



## Standard Service

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### A. Introduction

Thank you for choosing the Global Link Network and for wanting to use our Wide-ranging and powerful service

We use high-performance transmitters and receivers. They have been combined with sophisticated filters and highly selective antennas to adapt them to the requirements of long-distance marine radio communications. Should you still fail to connect to the Global Link Network, please look up the current shortwave propagation conditions and check whether you have chosen the correct channel? Please consider the possibility of faulty equipment operation and check the settings of your radio system before contacting our technical support.

To be able to assist you, the technical support will need the following information:

- Your position
- Type of modem
- The make and model of your radio system
- Your callsign
- Which frequency you have chosen
- a detailed description of the fault

In case of a technical defect where spare parts are required, we need to have a precise, customs-compliant delivery address for dispatching items. We use DHL and UPS who can deliver to any port throughout our service areas within 48 hours.

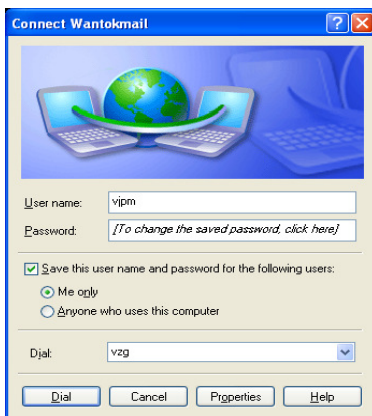
The following coast station hotlines can be contacted:

Tel.	Kielradio	+49-(0)700-kielradio
	Bernradio	+41-(0)31-6884422

Email	<a href="mailto:info@kielradio.de">info@kielradio.de</a>
	<a href="mailto:info@bernradio.ch">info@bernradio.ch</a>

## B. Setting up a connection with the Global link Network

In order to proceed with the following, your modem and computer must be prepared for the Global Link service. If not, then a **computer setup for the Global Link network** must be performed. By double-clicking the folder “Dial-up connection you will see the following window:



Please fill in the spaces above as follows, using only lower case letters:

**Username:** Your vessel's callsign. This will also serve as your access code to the coast station

**Password:** Your password (as supplied by GLN)

**Phone Number:** This is the callsign of the GLN station with which you made your agreement.

Requirements for a successful connection to a coast station are as follows:-

1. Your modem and receiver can hear the coast station and the selected channel is not occupied by another vessel. The status of the channel can be read from the modem display, so please check this before attempting to establish a connection. With a PTC-II or PTC II Pro, you will see the coast station callsign followed by “IDLE”. If the display shows “NO HOST” or the callsign followed by “BUSY” and you hear a signal on the radio, then you can attempt to connect as soon as the channel is free. The marine modem has a status light placed on the front (lower right).

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If this light is not on and no free signal can be heard, try another channel.  
If the light shows red and you hear a signal, then the channel is occupied.  
If the light is green then the channel is free.

2. You must have a valid agreement with a Global Link coast station. No matter which GLN station you have an agreement with, you have unlimited access to all other coast stations in the Global Link Network.
3. Your modem must be licensed with your GLN station or the modem manufacturer.

### C. Data Transmission

If the connection is successful, the Modem connect diode will light up. Your computer will show the following:-



You are now connected to the coast station.

For data transmission via the coast station you should now start your Email programme such as Outlook Express or Netscape Communicator. You can now employ these programmes just as you would at home. Please refer to your manuals for such Email software as Outlook express and our tips under "working with the Global Link Network". The following Internet-Protocols are supported:

#### C.1 POP3 (Post Office Protocol)

Protocol for the reception of E-mails. You can receive messages from the Global Link Mailserver and from any external e-mail service which supports POP3. All modern e-mail programmes are provided with this protocol to receive e-mails.

## C.2 SMTP (Send Mail Transfer Protocol)

Protocol used to send e-mails. You can transmit mails via the GLN station mail server. All modern e-mail programmes are provided with this protocol

## C.3 FTP (File Transfer Protocol)

Protocol employed for the direct transmission of files to or from an external computer that supports this function. For example, you may use this protocol to update your Internet home page. To do this you can use, for example, WS FTP pro or Netscape Composer.

## C.4 HTTP (Hyper Text Transfer Protocol)

HTTP is the most popular Web protocol for the transfer of websites and Internet information. The Global Link Network permits the transmission of Websites, but any request will be transferred to Kielradio's local Website. You can then download such data as weather reports, weather charts and other information from there.

## C.5 Additional protocols

Other protocols can be made available for scientific or technical use. However, this will only be done on a special contract basis. Please contact our technical department for further information.

## D. Disconnecting

If all your data has been sent and received, you may now cut the connection by clicking "**Disconnect**"

The modem will now shut down the connection to the coast station. Never disconnect by switching off the radio or the modem as the coast station will continue to try to re-establish the connection to your vessel for several minutes and this will be charged on your time account and not be utilised for data transmission.

