

TYPE A48 HYDROPHONE



Fig. A48-1 - Type A48 probe hydrophone

FUNCTION: A probe hydrophone for applications where minimum disturbance of the sound field is an important requirement.

DESIGN: A 3.2 -mm-diam, 3.2-mm-long, PZT-capped cylinder in an oil-filled rubber boot. A first stage impedance matching amplifier is in the probe. A second stage amplifier is located 3 m down the cable. Reference 7 describes an earlier version, Type A42.

FREQUENCY RANGE: 10 Hz to 200 kHz

FFVS: -218 dB re 1 V/ μ Pa < 40 kHz (also see Fig. A48-2)

MAXIMUM DEPTH: 690 m

TEMPERATURE RANGE: 0 to 35°C

OVERLOAD PRESSURE: (<1% distortion): 235 dB re 1 μ Pa < 100 kHz

ELECTRICAL IMPEDANCE: (end-of-cable): nominal 100 Ω

EQUIVALENT NOISE PRESSURE LEVEL: See Fig. A48-3

DIRECTIVITY: Omnidirectional in the horizontal (XY) plane within ± 1 dB up to 150 kHz. See Fig. A48-4 for patterns in the vertical (XZ) plane.

WEIGHT: 6.7 kg (14.7 lbs)

SHIPPING WEIGHT: 11.4 kg (25 lbs)

NORMAL CABLE LENGTH: 30 m

CABLE CODE: red or black 24 V preamp supply
 coaxial center high signal output
 coaxial shield low signal output 24 V return

INSTRUCTIONS FOR THE USER: See Appendix D for preparation steps
 Keep second stage amplifier remote from probe
 See Fig. A48-5 for the acoustic center

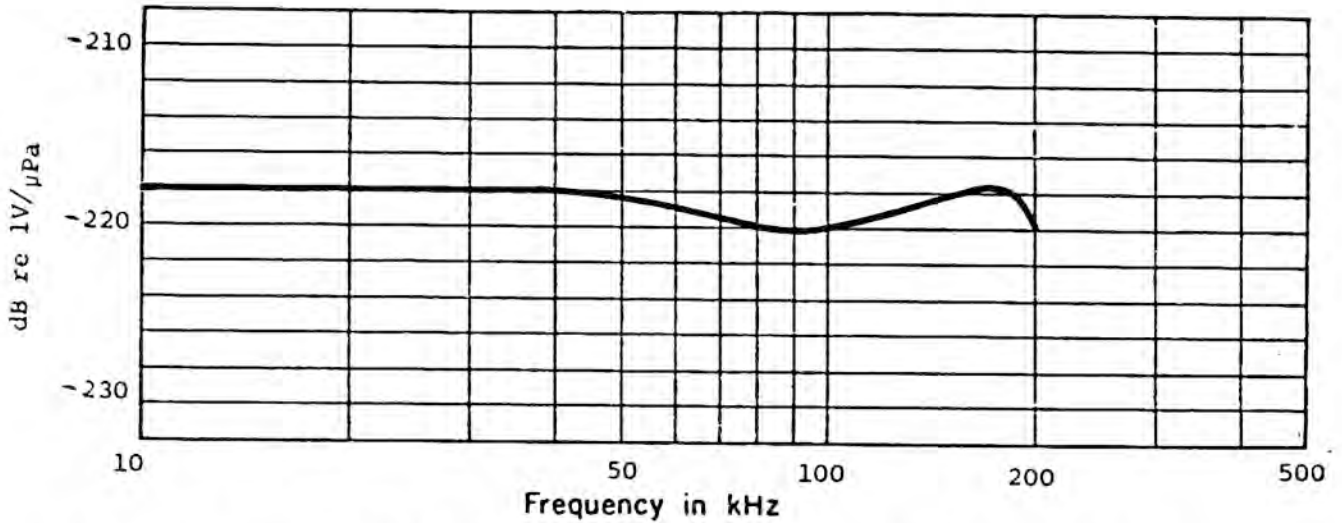


Fig. A48-2 - Typical FFVS of Type A48 hydrophone. Open-circuit voltage at one end of 30-m cable. FFVS is constant from 40 kHz to low-frequency limit of 10 Hz.

