

About the Inland Waterway Simulator of the Ukrainian Danube Shipping Company

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River **R**adio-**L**ocation **T**rainer (**RLT**) of NMS - 90RS (production of Norway) produced the resources (project term of exploitation 10 years) working in "**U**KRAINIAN **D**ANUBE **S**HIPPING **C**OMPANY" ("**U****D****S****C**") from 1990. Modernization of RLT is produced stage-by-stage, substitutionally out-of-date modules new without a conclusion from exploitation.

In text of "Recommendations of Danube Commission in regard to the certifications of navigator" (doc. DC/SES 77/7) accepted by Decision Seventy to the seventh session of Danube Commission from December, 15, 2011 (doc. DC/SES 77/8. By the same Decision them it is recommended to put in an operation from January, 1, 2013) were accepted:

Article 1.05

Duty to have a certification on the use of radio-locator.

Article 3.04

Examination

2. Practical examination can be conducted also on an equipment, imitating work of radio-locator and settled by a competent organ for the use in these aims.

The stages of modernization of present River Radio-Location Trainer are reflected in presentation, from 1990 for a present tense and prospect of further development.

HOW THAT BEGIN AT 1990

Inland Waterway Simulator **Product Information**

Norcontrol Inland Waterway Simulator NMS-90/RS — the only fully developed inland waterway navigation simulator on the market.



The Norcontrol NMS-90/RS Inland Waterway Simulator is based on the proven NMS-90 bridge simulator concept. It has been developed specifically to train students in all aspects of inland waterway navigation. The simulator includes all the special features important to this training. Norcontrol's modular building block technology makes adapting to all requirements easy.

► Own ship bridges

Special bridge consoles, equipment and instrumentation has been designed to resemble equipment found on board vessels operating in the inland waterway system. Modular design makes individually laid out bridges and equipment configurations possible. Metric radars and instrumentation as used in some countries are available. Sound and environmental effects can be included to increase the realism.

► Instructor station

The instructor station has been designed to provide an effective work environment. All measurements such as distances and speeds used in the system can be either metric or in normal nautical units, depending on the requirements. Available debriefing facilities include plotters, printers, exercise recording as well as a large screen projection system.

► Visual systems

To meet your training requirements different visual system configurations can be supplied. Day, dusk, night and fog capabilities are included. Advanced colouring, texturing and shading techniques are used to increase realism.

► Environmental effects

When navigating any inland waterway system, margins are small and depth, current, wind and other environmental effects become of key importance. Norcontrol inland waterway simulators offer a full set of environmental effects to provide realistic training of all personnel using the system.

► Hydrodynamic models

Special hydrodynamic ship models reflecting different types of vessels and tug / barge combinations have been developed in close cooperation with hydrodynamicists. These models contain the important effects required for realistic manoeuvring in the inland waterway system under all conditions.

► Customer support

The Inland Waterway Navigation Simulator, is backed by Norcontrol's comprehensive investment protection plan, to maintain safe economical operation.

Performance specification

► Own ships bridge

Instrumentation	Metric or nautical units
Radars	Kilometres or nautical miles
Depths	Included with databases
Currents	Detailed vector maps
Steering system	Lever control
Throttle	Single or Twin
Ships whistle	Yes
Anchors	Yes
Thrusters	Yes
Visual systems	Different configurations
Number of bridges	Up to 9

► Instructor station

Radar display	Colour raster scan
Data Display	Yes
Keyboard and function keys	Yes
Plotter	8 colours
Printer	Yes

► Radar simulator

Traffic Ships	60
Fixed targets	500
Aspect calculation	All targets
Radar noise	Included
Database length	2000 NM maximum
Coastline	3 dimensional
Range resolution	6.25 metres

► Miscellaneous

Earth Geometry	Spherical
Hydrodynamic ship models	5 standard Optional models to specifications

► Power requirements

Single phase, 230V or 115V $\pm 10\%$, 50 or 60Hz

► Environment

Temperature:	18 to 30 °C (65 to 85 °F)
Humidity:	20 to 90 %, no condensation

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This publication is not intended to form the basis of a contract, nor does it take the place of the specification to which reference should be made for further information. NORCONTROL Simulation a.s reserve the right to change any feature and specification without notice.

NORCONTROL
TECHNOLOGY FOR
THE 21ST CENTURY

NORCONTROL
SIMULATION

2-ND OWN SHIP BRIDGE



3-D OWN SHIP BRIDGE



SHORT DESCRIPTIONS OF RIVER RLT:

СХЕМЫ

толкаемых составов т/х "Ярославль"

СДП-1242	DM-2395	DM-2426	DM-2241	DM-1044	Состав: 4152 - 333 shp:
1099т: 2, 1м.	820т: 2, 7м.	622т: 2, 5м.	820т: 2, 7м.	657т: 2, 5м.	Длина = 230+58м:
СДП-1214	C-1825		C-1548		п/х 10 км/час
1038т: 2, 2м.	1567т: 2, 5м.		1548т: 2, 3м.		стоячей воде
СДП-1211	DM-2104	DV-2435	DM-2399	DM-2060	Ширина = 32м:
1080т: 2, 3м.	820т: 2, 7м.	820т: 2, 7м.	820т: 2, 7м.	816т: 2, 7м.	Вес = 15696т:
					Груз = 12529т:

