

Maritime Information Systems AS

MBA

Installation Manual

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Contents

1	Hardware installation
1.1	Hardware requirements4
1.2	Router4
1.2.1	Router default Configuration5
1.2.2	PC - Internet Options for Proxy server
2	Installation
3	MBA and Communication Method7
3.1	Email Mode7
3.1.1	EMAIL Account set up7
3.1.2	HTTPS mode
3.1.3	Removable Drive mode10
4	Activate MBA
5	Configuration when MBA is working with MARIS ECDIS900
5.1	MBA and ECDIS900 PC10
5.1.1	Share folder on the Network10
5.1.2	LAN adaptors IP Addresses10
5.1.3	LAN adaptors configuration11
5.2	Link MBA with ECDIS900
6	<i>"PAYS" mode</i>
6.1	Activation of MARIS PAYS
6.2	MBA PC configuration
6.2.1	Application Manager Installation13
6.2.2	2 MBA setup as "Auto" task in Application Manager (AM)13
6.3	Sensor Monitor
7	Load Historical NTM
8	Commissioning Check list
Appen	dix A



1 Hardware installation

1.1 Hardware requirements

Minimum requirements:	Pentium IV or later		
Memory:	1GB(XP)2GB(W7)		
Available disk space:	25GB for 5 years 2, or		
Ethernet ports	1 + Router Firewall		
Printer	Color Printer		
Memory Stick	In case PC not connected to		
	ship's LAN and		
	Windows XP SP2/SP3		
Operating Systems:	W7 x86/x64		

1.2 Router

A router is required on the ECDIS LAN to limit and secure the accesses to ECDIS900 and MBA with firewall functions and connect to the ship LAN.

The router may be in place as part of the ship's LAN architecture.



MBA installed on standalone workstation





If a router is to be installed, two types of router may be delivered:

- Router IEC 61945 approved such as Westermo DSS L3 4 eth 1 RS232
- Non Approved router such as Router DIR-300/600

IMPORTANT: If the router is NOT IEC approved it must be installed outside of the bridge.

1.2.1 Router default Configuration

The router DIR-300/600 is factory configured with proper settings described in Annex A.

Factory configuration file is also available for the router WESTERMO (TYPE L205-S1), FILE CAN BE DOWNLOADED FROM MCP.

The LAN IP address of the routers is set by default to 192.168.123.1.



1.2.2 PC - Internet Options for Proxy server

Access to Proxy Server parameters by Menu:

Control Panel /Internet Options/Connections/LAN Settings, and configure parameters for the Proxy Server: (IP Address, Port Number)

	<u></u>	
Control Pan	el 🕨 All Control Panel Items 🕨	 ✓ ✓ Search Control Panel
File Edit View Tools H	C Internet Properties	
Adjust your computer'	General Security Privacy Content Connections Programs Advanced	View by: Small icons 🔻
 Action Center BitLocker Drive Encryption Default Programs Display Fonts Internet Options Network and Sharing Cen Personalization Recovery Speech Recognition Troubleshooting Windows Firewall 	To set up an Internet connection, dick Setup Dial-up and Virtual Private Network settings Add Add VPN Add VPN Choose Settings if you need to configure a proxy server for a connection. Settings Ob Never dial a connection Settings Ob Never dial a connection Settings Current None Current None Settings do not apply to dial-up connections. LAN settings LAN Settings above for dial-up settings. LAN settings OK Cancel Apply	Backup and Restore Date and Time Date and Printers Devices and Printers Network (LAN) Settings Automatic configuration any override manual settings. To ensure the use of manual settings, disable automatic configuration. Automatic configuration script Address Proxy server Duse a proxy server for your LAN (These settings will not apply to Address: Devices and Printers Devices and Printers Address Disability and Printers Devices and Printers De

Configuration Windows (XP or W7)



Example of Proxy Server Parameters

2 Installation

The installation material includes:

- Installation CD
- Login and Password provided by ChartService

The Installer CD contains:

- MBA Installer
- CBT



- MBA User Manual
- MBA Installation Manual
- "Foxit" installer file: FoxitReader545.0124_enu_Setup.exe
- Application Manager installer
- Configuration files for Router

Run MBA installer from the CD and follow instructions

3 MBA and Communication Method

MBA ship application communicates with the server, sending Request to MBA server, and receiving replies containing data updates.