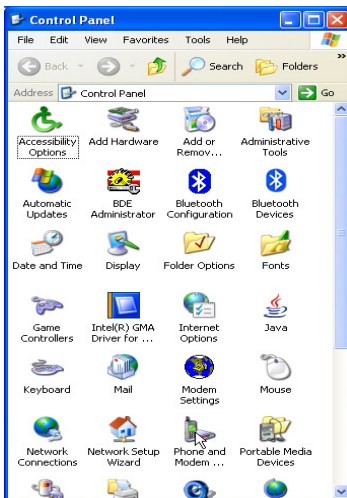


## E. Global Link Network computer installation

Special computer installation Software for the Global Link Network is not required. All the necessary drivers and programmes are already supplied by your computer operating system. Installation instructions for these are provided, for example, by Windows XP® and other operating systems are configured in a similar way. In case of doubt, please consult an IT expert.

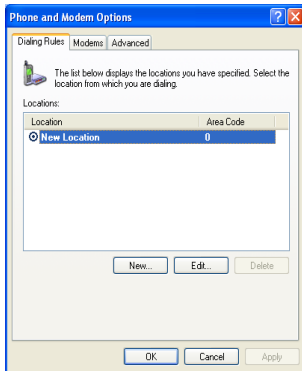
### E.1 Modem Installation

Open the control panel and choose the symbol “Phones and Modems”.



Click on “Modems” and choose “add”

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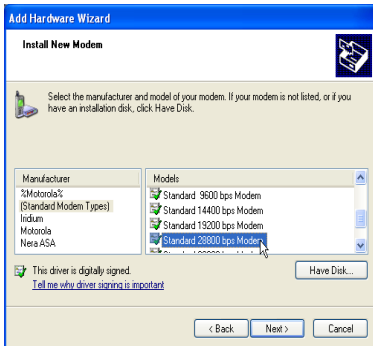


Deactivate the automatic detection of modems and click „next“

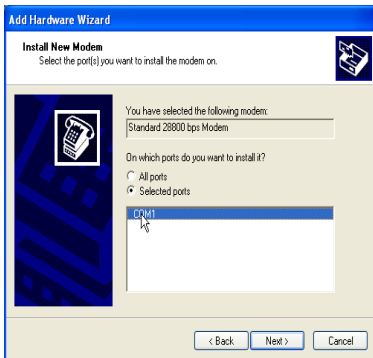


Choose the Standard 28800 bps modem and click on “next”

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Select the serial port (COM) which will be used to connect your pactor modem to the computer

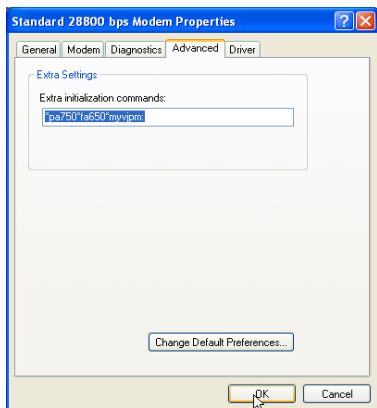


The modem will now be installed and after a few seconds, click on „finish“

In the next tab choose the new modem and click on **“Properties”** In the next tab choose **“advanced”**

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Under „**extended options**“ enter the following lines:

\*pa200\*fa200\*myXXX:

The Parameters in detail:

\*myXXX: transmits your vessel's callsign to the modem. Replace the XXX with your callsign. This parameter **MUST** be completed with a colon (:)

\*pa200 Controls the amplitude of the phase modulated signal from the modem to the transmitter and therefore the transmitter output. This level must be set appropriately for the radio equipment and the modem. Please consult the pactor modem handbook for detailed information.(pska)

\*fa200 Controls the amplitude of the frequency modulated signal from the modem to the transmitter and therefore the transmission output. This level must be set appropriately for the radio equipment and the modem. Please consult the pactor modem handbook for detailed information.(fska)

Here are the typical values for the most important transceiver models:

Skanti 1xxx, 7xxx, 8xxx, 9xxx	*pa1250*fa1000
Sailor 4xxx	*pa1250*fa1000
Thrane&Thrane	*pa1250*fa1000
Icom M-710, MOD/AF	*pa750*fa650

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Icom M-710, ACC	*pa250*fa180
Icom M-801	*pa750*fa650
Icom M-802	*pa750*fa650
Furuno	*pa1250*fa1000
JRC (only JSB 196GM)	*pa750*fa650
Barrett 980	*pa750*fa650

Values between 30 and 2000 can be used

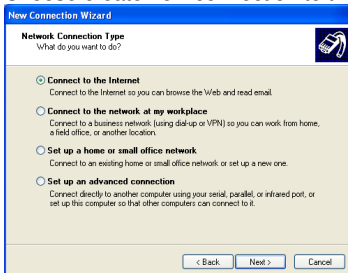
The Modem installation has now been completed and all tabs and windows can be closed.