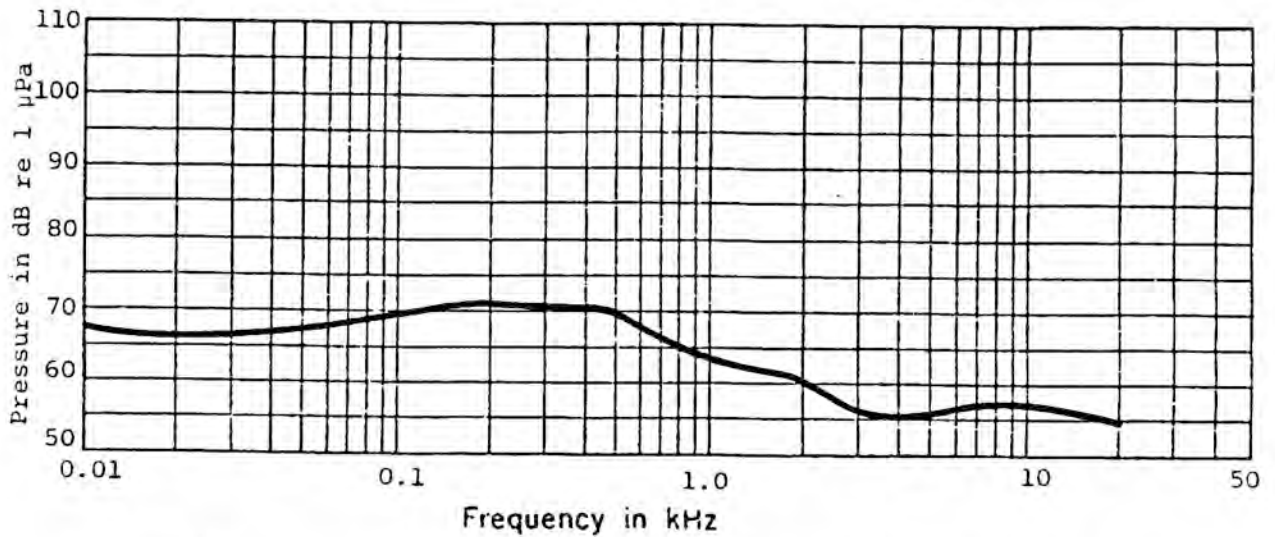


Fig. A48-3 - Equivalent noise pressure level of Type A48 hydrophone at end of 30-m cable.

