LK-40 RELEASE LINK - SubSeaSonics (USED WITH AR-50-AA Acoustic Release)

(Nov. 30, 2012. File = LK-40_50_DATA_SHEET

Description: Quick, light load Release Link for use with the AR-50-AA acoustic release. LK-40 is made with stainless steel wire. The use of stainless steel wire has been discontinued due to two recently discovered failures out of 1000 deployments. The problem is premature hoop erosion due to 'crevice corrosion'. Accordingly, all new LK-40 link needs will be met with a new LK-81-NI link made with a proprietary 60% nickel wire. It will take twice as long to erode. Sub Sea Sonics expects to make a smaller load link called the LK-41-NI (40 lb). Until these are available the existing LK-40 links can be used in deployments where the small failure rate is tolerable.

Load limit of LK-40: 40 lb (18 kg) plus a 20 lb surge.

Hoop size: Large enough to pass a 3/32 inch (0.094", 2.38 mm) diameter line.

Wire metal: Stainless steel alloy 308.

Use: Replaceable release link for use with AR-50-AA acoustic release.

Method of release: Electrolytic erosion of metal at exposed points.

Hoop construction wire diameter (excluding paint): 0.025 inch (0.635 mm).

The following table shows approximate release erosion times with 9 Energizer L91 lithium AA batteries wired in series and installed internal to the AR-50-AA. (A lithium battery pack made by Sub Sea Sonics is recommended p/n BAT-50-AA-L91):

HOOP PAINT REMOVED – WORST CASE (Lithium batteries)	HOOP PAINT INTACT (Lithium batteries)
3 minute @ 21°C (70°F) 4 minute @ 5°C (41°F) 5 minute @ 0°C (32°F)	1 minute @ 21°C (70°F) 2 minute @ 5°C (41°F) 3 minute @ 0°C (32°F)

Note: Bio fouling can extend these times by restricting the water path for ion flow.

Release erosion time with 9 **alkaline** AA batteries in place of lithium's: Up to three times as long.

Battery "energy" used per release for worst case of all paint scraped off: 38 mA-Hr. One set of 9 lithium batteries should last 1.0 year including 30 releases or 0.5 year including 50 releases.

Reference Information: Lithium battery capacity = 3000 mA-Hr. Maximum battery current while ON and listening for a command equals 0.220 mA.