### E.2. Setting up the Dial-up connection

Choose network and then internet connections

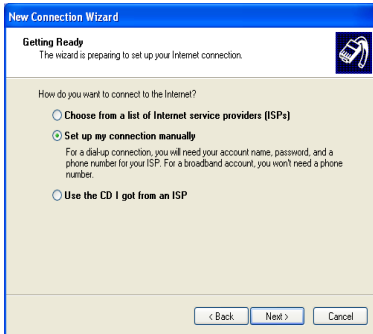


click „next“ in the following window.. The following pop-up appears:  
Choose create new connection to the internet and then click „next“

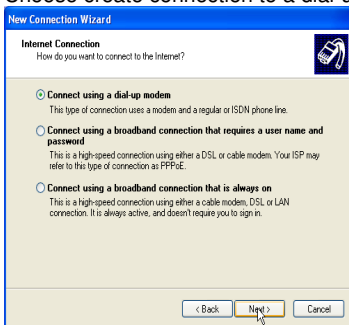


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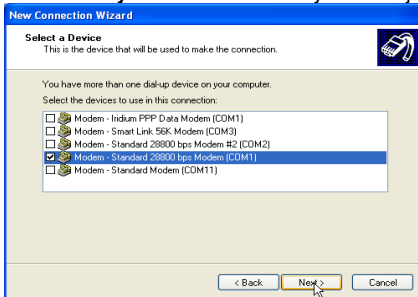
Choose create connection manually and then click „next“



Choose create connection to a dial-up modem and then click “next”

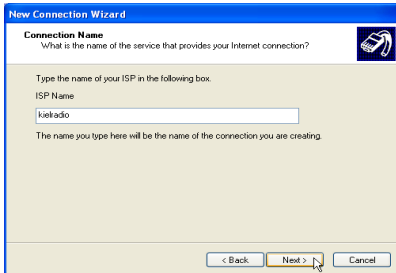


Choose **only** that modem which you have just installed and click „next“



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Enter a name (this can be anything – GLN Network or Wantokmail ) for the dial-up connection and click on „next“



**New Connection Wizard**

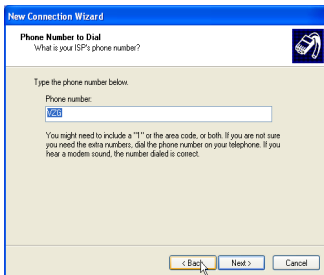
**Connection Name**  
What is the name of the service that provides your Internet connection?

Type the name of your ISP in the following box.  
ISP Name:  
keltado

The name you type here will be the name of the connection you are creating.

< Back Next > Cancel

Enter the callsign of your contracted station as the number for the dial-up connection. This number will not be acknowledged by the Marine-modem but Windows® needs an entry at this point. Now click on “next”



**New Connection Wizard**

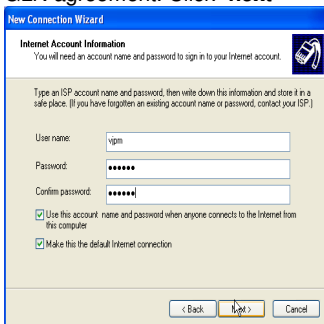
**Phone Number to Dial**  
What is your ISP's phone number?

Type the phone number below.  
Phone number:  
143

You might need to include a "1" at the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

< Back Next > Cancel

Enter your callsign and the password you received when you completed the GLN agreement. Click “next”



**New Connection Wizard**

**Internet Account Information**  
You will need an account name and password to sign in to your Internet account.

Type an ISP account name and password, then write down this information and store it in a safe place. (If you have forgotten an existing account name or password, contact your ISP.)

User name: vgm

Password: \*\*\*\*\*

Confirm password: \*\*\*\*\*

Use this account name and password when anyone connects to the Internet from this computer.

Make this the default Internet connection.

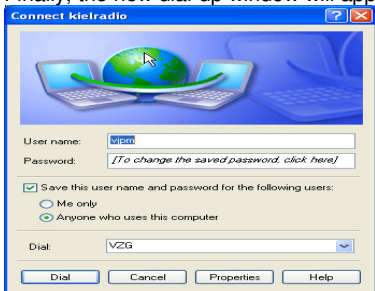
< Back Next > Cancel

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You can now complete the Dial-up connection installation. An entry on the desktop makes this easier to find in future. Now click on "finish"



Finally, the new dial-up window will appear



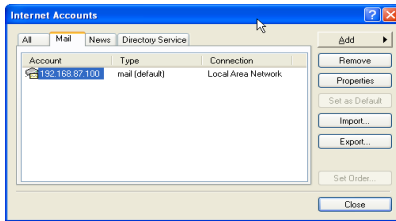
Please do not alter any of the entries you have just made. All windows can now be closed and now your computer is ready to operate with the Global Link Network

### E.3 E-mail programme installation

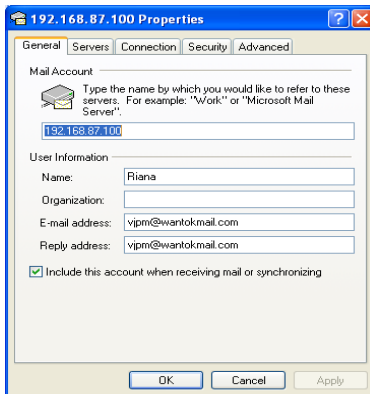
Any e-mail programme can be used to operate with the GLN. Outlook Express is recommended because it ensure a simple configuration of the Email server waiting time. Installation instructions for Outlook express are therefore explained below: It is presumed that an e-mail account is already available.

