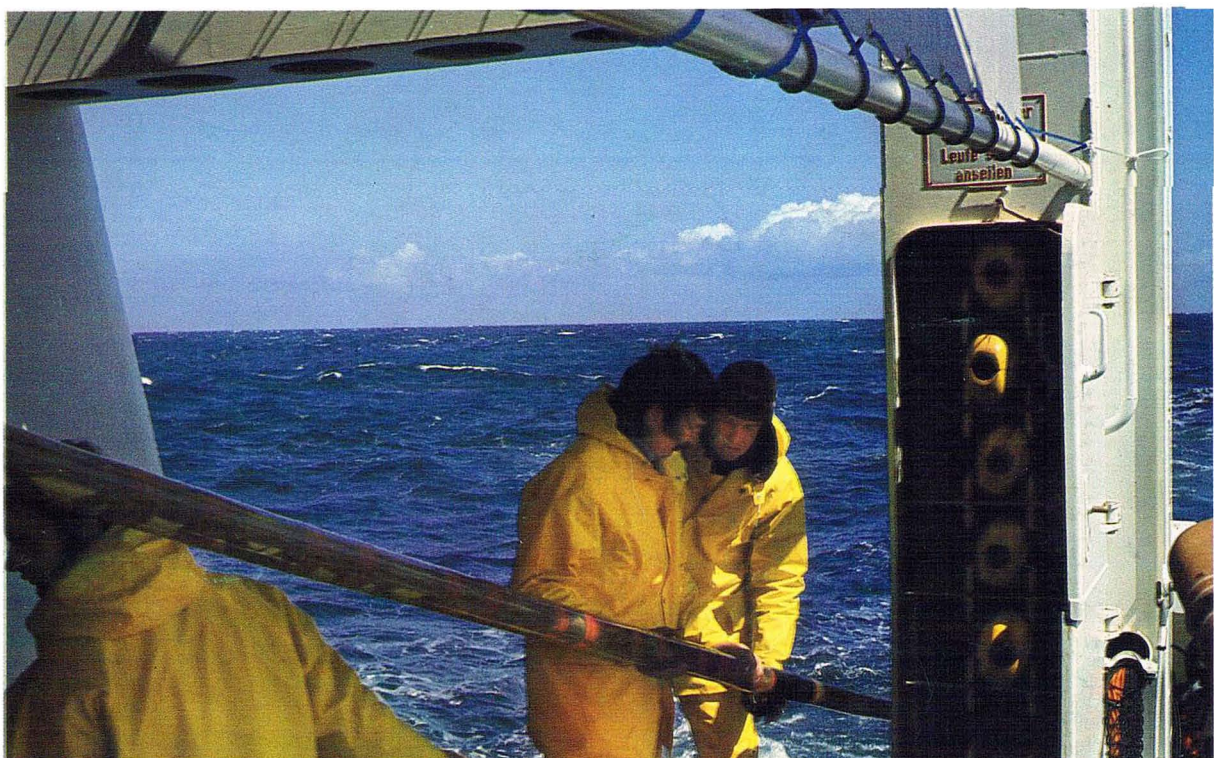


PRAKLA-SEISMOS GMBH



Streamer Equipment



PRAKLA-SEISMOS Streamer's History

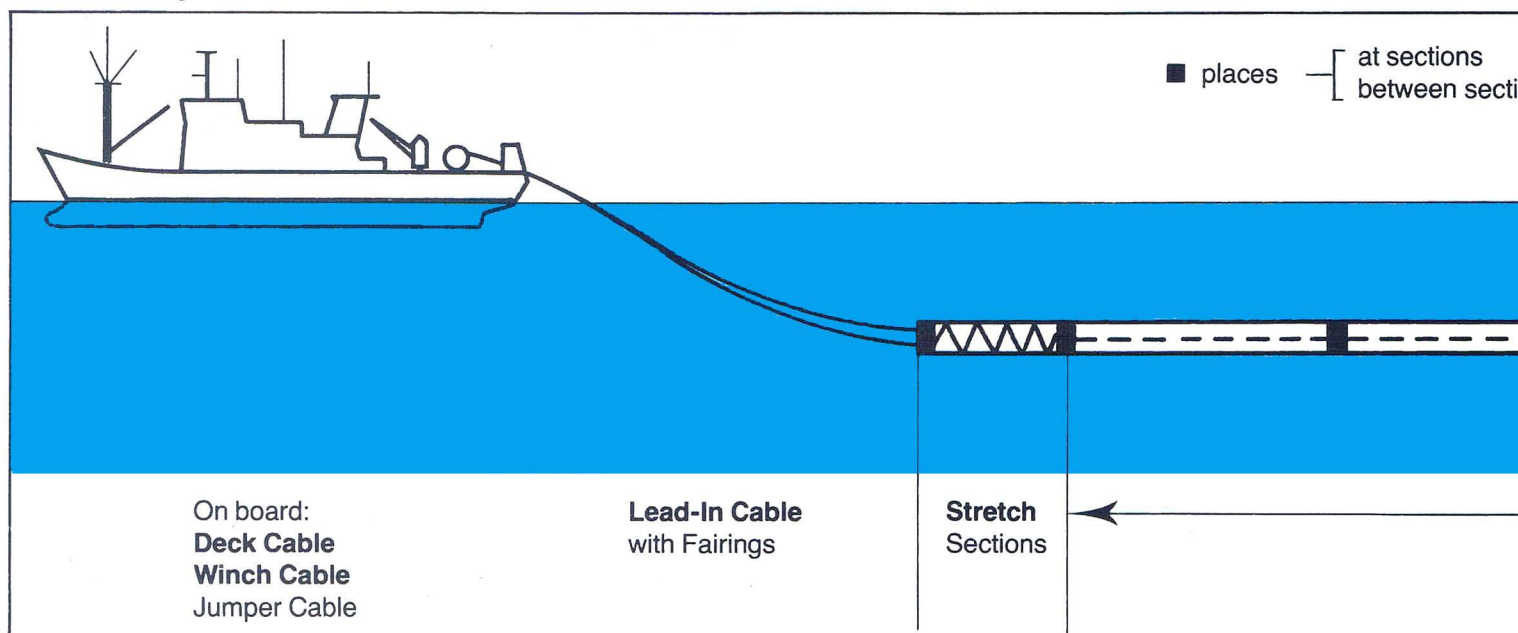
- 1951** first steps of PRAKLA-SEISMOS in marine seismic surveys in German shelf areas with modified land-cables. Beginning with outside connected geophones, later on with outside attached hydrophones. Confrontation with the rough sea conditions in the North Sea.
- 1961** first experience with PRAKLA-SEISMOS developed and built-up 24 channel streamer, with a length of 1200 m, with magnetostrictive hydrophones in oilfilled plastic tubes.
- 1964** very rugged version with buoyancy serving plastic foam and magnetostrictive hydrophones coupled directly through the skin to water, max. 48 channels at a length of 1600 or 2400 m (4 sections each).
- 1968** development of 48 channel oilfilled streamer with piezoelectric hydrophones, with respect to the Hi-Fi-requirements of the new introduced digital recording systems.
- 1971** installation of acceleration cancelling hydrophones to improve signal-to-noise ratio.

Development of a few standard types of streamer sections to perform the various requirements of clients.

Completion of streamer systems with improvements in signal-to-noise ratio, performance and position control, reliability and handling.

Quick coupling connectors standard since 1968, starting with 120 poles, 1973 with 237 poles and 1980 with 468 poles.

Streamer System



Specifications of Standard Streamers:

	Active Sections	Stretch Sections
Length:	50 m or 100 m	50 m (relaxed)
Jacket: Polyurethane, o.d. x wall	68 x 3 mm	70 x 4 mm
Stress Members (ropes):	steel. 3 x 4 mm Ø	polyamide, 3 x 12 mm Ø
Max. Tow Force: (max. stretch):	25 kN	25 kN (50 %)
Effective Density (adjustable by oil):	1.00 to 1.03 kg/l	≈ 1.03 kg/l
Conductors: Copper, Rilsan insulated:	twisted pairs	twisted pairs
Hydrophones:	approved types	—
Grouping of hydrophones:	see list below	—