With MBA three communication methods can be used;

- EMAIL : MBA PC is connected to the ship LAN and the ship's email server is available
- HTTPs : MBA PC is connected to ship LAN and internet is available
- Removable Drive : MBA PC is not connected to ship LAN

3.1 Email Mode

MBA manages sending and receiving emails as described below:

- Incoming emails are grabbed from mail server via POP3(s) protocol with standard port numbers 110/tcp for POP3 and 995/tcp for POP3s.
- Outgoing mail is being sent over SMTPs protocol with standard port numbers 25/tcp for SMTP and 465/tcp for SMTPs.

IT Manager must provide all information for email usage:

- Related to email account (Pop & SMTP servers, login and password).
- Eventual size limit for received email.



Email must be set up when MBA is installed on a PC connected by LAN to the email Server application.

3.1.1 EMAIL Account set up



• Select Menu "Setting/Email Settings"

POP3			9.			
Incoming server (F	POP3):	pop.str.fr			SSL Port	: 110
Account Name:	h.vdb@s	sfr.fr		Password:	•••••	
SMTP						
Outgoing serve	er (SMTP)	: smtp.st	fr.fr		SSL	
SMTP Se	rver Port	: 25			🗸 Use Au	thentication
Account Name:	h.vdb@	sfr.fr		Password:	•••••	1
Ship emai	l address	: h.vdb@	⊉sfr.fr			
Check en	nail every	; 3	min			
		r to got all	roguirod infor	mation		

- Press "Email test" to check the settings
- MBA displays a message when the email is sent.



- If the email cannot be sent it means that the SMTP server parameters are wrong and the Internet Email dialogue is displayed again. Check carefully with your IT manager the information related to SMTP server, IP address, eventually authentication and port number.
- IMPORTANT: WAIT FOR THE EMAIL TO BE RECEIVED ON BOARD (It can take several minutes depending on the internet provider)
- When the email is received MBA, MBA checks if the email and its attachment are consistent and reject inconsistent email (Wrong subject or attachment, corrupted content)
- If the email is not received after a sensible period of time, contact your IT manager for him to check that:
 - The email with the subject "RE:MDS" and the attached file Request123.MDS has been correctly sent to the ship's email address
 - a. This email has been received by the ship's email server
 - b. This email has not been deleted from the pop3 server.
 - c. After correcting any error, the test must be run again. Start again from 4 above.



Update Status	×
R	Email test has been passed successfully! Details >> Close

Email Test successful

3.1.2 HTTPS mode

When Internet is available on board, MBA may communicate with the server by HTTP. The ship IT manager must configure the LAN, Firewall and DNS as described below.

1) White list MBA server in the ship firewall.

The IT manager must white list the MBA server (chartservice.maris.no) in the ship firewall MBA uses standard port number 443/tcp for HTTPs.

2) Windows Firewall on MBA PC must be switched Off.

REMARK: MARIS may provide a Router Firewall configuration limiting the access of MBA and ECDIS PCs present on MARIS LAN, to the strict necessary communication and IP addresses (refer to Appendix A)



MBA is installed on a PC which can access Internet using broadband access.



3.1.3 Removable Drive mode



This configuration uses a Memory Stick to transfer data between the MBA PC and the communications PC on board.

This configuration uses a Memory Stick to transfer data between the MBA PC and the communications PC on board. The same files (Request or Replies) are sent or received to or from MBA server, using any email client running on the communication PC (Outlook, Thunderbird...)