- Start Outlook
- Choose **Options -> Email Accounts**

## Standard Service

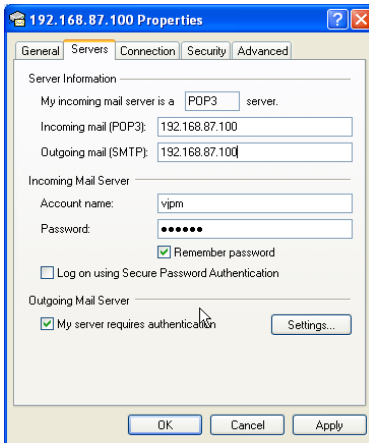


- Choose account properties, then tab **General**

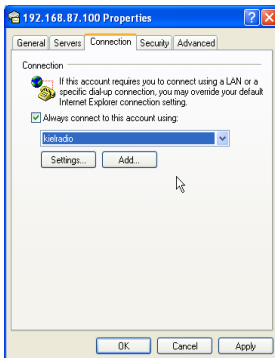


- Choose a meaningful name for the account such as GLN HF-Email or similar
- In the panel "Name" decide on a word which will appear in the receivers e-mail address such as your vessel's name
- Enter the Email address which you received from the Global Link Network
- An alternative reply address is not required
- Choose the tab: **Server**

## Standard Service



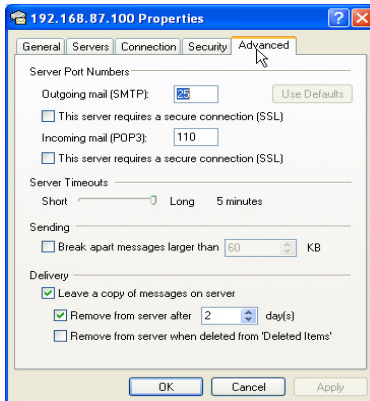
- As POP3 Server enter 192.168.87.100
- As SMTP Server enter 192.168.87.100
- The account name is the same as the user name employed for the login details for Global Link Network.
- The password is the same as that used for the login details for the Global Link Network
- The outgoing post server does not require authentication
- Choose the tab **connection**



- Choose the connection to Global Link Network as the connection for this email account

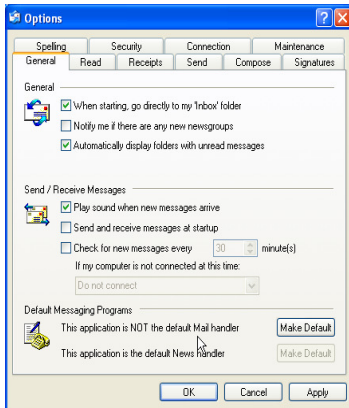
## Standard Service

- Choose the tab **Advanced**

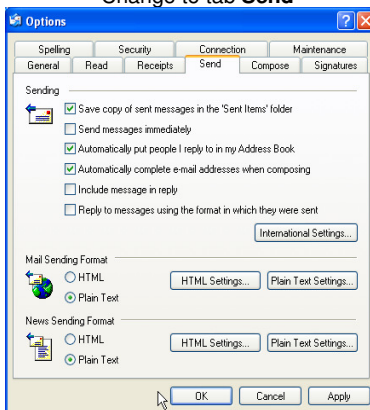


- Outbox (SMTP) is 25
- Inbox POP3 is 110
- Time limit for the server is 5 minutes
- Under delivery activate all 3 fields and set the storage time after delivery to a maximum of 5 days. This configuration ensures that already-delivered email will not be transmitted a second time. This is very useful if a transmission is disconnected when an email is being sent. An email that has already been delivered will not be transmitted again.
- Close the window by clicking **OK**. All settings will be saved and the window closed.
- Click on **close** and the window Internet accounts will be closed
- Choose in Outlook Express **Tools -> Options**

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- Deactivate Outlook Express start: receive and send messages.
- Deactivate check inbox every XX minutes
- Change to tab **Send**

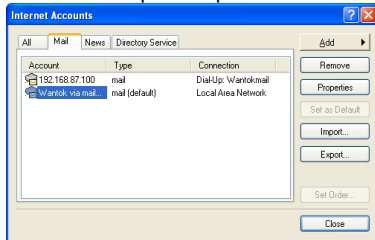


- Deactivate send mail immediately
- Deactivate: include original email in reply
- Deactivate: employ the same format as used in the original mail
- Activate under Form for „Send Mail“ the „text only“ option
- Close your selection with **OK**