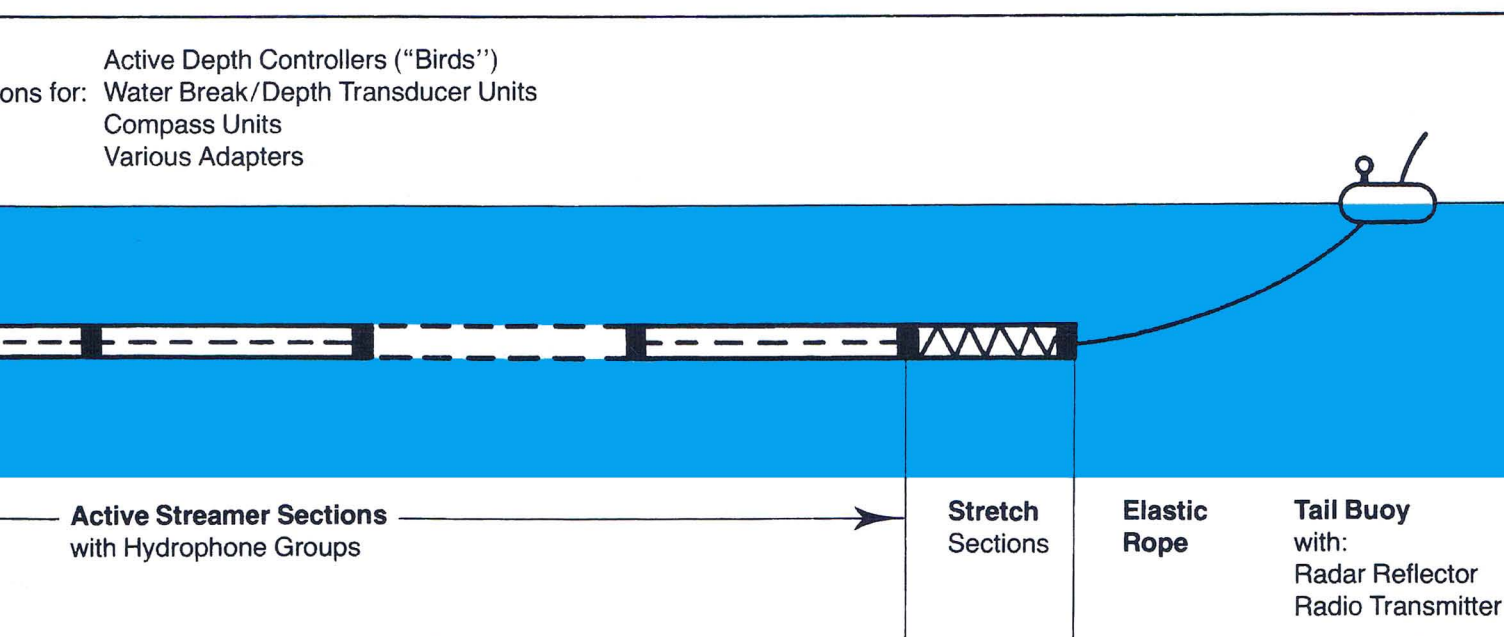
Active Sections

with transformers	HSSC	HSSH	HSSK	HSSM	
transformerless		HSSN	HSSO		HSSB HSSW
Max. No. of Hydrophone Groups	104	104	104	110	208
Distance between Hydrophone Groups	50 m	25 m	12.5 m	5 m	12.5 m
Number of Hydrophones per Group	32	32	16	12	16
No. of Contacts in Quick Couplings	237	237	237	237	468

Various other types can be manufactured upon request, e.g. towed arrays.

Mini-Streamer System: lightweight with 33 mm o.d.
 Lead-In Cable: New developed for very low micro-
 phonic noise.
 Depth Transducers: Principle of shifted frequency by
 static water pressure.
 Magnetic Compass Units: With digital data transmission
 Summing Adaptors: For electrical summation of hydro-
 phone groups.

Ranging Adaptors: For non-regular ranging of con-
 ductors (e.g. repair)
 Accessories: for testing, easier handling and repair
 Onboard equipment: Depth indicator system for display
 of max. 7 depth transducer chan-
 nels.