4 Activate MBA

- Select the communication method in the menu "Settings" "communication method".
- Select the menu "Activation" in "Settings"
 - $\circ \quad \text{Enter the login and password} \\$
 - o Press "Finish"
 - Note: If the Removable drive method is used follow the instructions written in the file called MailInfoxxx.txt to apply the update in MBA.

5 Configuration when MBA is working with MARIS ECDIS900

5.1 MBA and ECDIS900 PC

5.1.1 Share folder on the Network

On all MARIS ECDIS PC on the LAN the two folders "C:\Charts" and "C:\ECDIS_UserData" must be shared on the network.

On MBA PC the folder "C:\ECDIS_UserData" must be shared on the network.

5.1.2 LAN adaptors IP Addresses

IP Addresses are defined according to ECDIS Scheme defined for ECDIS.

```
If 2 separate adaptors are used :
ECDIS Lan adaptor : 192.168.3.15x
Ship Lan adaptor : 192.168.123.15x /Gateway 192.168.123.1/ Primary DNS 192.168.123.1
```

If 1 adaptor used (ECDIS Lan), 2 IP addresses to be defined on the adaptor:

IP Address1 : 192.168.3.15x IP Address2: 192.168.123.15x (must be in second position) Gateway 192.168.123.1 Primary DNS 192.168.123.1



(in this case, the router can be connected directly with ECDIS Switch using a LAN port)

5.1.3 LAN adaptors configuration

When several LAN adaptors (including Ethernet, Wireless or other adaptors) are available on ECDIS900 or MBA PC proceed as follow:

- a) All Unused LAN Ports must be disabled
 - Open Network Connection from Control Panel:

ie Edit Mett Fatorices	Tools Advanced Help		
🌏 Back 🔹 🕥 - 🏂	🔎 Search 💫 Folders 🛛 🗰 🔻		
ddress 🔇 Network Connection	s		
	Name	Туре	Status
Network Tasks	Internet Gateway		
G Create a new connection		Internet Gateway	Connected
Set up a home or small office network	LAN or High-Speed Internet	,	
Change Windows Firewal settings	Test netwo	LAN or High-Speed Inte	r Network cable unplu
😻 Disable this network devi	Ce Local Area Disable	LAN or High-Speed Inte	r (Disabled)

• Right click and disable all UNUSED/UNPLUGGED LAN ports.

b) Binding configuration

MARIS LAN port must be on the top of the list. Proceed as follow:

• Open Network Connection from Control Panel, menu "Advanced Settings":







• MARIS LAN port must be on the top of the list of adaptors as above, use the arrow to bring MARIS to the top

5.2 Link MBA with ECDIS900

Activate the menu "Settings" and select "ECDIS Link" and "MARIS ECDIS900"

		MARIS ECDIS 900		
Computer name	IP address	ECDIS status	Access to	Access to
 ↓\\TatjanaASUS ↓\\X230-1719 	192, 168, 146, 122 192, 168, 146, 109	Monitoring Monitoring	Valid The networ	Valid The networ
Select one of ECDIS of should be valid, All of Note that the Working Select the way of copy	omputer to be sync her computers with g Folio will be restor ying MBA updates to LAN	ronized with MBA. The e valid access can receive eff form the server. o MARIS ECDIS900 MBA updates will be cop valid access to ECDIS_U update is received.	access to the ECDIS <u></u> MBA updates autom ed to the computers serData folder autom	UserData folder atically. from the list with atically when
O Burn CD				

Select the ECDIS you want MBA application to be synchronized with and push "OK".

6 "PAYS" mode

6.1 Activation of MARIS PAYS

To use MBA in PAYS mode several steps are required:

- Set up the License in MCP (Done by ChartService)
- Install ENC / AVCS on both ECDIS workstations
- Set up SMonitor on MBA PC
- "Application Manager" configuration

6.2 MBA PC configuration

MBA Application must run 24 hours per day.

When PAYS mode is activated, in order to guaranty the consistency of the track, MBA Program should never be stopped. Therefore Application Manager should be installed and PC run in "Approval mode", with MBA added in "Auto" tasks list.

