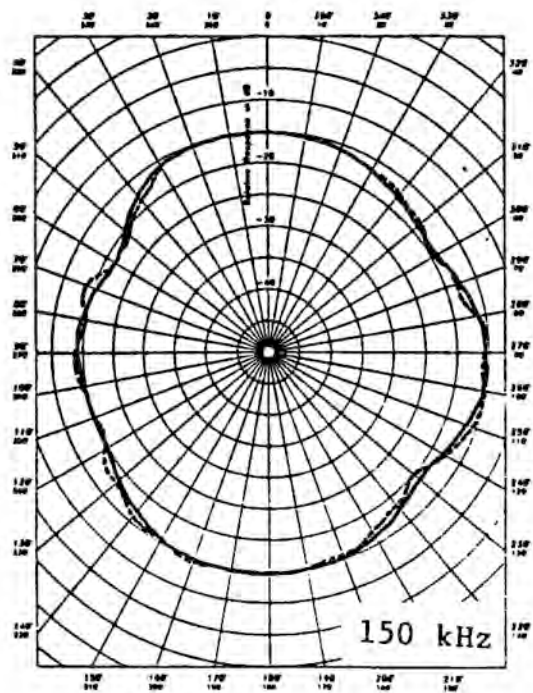
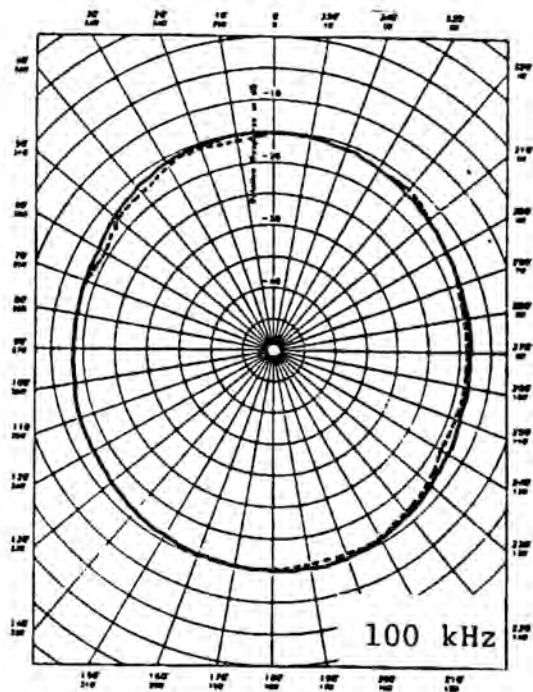
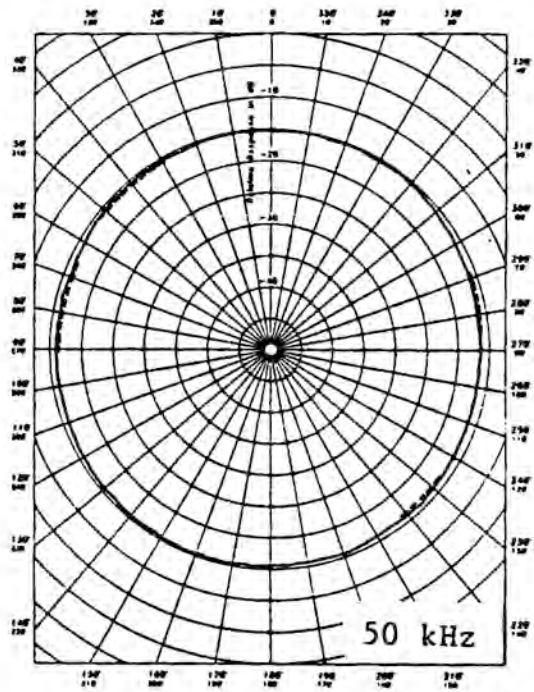


Fig. H52-4 - Typical directivity patterns in the horizontal (XY) plane for Type H52 hydrophone (dashed lines show effect of protective wire guard around hydrophone). Scale: center to top of grid for each pattern is 50 dB.