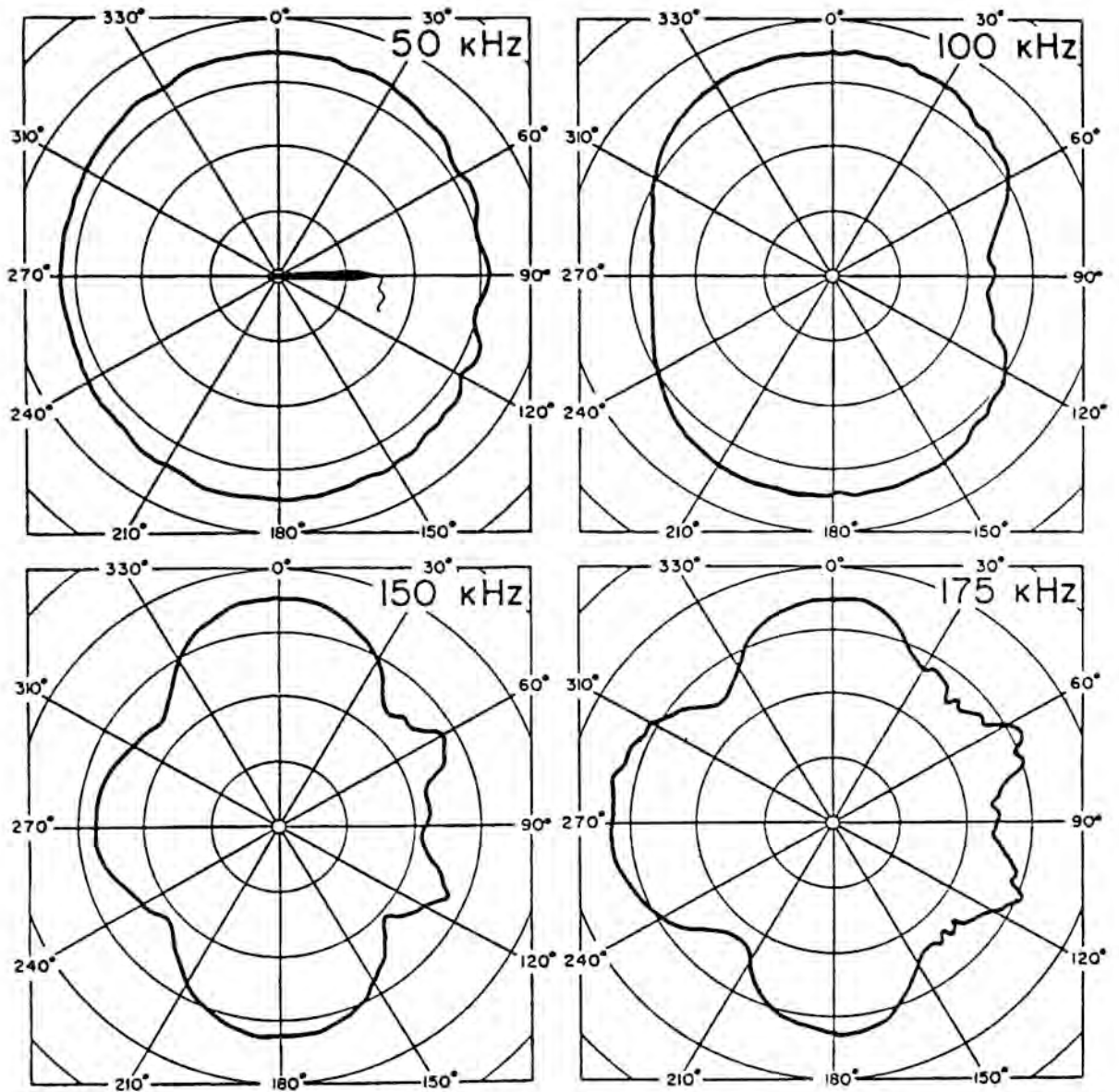


Fig. A48-4 - Directional characteristics in the vertical (XZ) plane
 Type A48 hydrophone. Center to top of grid of each pattern is 40 dB.

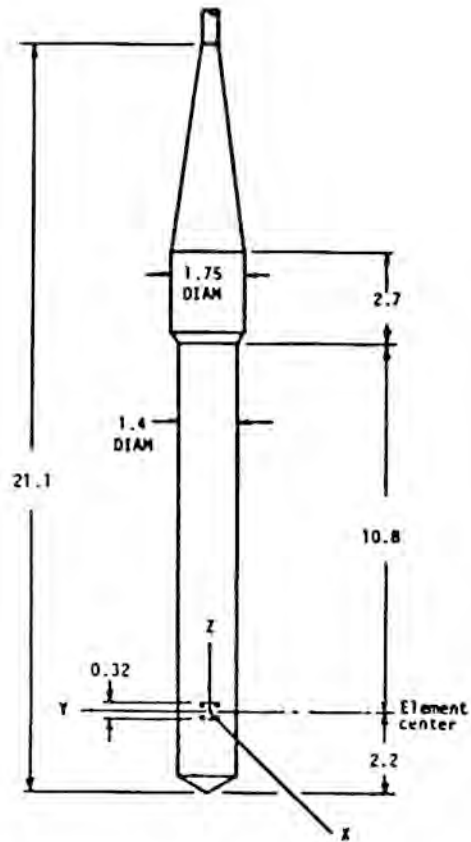


Fig. A48-5 - Dimensions (in cm) and orientation of Type A48 hydrophone.