Communication setting is the same as a standard MBA, with HTTPS or email. Removable drive mode is not recommended as Track report should be reported regularly.



6.2.1 Application Manager Installation

Install "Application Manager" on the MBA PC from installer CD.

6.2.2 MBA setup as "Auto" task in Application Manager (AM)

• Run Application Manager in "Administrator" by Right click in AM window. Press "Administrative settings"





- And then Edit "Auto" tasks list
- Press "Add" and select "C:\Program Files (x86)\MARIS\Digital Service\bin\Chart Manager.exe".
- Press "Add" and select "C:\Program Files (x86)\MARIS\SMonitor\SMonitor.exe".

							1
	Choose	task execut	able path			<u>?</u> ×	Suspend Task
		Look in: [🕽 bin	•	🗢 🗈 💣 🗉]-	Add
ĺ			Chart Manager				Edit
	Task Pro	perties			2	<u><</u>	
	MBA	Task Name	MBA PAYS				
		Task Path	C:\Digital Service\bin\Chart Manager.ex	e	Browse		
		Parameters					
		Hot key	None				
			E Keep this window active all the time				
			🗖 Watchdog				
			Timeout, ms 0				
				OK	Cancel		

MBA Application will be restarted automatically in case it is shut down accidentally.

6.3 Sensor Monitor

Sensor Monitor must run on MBA PC. Sensor Monitor must be configured to acquire GPS position either by serial line or by LAN.

There are three types of installation:

1) MBA is running on ECDIS900 Station See Sensor Monitor Manuals



2) MBA is installed on standalone PC connected to ECDIS900 by LAN

It is required to configure Sensor Monitor on ECDIS900 workstation as follow:

- Select the GPS Sensor
- Activate the "Raw data routing"
- Enter the network port 11000

Media Type	Serial Port		NMEA 0183 Sensor	
Sensor ID	NEW SENSOR 1	Parameters	COM6, 4800, 8N1	
		Data Houti	ng More Setting	8
A Sensor	Data Routing			10
		_		-
🔽 Enabl	e raw data routing		ОК	1
Route the	e raw data routing received data to IP po	et 11000 🕂	OK.	
F Enabl Route the Destination	e raw data routing received data to IP po n Host	et 11000 🚔 © Smart Broa © Local host	OK Cancel	

Configure Sensor Monitor on MBA workstation as follow:

- Create a GPS Sensor type Network
- Enter 11000 in the parameter field
- 3) MBA is installed on standalone PC and another ECDIS brand is used Connect the GPS to the PC and configure Sensor Monitor as described in the user manual

7 Load Historical NTM

IMPORTANT: This has to be done ONLY when the paper chart update manager is used on board. Insert the historical CDs provided by ChartService in the CD drive of MBA PC.

8 Commissioning Check list

When the installation and configuration are done activate the menu "Help" and select "Commissioning Check List".

0	
?	
?	
? 🗖	est
?	
? C Up to C Note	a date updated
?	
? C Isino	stalled It installed
2.0.3.16	
[
Send to Su	oport Cancel
	 ? ?



- 1) Press button "test" next to PDF display Expected result: MBA Disclaimer is displayed.
 - Select "YES"
 - Press "OK"
 - If MBA disclaimer is not displayed:
 - Select "NO"
 - Press "OK"
 - Press the button "Fix" and follow instructions
- Historical NTM database
 Select "Is installed" if the historical NTMs have been installed (Paper chart update manager only)
- 3) Press "Auto detect" and follow instructions. If auto test fails for any relevant test a "Fix" button is displayed next to the failure. Press "Fix" to change the settings



- 4) Enter your name in the box "Serviceman"
- 5) Enter eventual comments
- 6) Press "Send to Support"



Appendix A

Router DLink DIR 300/600 Configuration

DIR-300/600 series has 2 roles:

- Switch : with the limitation of 4 Devices or PC connected to the 4 LAN adaptors,
- Internet : Router Firewall, using WAN adaptor connected to Ship Lan providing Internet protocols (email, http, Internet access)

Router IP address is setup by default to 192.168.0.1, the Login is admin with no password.