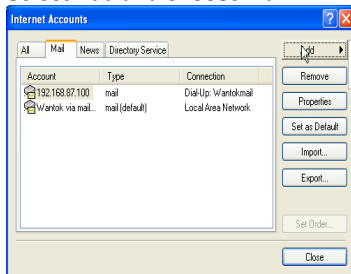
## Using Outlook express with Mailmanager

**Mail manager** Is a program that handles the actual downloading of emails and generally speeds up the connection. It is however NOT an email browser and thus we have to configure our email browser to work with mail manager. The examples above are modified slightly as below:

### In Outlook Express Open Tools – Accounts



### Select Add and choose Mail



Then give the new connection a name

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**Internet Connection Wizard**

**Your Name**

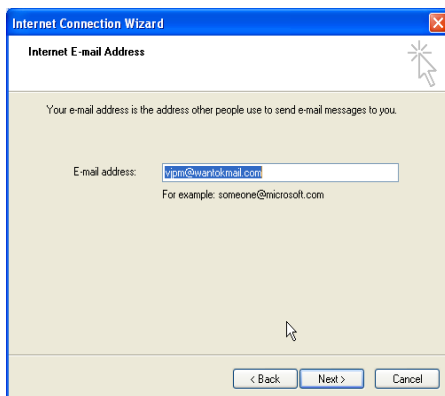
When you send e-mail, your name will appear in the From field of the outgoing message. Type your name as you would like it to appear.

Display name:

For example: John Smith

< Back   Next >   Cancel

Click next and enter your email address



**Internet Connection Wizard**

**Internet E-mail Address**

Your e-mail address is the address other people use to send e-mail messages to you.

E-mail address:

For example: someone@microsoft.com

< Back   Next >   Cancel



**Internet Connection Wizard**

**E-mail Server Names**

My incoming mail server is a  server.

Incoming mail (POP3, IMAP or HTTP) server:

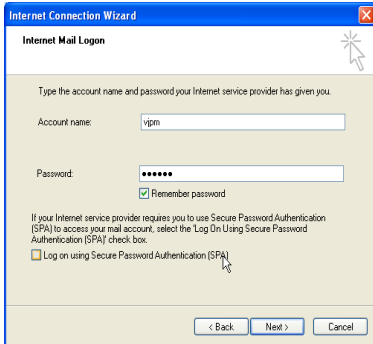
An SMTP server is the server that is used for your outgoing e-mail.  
Outgoing mail (SMTP) server:

< Back   Next >   Cancel

Click next and enter details as shown

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Click next and enter account details as provided by GLN



**Internet Connection Wizard**

**Internet Mail Logon**

Type the account name and password your Internet service provider has given you.

Account name:

Password:

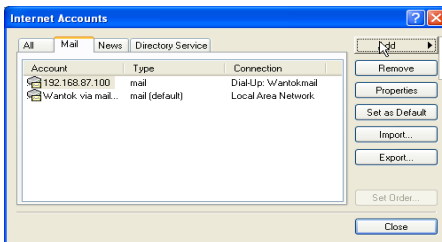
Remember password

If your Internet service provider requires you to use Secure Password Authentication (SPA) to access your mail account, select the "Log On Using Secure Password Authentication (SPA)" check box.

Log on using Secure Password Authentication (SPA)

< Back   Next >   Cancel

Click next and then Finish, you will be taken back to the next Screen



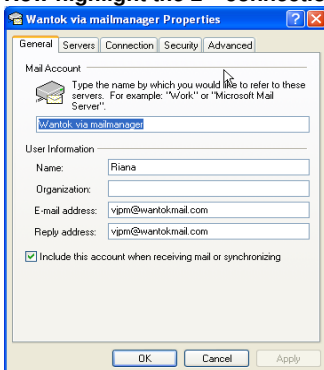
**Internet Accounts**

All   Mail   News   Directory Service

Account	Type	Connection
192.168.87.100	mail	Dial-Up: Wantokmail
Wantok via mail...	mail (default)	Local Area Network

Remove   Properties   Set as Default   Import...   Export...   Set Order...   Close

Now highlight the 2<sup>nd</sup> connection and click properties



**Wantok via mailmanager Properties**

General   Servers   Connection   Security   Advanced

**Mail Account**

Type the name by which you would like to refer to these servers. For example: "Work" or "Microsoft Mail Server".