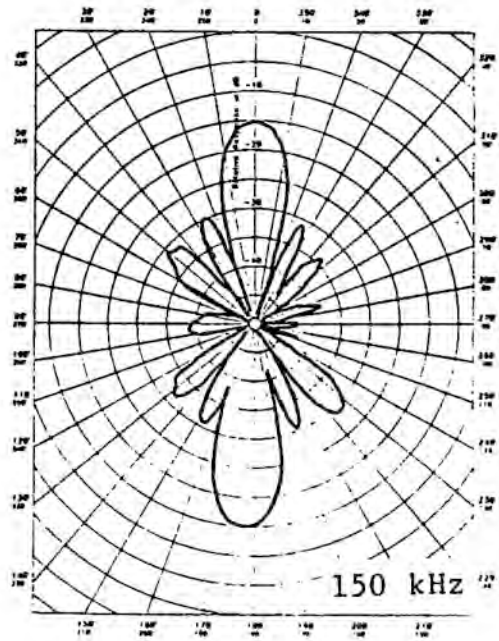
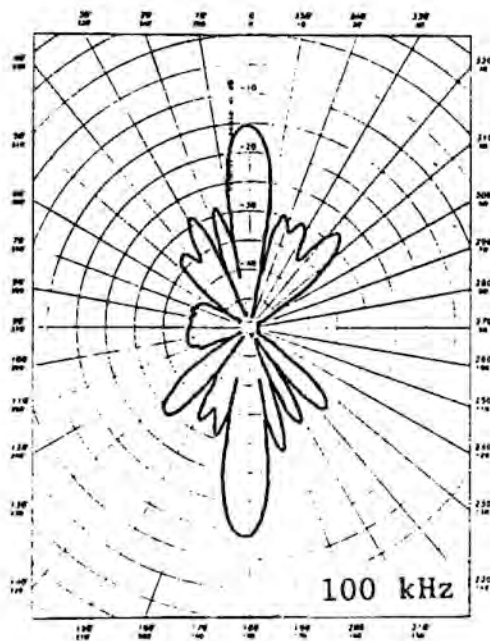
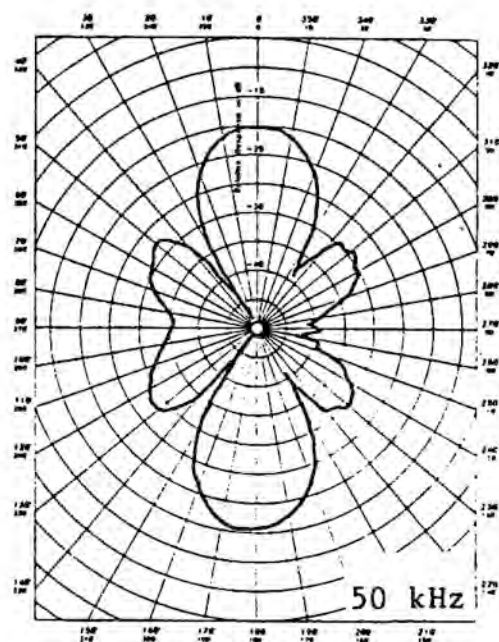
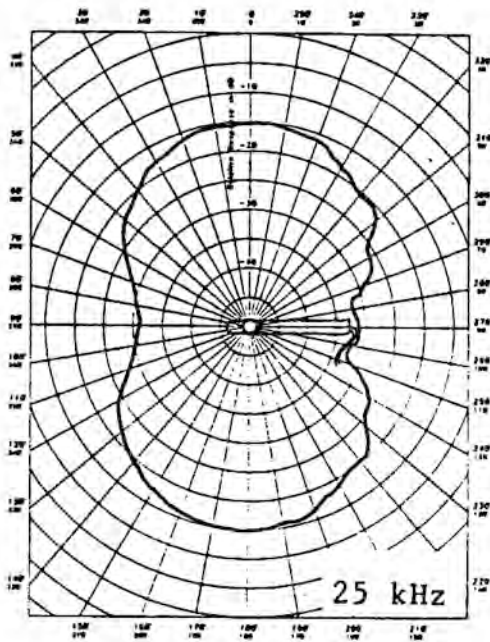


Fig. H52-5 - Typical directivity patterns in the vertical (XZ) plane for Type H52 hydrophone
 Scale: center to top of grid in each pattern ins 50 dB.

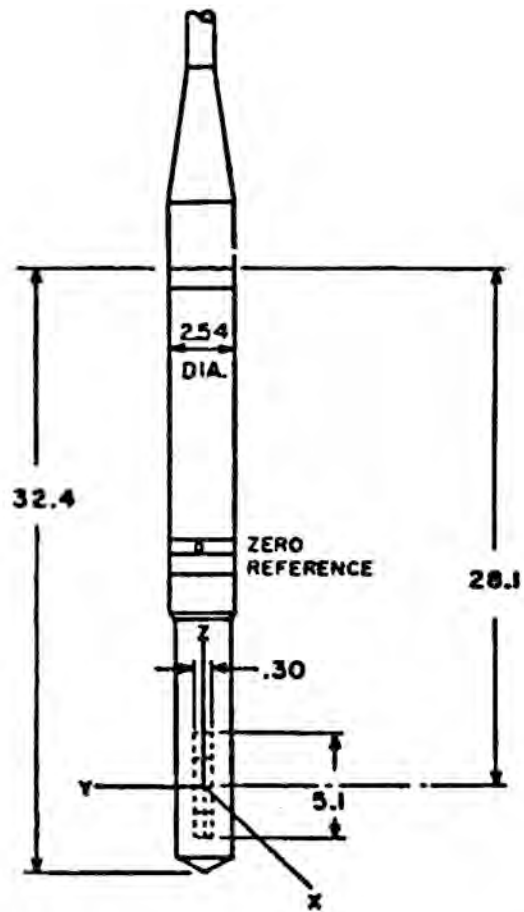


Fig. H52-6 - Dimensions (in cm) and orientation of Type H52 hydrophone.