View to Future Development

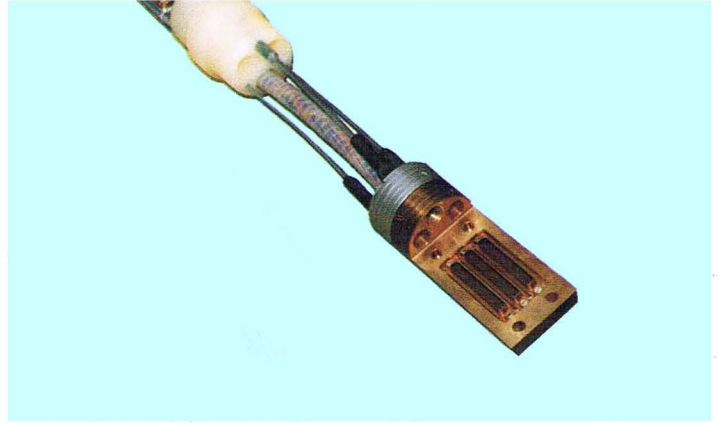
The well-known high technical standard of PRAKLA-SEISMOS streamers is grown continuously and if possible, improvements are introduced. The 208 seismic channel streamer system is in production now and the programme of available types will be extended.

The next step with once more increased number of seismic channels is to be planned at present. Integration of electronics within the streamer system seems to be indispensable.

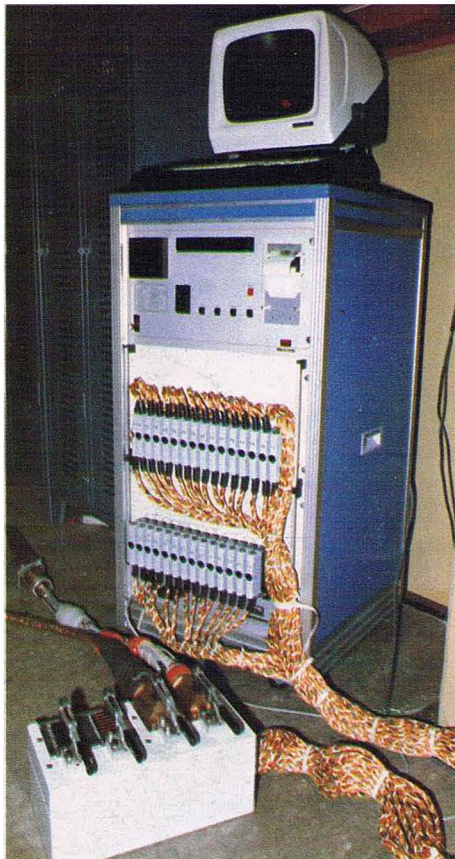
High engagement in development is necessary to keep the reliable standard of PRAKLA-SEISMOS.



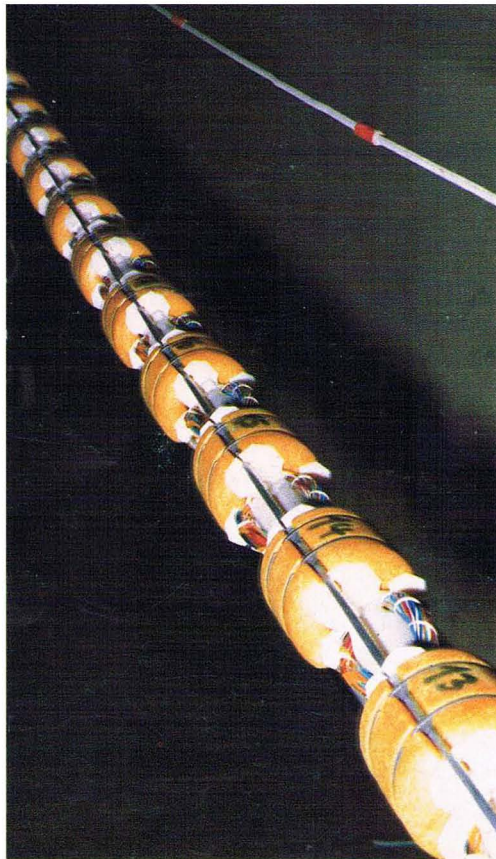
Quick coupling connector 468 poles



Quick coupling connector 237 poles



Automatic streamer tester



Structure with hydrophones



Crimping of contacts



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