**User Information**

Name:

Organization:

E-mail address:

Reply address:

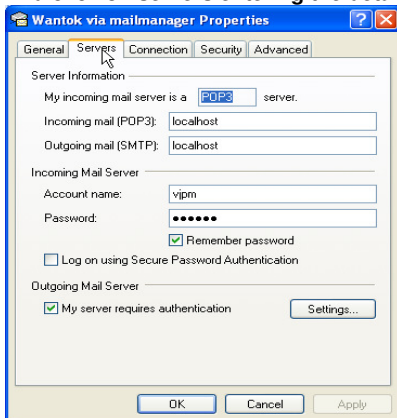
Include this account when receiving mail or synchronizing

OK   Cancel   Apply

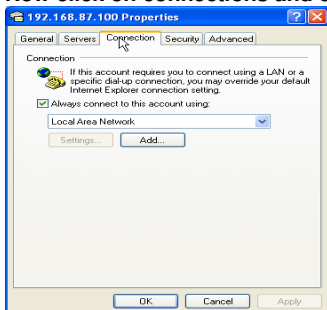
Enter the details as shown and using your GLN details

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**And click on servers entering the details as shown**

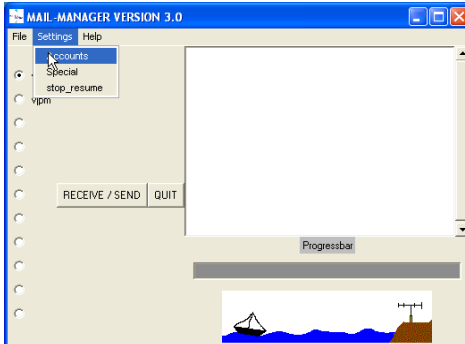


**Now click on connections and enter the details as shown**

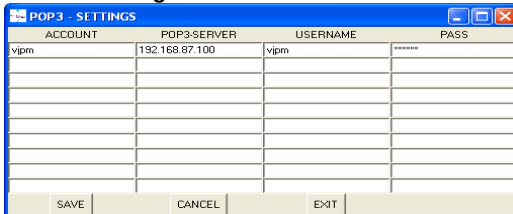


**Now click OK and leave this setup by clicking close**

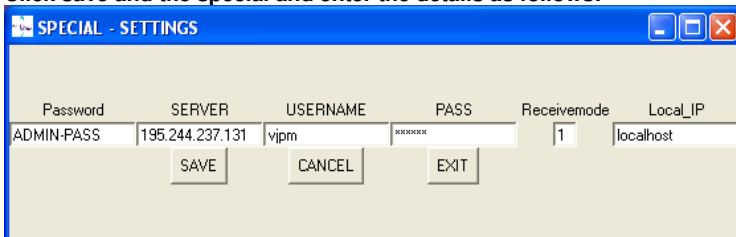
## Setup Mailmanager as follows



### Click on Settings -accounts and enter the detail as follows:



### Click save and the special and enter the details as follows:



Working with Global Link Network

## Standard Service

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Global link connects you to the internet while you are at sea. This means however that certain restrictions must be taken into account. The Global Link network is similar to the Inmarsat-M, Iridium, Globalstar and GSM networks which are designed for the transmission and reception of small amounts of data. The speeds achieved cannot be compared to those ashore. However, for transmitting your messages or for downloading other information such as weather reports or weather charts it is more than adequate in most cases. If you observe the following rules, you will always achieve good results.

- Emails and Data should be prepared offline before connecting to Global Link. This saves on air time.
- Choose the correct Global Link Network channel. Not every frequency can be used from any position at all times.
- Inform your correspondence partners to avoid transmitting mails with large attachments. Mails that are too large can block your account.
- Use your Global Link Network Email address whenever possible where we employ devices that suppress underlying data such as frames. An Email transfer via the Global Link Network Address is 60% faster than via an external Email address. The size of each email is restricted to 100kBytes in order to avoid a blockage of your Email account.
- Never publish your ships Email address on the Internet. This ensures protection against unwanted Email.. Please inform your clubs and organisations accordingly..
- Set up your Email programme to transmit plain text messages.
- Use the direct IP-Address of your external Email providers. Enter this in the appropriate dialog box of the Email programme

### Background knowledge:

If a connection to an Internet address is set up, the first step that follows is the release of the name such as [radio.kielradio.de](http://radio.kielradio.de). Your vessel's computer forwards this clear name via shortwave to our server at the coast station. This server then attempts to convert this clear name into a multi-digit number (when necessary with assistance from an external computer). This address is then returned via shortwave to your ship's computer. Your computer can then finally gain access to the required address. As these addresses very seldom change, entering the number instead of the address in the appropriate place saves work (and time) for the shore computer.



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### F.2. IP-Numbers

The standard IP-numbers that must be entered for the internet browser and Email programme are valid for all Global Link Coast stations:

POP3 Server : 192.168.87.100  
SMTP Server : 192.168.87.100  
Webpage request : <http://192.168.87.100>

### F.3. Email service

Always compose your news and Email offline. When all Emails are completed, a connection to the coast station can then be established..

A useful Email size is between two and ten Kilobytes. Larger mails can be forwarded but should normally stay within these limits if possible.

Any document can be added as a data supplement. Photos, drawings and documents can be transmitted without problems and reach the recipient error free.

Please ensure that your Emails are ALWAYS transmitted in plain text format. If they are forwarded in HTML, then each mail will be transmitted twice together with a large number of control characters. A relatively small Email can then increase to 4 times the original size.