СДП-1211	СДП-1214	Состав: 4152 - 33 shp:	
1080т: 2, 3м.	1038т: 2, 2м.	Длина состава = 153+58м:	
C-1825	C-1548	Ширина состава = 32м:	
1567т: 2, 5м.	1548т: 2, 2м.	п/х 12 км/час	
DM-2104	DM-2435DM	DM-2399	DM-2060
820т: 2, 7м.	820т: 2, 7м.	820т: 2, 7м.	816т: 2, 7м.
		стоячей воде	
		Вес состава = 10579т:	
		К-во груза = 8510т:	

C-1825	C-1548	Состав: 4152 - 22 shp:	
1567т: 2, 5м.	1548т: 2, 3м.	Длина состава = 153+58м:	
DM-2104	DM-2435	DM-2399	DM-2060
820т: 2, 7м.	820т: 2, 7м.	820т: 2, 7м.	816т: 2, 7м.
		п/х 14км/час	
		Ширина = 22м:	
		Вес состава = 7 961 т:	
		К-во груза = 6 392 т:	

C-1825	C-1548	п/х 18км/час	Состав: 4152 - 11 shp:	
1567т: 2, 5м.	1548т: 2, 3м.	стоячей воде	Длина состава = 153+58 м:	
			Ширина состава = 11 м:	
			Вес состава = 3386 т:	
			К-во груза = 3 115 т:	

т/х "Волга" q031 shp: Длина = 106 м: Ширина = 16 м: Осадка = 1,7м:

Водоизмещение 2 125 рег. т: Пассажировместимость 212 чел.

Скорость относительно воды полным ходом 25 км/час.

Участки реки Дунай:

1. "PRORVA" с 0001 по 0006 км: включая п. Усть - Дунайск:
2. "KILIA" с 0001 по 0038 км:
3. "DALLER" с 0026 по 0061 км:
4. "KOPANA" с 0054 по 0091 км:
5. "ISMAIL" с 0086 по 0116 км: вкл. морск. участок по 51 милю:
6. "RENI" с 0047 по 0072 милю:
7. "BREIL" с 0130 по 0178 км: вкл. морск. участок с 70 по 81 милю:
8. "DREB" с 0931 по 0975 км: при Оршова + 2500:
9. "BUDAP" с 1629 по 1653 км: при Будапешт + 250:
10. "DANUB" с 1897 по 1934 км: при Вена + 170:

THE STAGES of MODERNIZATION From 2000 To 2010 – 2-ND OWN SHIP BRIDGE BEFORE...



THE STAGES of MODERNIZATION From 2000 To 2010 – 2-ND OWN SHIP BRIDGE AFTER...



THE STAGES of MODERNIZATION From 2000 To 2010 – 3-D OWN SHIP BRIDGE BEFORE...



STAGES of MODERNIZATION From 2000 To 2010 – 3-D OWN SHIP BRIDGE AFTER...



POSSIBILITIES OF FURTHER MODERNIZATION:

- - INTEGRATION WITH STANDARD PROGRAM FOR NAVIGATION - INLAND ECDIS VIEWER



14:42:43

10.0 Kraan tov. BOEG

Koers / Snelheid

SOG: 12.22 Km/h

COG: 253.00°

Info

Km

GPS Info

Lon: 4° 33.239' E

Lat: 51° 41.959' N

SOG: 12.22 Km/h

COG: 253.00°

O-GPS1: INVALID

Meten

Miles indicator

Afst.: 3.290 km

Van: 234'

Passer

Afstand:

Van: 0'

Waypoints

Cursor

Lat: 51° 40.923' N

Lon: 4° 30.921' E

Trip

Afst.: 95.410 Km

Tqd: 04 3:50:09

Gem.: 24.07 Km/h

VHF Kanalen

Havenschap Moerdijk: 12

POSSIBILITIES OF FURTHER MODERNIZATION:

- - INTEGRATION WITH STANDARD PROGRAM OF AIS OPTION CONCLUSION ON SCREEN OF OTHER COURTS



POSSIBILITIES OF FURTHER MODERNIZATION:

- - INTEGRATION WITH STANDARD PROGRAM -
DISPLAY OF MANAGEMENT SHIP

Periskal дисплей управления судном

Lat: 51 09.611 N
Lon: 005 37.204 E
X: 0
Y: 0

Информация

Глубина

DPT: 0
Ref: 0

Точки маршрута

Информация



COG: 164.1 °



Судно

- Legend
- Antenna
 - Radar
 - Position of the device
 - Camera

GPS 1

DGPS1

GPS 2

DGPS1

15:46:38

13-06-2007

Информация

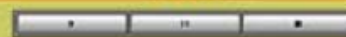
Meteo



WS: 0.00
°C: 0.00
BAR: 0

Пегел

Рейс



Расст-е: 0
Время: 0
Ср.: 0

POSSIBILITIES OF FURTHER MODERNIZATION:

- - INTEGRATION WITH STANDARD PROGRAM -
COMBINATION OF RADAR PICTURE AND MAP
(RADAR OVERLAY)

+90 °/min.

KM : 0

EBL: 0°

EBL: 0°

SOG: 0.00 km

COG:000.0°

HEA:000,0°



Радиолокатор	500 М
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Std	All	Usr
-----	-----	-----

ROT	GPS	RADAR	HEA
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0%

0%



1

●●●

08/05/2007 12:45

Точность 29

GENERAL CHART OF MODERNIZATION:



THANKS FOR ATTENTION,

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