The router is configured by importing a configuration file as described below.

Once logged in administration page of the router, select the option "Save and restore" in Router Maintenance page (connection with Web Browser, using default Router IP address 192.168.0.1)

DIR-300	SETUP	ADVANCED	MAINTENANCE	STATUS			
Device Administration	SAVE AND RESTORE SETTINGS						
Save and Restore	Once the router is cor	nfigured you can save the	configuration settings to a	configuration file on			
Firmware Update	d configuration settings, or	restore the factory					
DDNS Setting	derault settings.						
System Check Schedules	SAVE AND RESTORE SETTINGS						
Log Settings	Save Settings T	o Local Hard Drive : Save					
Logout	Load Settings From Local Hard Drive : Browse						

Use "Upload Settings" function, and load relevant configuration file delivered with the router.

Configuration of the IP address of the router WAN side

- On one PC connected to the router run Internet explorer
- o Enter the address 192.168.123.1 in the address field
- The configuration software is run. Enter login "admin" and password "mdsadmin".
- Internet (WAN side) Setup. There are two possibilities:
 - If DHCP on the ship LAN is activated: The required parameters are configured automatically in the router: IP Address, Gateway and DNS Server.
 - If DHCP is not activated the parameters (IP Address, Gateway and DNS Server) provided by the ship IP manager must be entered manually as follow:



Internet Setup	INTERNET CONNECTION						
Wireless Setup	Use this section to configure your Internet Connection method. There are several connection						
LAN Setup	methods to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, Russian PPTP(Dual Access) and Russian PPPoE(Dual Access). If you are unsure of your connection method, please contact your						
Time and Date	and Date Internet Service Provider.						
Parental Control	Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software						
Logout	on your computers.						
Save Settings Don't Save Settings							
	INTERNET CONNECTION TYPE						
	Choose the mode to be used by the router to connect to the Internet.						
	My Internet Connection is : Static IP						
	STATIC IP ADDRESS INTERNET CONNECTION TYPE						
	Enter the static IP address information provided by your Internet Service Provider (ISP).						
	IP Address : 192.168.222.40 (assigned by your ISP)						
	Subnet Mask : 255.255.255.0						
	ISP Gateway Address : 192.168.222.10						
	MAC Address : Choe MaC Address (optional)						
	Primary DNS Address : 192.168.222.10						
	Secondary DNS Address : (optional)						
	MTU: 1500						

Example: Configuration screen of the router DIR-300/600 Type is defined as "Static IP" IPAddress, Gateway and Primary DNS Address entered manually (Primary DNS same as Gateway in most of the case)

Proxy Server (If Proxy is used on board)

Internet access on board can be done through Proxy server. In this case, the Router and the PC has to be configured as following:

Router configuration for Proxy server:

- IP address of the proxy, Port number, and Protocol TCP has to be added in the list of authorized rule:
- Open the page:



At the end of the list, before "DenyAll" rule, there is a spare "Proxy" rule, not Active, to be adjusted and activated according to Proxy Parameters:



	0		192.168.123.2	Protocol		
Ø	Name Proxy	LAN 🗸	192.168.123.254	тср 👻		
				Port Range	Always	Add New
	Action		192.190.192.13	8119		
	Allow 👻	WAN 👻	192.190.192.13			
9			192.168.123.2	Protocol		
	Name DenyAll	LAN -	192.168.123.254	TCP 🔻		
				Port Range	Always	Add New
	Action		•	1		
	Deny 👻	WAN -		65535		
8			•	Protocol		
	Name PingWan	WAN -		ICMP 🕶		
				Port Range	Always	
	Action		192.168.123.2			
	Allow -	LAN -	192.168.123.254			

Example: Proxy (IP: 192.190.192.13, Port number 8119, TCP) is now open.