### F.4. Weather server

A local weather server is available for ship stations.  
To reach these web pages build a connection to the Global Link Network.  
Start your internet browser and enter: <http://192.168.87.100> this web page is self-explanatory. All weather reports that can be downloaded are free of charge. Only the on-line time for downloads will be charged to your account.

### F.5. Frequencies

The frequencies available are listed on the Home page from Global Link Network in the internet or on the SSB-Website under:

<http://195.244.237.71/gln-scripts/gln-channel.cgi>

Please take the propagation conditions and the distance to the chosen coast station into account.

- The greater the distance to the coast station: the higher the frequency
- The higher the sun is over the horizon: the higher the frequency.
- Chose a connection to the north or south of your position when possible as North-South connections are easier to establish than East-West ones.
- Ensure, when possible, that no local disturbance interferes with your reception. Lower frequencies are more sensitive to local interference than higher ones.

## G Special services

The Global Link Network supports not only the standard services described above, but also data with special internet protocols can be transmitted. Additionally, Global Link Network can transmit your Emails as fax or SMS to any destination. Details of these special services can be obtained in the text below:

### G.1 FTP Access

It is possible to communicate with any Internet server via the Global Link Network but please observe the following rules:

- If possible, use a programme with which you have already had experience ashore. We have tested only *WS\_FTP Pro* with our services, which is an inexpensive but powerful programme. Some providers supply this on completion of an agreement with them.
- Only active FTP is possible with the Global Link Servers. This option must be set on you FTP programme
- Timeout should be set to the highest possible value in the FTP programme. However, we have been able to access our Testserver under the poorest conditions without Timeout problems. If you need to download a large amount of data regularly for business reasons, then you should request your system administrator to grant FTP access to your server. FTP is much more efficient than POP3 or SMTP which are normally used to transmit mails. Precious online time will then be saved.
- **Please note that due to the complex connections of FTP access, we are unable to offer technical support. If you require a fully functional**

**FTP service this can be set up in cooperation with your system administrator and the Kielradio technicians. Let us submit an offer.**

- **G.2 Faxmailservice**

A fax mail service can be installed for your account on request. The basic service is free. However, forwarding charges are levied for each minute or part thereof according to our Price list.

In order to forward an Email as fax, compose your Email normally and then transmit it to our Faxmailer. For this, enter: [Fax@kielradio.de](mailto:Fax@kielradio.de) in the address field.

Enter the Fax number required in the „subject“field. Special characters, hyphens, blank spaces or other separation signs may not be used.

Please employ the following international format for Telephone numbers:

**+494315606421**

All other formats will not function correctly.

Only text can be transmitted. Appendices or attachments will be extracted and rejected. If the Fax is delivered successfully, a confirmation Email will be returned with the time taken for transmission displayed, otherwise an error message will be received.

Kielradio's Faxmailservice is only available via shortwave.

**It is absolutely essential to bear in mind that substantial costs can be generated with this particular service. If Faxmail has been installed, it is very important that an unauthorised person cannot make use of this feature.**

### **G.3 Tracking Service**

Please inform Global Link if you have an agreement with a tracking service. Such services enable a vessel's voyage to be followed on the internet although an agreement must be made with such a tracking service in order to make use of their facilities. Moreover, your modem must be connected to a GPS system. Further information can be obtained in the Marine Modem handbook. This has all the required details about the correct installation and configuration of the modem and GPS.

## H System improvement

The performance of your Email system can be improved, after some connections have been made via the Global Link Network and practical experience gained with the computer and radio system. Experience has shown that most problems are caused by an incorrect installation of the radio equipment. However, it is also possible that unnecessary software on your vessel's computer can slow down overall performance.

### H.1 Transmitter

One cannot rely on the transmitter producing the full amount of power as described in the handbook. The following conditions must be met in order to produce the maximum transmitter performance:

- A powerful and efficient Aerial is required such as a whip antenna with a length of at least 6 meters. Many owners prefer to use an isolated backstay. This should be between 6 and 15 meters long. However, this can be a disadvantage with a weak signal as the backstay is at an angle. The connection cable between the automatic tuning unit and the Antenna should be as short as possible. Cables that are too long produce antenna losses. Moreover, radiation from the cable can interfere with other sensitive electronic systems on board. The connection cable must be of the high voltage type and should never be a coaxial one. The best high voltage cables are those used for neon signs which are then connected to the backstay with a special chrome/ nickel coated steel connector.
- The ATU must be earthed. The surface area of the earth should not be less than 4 m<sup>2</sup> when using a transmitter up to 150 watts. The connection between the ATU and the earth connection should be made out of copper or copper braiding. The minimum cross-section is 25 mm<sup>2</sup>. Never use single-strand cable or lacing. These types of cable are ineffective due to the skin effect produced at high frequencies. Connect the ATU directly to the earth. Steel or aluminium boats can be earthed directly. If you have reservations about galvanic corrosion however, your radio equipment can be used with a DC/DC converter.
- A coaxial cable (Type RG58U) can be used for the connection between the ATU and the radio. If the length of the cable exceeds 25 Meters, then coaxial cable RG213U should be used. The ATU control cable should be screened to avoid harmful external radiation. The transmitter earthing is not critical. A 6mm<sup>2</sup> cross-section cable is sufficient to connect the equipment to earth.
- The radio power supply should be so installed that unnecessary power losses can be avoided. The marine modem reduces the

