

## R/V “Akademik A. Karpinsky”



### Types of activity

- 2D seismic reflection/refraction survey
- Hydromagnetic investigations
- On-board gravimetric investigations
- Geological sampling



## Specifications and main technical characteristics of the vessel

<b>Project</b>	12883M
<b>Flag</b>	Russia
<b>Port of registry</b>	Saint-Petersburg
<b>Call Sign</b>	1.11Z0
<b>Classification</b>	KM(*) L2 [1] A2 (Russian register)
<b>Registry No.</b>	830588
<b>IMO No.</b>	8227238
<b>Year/Place of building</b>	1984/Nicolaev (Ukraine)
<b>Length, m</b>	104.5
<b>Width, m</b>	16
<b>Draft, 171</b>	6.9
<b>Registered tonnage (gross/ net), tons</b>	4430/1329
<b>Displacement (empty/ loaded), tons</b>	3833/5715
<b>Cruising speed maximal, knots</b>	15 (with 2 engines)' 11 (with 1 engine)
<b>Cruising speed economical, knots</b>	13 (with 2 engines)' 9 (with 1 engine)
<b>Fresh water capacity, cub.mni</b>	89
<b>Fuel capacity, ions</b>	1240 (heavy)/88 (ligin)/44.6 (oil)
<b>Endurance, days</b>	100
<b>Main engines (type/power)</b>	2 x Pielstic PC2.5-400/3500 h.p. each(Rassia)
<b>Radars</b>	Furuno FR-2115, Furuno FR/FAR-2835 (Japan)
<b>Communications equipment</b>	Inmarsat Fleet77, Inmarsat MINI-M, Inmarsat-C
<b>GMDSS</b>	Funmo FS 1562-15, Furuno FM 8500 (Japan)
<b>GPS receivers</b>	Funmo GP-80 (Japan), Briz-K (Russia)
<b>Gyrocompass</b>	Vega-M (Russia)
<b>Log</b>	IEL-2M (Russia)
<b>Navigational echosounder</b>	NEL-1M (Russia)
<b>Hydrographic echosounder</b>	GEL-3 (Russia)
<b>Automatic system of vessel control</b>	ASUD-4 (Russia)
<b>Safety equipment:</b>	
- boats ZSSHR-2M	2x55 persons
- rafts PSN-10M	10x10 persons
- jackets	101



## Technical specifications of equipment

### Seismic equipment

#### Recording system

Type	MSX
Manufacturer	INPUT/OUTPUT Inc. (USA)
format	SEG-D
Recording tape media	IBM 3590 Tapes
Recorders	4 x IBM 3590 Magstar
QC system	EVP monitor, plotter 0Y0 GS-624-24"

### Energy source

Type	<u>Sleeve Gun SG-IIB</u> (INPUT/OUTPUT Inc., USA)
Number of subarrays	2
Number of guns in subarray	9
Length of subarray	15 meters
Distance between subarrays	7 meters
Hose bundle length	600 feet
Source volume	2860 cub. inches
Gun controller	LongShot (Real Time Systems Inc., USA)
Timing	0.1 cosec
Compressors	EK-30A2, 6 x EX-7.5 (Russia)
Source nominal pressure	2000 psi
Peak Pressure	73.1 barn)
Winches	2 Gun and 4 Auxiliary (ODIM A/S, Norway)



Streamer	
Type	<u>MSX-6000</u>
Manufacturer	INPUT/OUTPUT Inc. (USA)
Active cable length	6000 meters
Lead-in length	560 meters
Number of channels	480
Number of active sections	60
Length of active section	99.7 meters
Diameter of section	256"
Type of cable oil	Isopar M
Group Interval	125 meters
Hydrophones per Group	14
Hydrophone type	Teledyne T-4
Sample rates	0.5, 1, 2, 4 cosec
Low cut filter	Analog 2 Hz, 6 dB/octave
High cut filter	103-824 Hz (depends from sample rate), 256 dB/octave
Seismic winch	Capacity up to 6000 meters (ODIM A/S, Norway)

Streamer control devices	
Type:	
-without	13 <u>DigiBird 5010</u>
-with compass	12 Exportable Compass DigiBird 5011E
Manufacturer	INPUT/OUTPUT Inc. (USA)
Streamer communication	Serial FSK, 26 kHz, 2400 bit/sec
Heading sensor: -	DigiCOURSE Model 321 Magnetic Compass *03°
Accuracy of depth sensors	+0.15 meters



## Sonobuoys

Type	Sprut (Russia)
Number Sonobuoys	4
Sample rate	2(4)mssc
Registration time	Up to 32 sec
Max range	Up to 60 km
Effective range (calm sea)	40 km
Minimum transmitting life	18 hours
Frequency range	5-65 Hz

## On-board seismic processing

System	SDS-PC (Russia) IBM PC w/ProMax 2D 2003.3 (on request)
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## Other equipment Gravimeter

Type	MGK"CHETA-AGG" (Marine Gravimetry Complex) (Russia)
Static accuracy	1.0 inGal
Accuracy for the reduced gravity	1.0 mGal
Drift	6.0mGgal/month
Sampling interval	0.16 sec
Measuring range	Up to 7000 mGal
Features:	Digital data registration, on-Time quality control



<b>Magnetometer</b>	
Type	DMV "VOSTOK" (Proton Differential Magnetometer) (Russia)
Resolution	2 sec
Absolute accuracy	1.0 nT
Sensitivity	0.01_rT
Range	22000-80000 nT
Sensor cable length	Up to 450 m
Features	Digital data registration, on-Tine quality control

<b>Accommodations</b>	
Crew/scientific staff, persons	39/48
Cabins for crew/scientific staff:	47
- single cabins	11
- cabins for two	34
- cabins for four	2
Medical aid room	1
Gym-hall	1
Bath	1
Sauna	1
Dining-hall for 48 persons	1
Mess-room for 14 persons	1