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transmitter output to the minimum required for a stable connection. but currents up to 25 amps can occur. Therefore, a cable of at least 6mm<sup>2</sup> cross-section should be used for the power supply

All the above requirements must at least be met but they are still no guarantee that the Transmitter delivers the best possible performance. This can only be discovered by long-distance connection tests to other stations.. Such tests should be carried out well in advance of any voyage to distant waters so that improvements can still be made. Measurements made by a standing-wave meter do not give sufficient information about how well your antenna radiates for example. The ATU always ensures that the nominal power output is indicated. However, this does not prove that the antenna is really radiating the full output power. Finally, only an experienced radio operator can judge if the best performance is being achieved.

### H.2 Choice of frequency.

The second largest source of errors in transmission are the wrong choice of frequency in the wrong position and at the wrong time. Learn as much as possible about frequency propagation on shortwave before you embark on a long-distance voyage. You cannot expect to transmit across the Atlantic on 2,5 Mhz for example. The Global Link Network publishes propagation forecasts and conditions on the internet every month. Print this list and download the latest forecast from the GLN website. Always check every possible channel in case the coast station has to change frequency due to interference. Global link has an alternative frequency in each band so that another frequency can be chosen quickly when interference occurs. An updated GLN frequency list is always available on the internet home page. When choosing the desired channel please observe the following:

- Tune to a frequency in accordance with your time of day, your position and the frequency forecast. (HF propagation).
- Listen on the chosen frequency for a few minutes. If you can hear the typical free signal (a melodic tone of about one second followed by a break of one second), then a connection to global link is possible. Your modem IDLE light should now be lit green.

### H.3 Transmitter operation

You will soon be able to judge which frequency is the best to use at any given moment after making a number of connections to the Global Link Network. One must not be influenced by the fact that a frequency which is good for your boat also applies to a vessel that is only a few miles away. Practice in these cases makes perfect. However, certain rules should be observed.



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- Press the “Tune” button on your radio after choosing a new frequency. Only then can one judge if this frequency can be used. Some types of Amateur radio equipment employ a smart tuner and this must be switched to AM mode to function with the antenna tuning unit.
- Choose the highest power level when setting up a connection. This can always be adjusted after the connection is actually made. As a rule, a ship’s radio equipment does not have this facility.
- If your transmitter has an adjustable output level for your modem (headphones or loudspeaker), ensure that this is not set to zero. Otherwise, the modem will be unable to make a connection.
- If your modem is used with a transmitter that has an adjustable input (usually indicated with MIC), this should be set to the centre position. If not then your equipment will not transmit a signal.
- Ensure that the correct transmitter mode has been chosen. The Global link Network operates on the upper side band of single side band. This is normally indicated on the equipment by J3E or USB.
- Some transmitters employ a so-called clarifier. This is used to adjust the transmitting or receiving frequencies. Make sure that this is set to the centre position.

### H.4 Computer

Any computer can be employed for use with the Global Link Network and no minimum performance levels are required. Unfortunately however, most lap tops are no longer fitted with a serial interface. In such cases a USB-COM adaptor is necessary.

### H.5 Installed Programmes

Today, nearly every programme is equipped with a utility which indicates when updates are necessary or automatically downloads such updates when connected to the internet. If such utilities are employed, then these prevent or slow down the internet connection to such an extent that the normal transmission of emails or data is no longer possible. Kielradio has tested many of the most common programmes and recommends that such utilities should be either de-installed or deactivated. Some examples of such programmes are given below:

- MS-Internet Explorer
- Netscape Navigator
- Realplayer
- Symantec Virens scanner
- McAfee Virens scanner

## **I           Roaming**

Connections can be made without limits to any Global Link Network Station. No further charges are incurred.

## **K           Firmware**

The marine modems work with special firmware adapted to the requirements of the Global Link Network. This firmware is available for all Pactor-III capable modems.

The essential characteristics of Kielradio's firmware are:

- **AT-Kompatibility:** the modem reacts like a normal Hayes-modem. It can therefore be employed with nearly every computer which has a serial interface and Email programme.
- A fixed baudrate of 38400. This can be checked in the Pactor-modem handbook under the command *serbaud*
- A licence is necessary for operating the modem as the Kielradio firmware will not operate without a licence.
- Use of the free signal is preset and a connection is only possible when your modem hears this signal. This will be shown by the green LED IDLE/BUSY light on the modem.
- The Global Link Network transmits all data in coded form. Copying such data as at other coast stations or in Amateur radio is not possible.
- If you wish to use other modem functions then the command interface should be thoroughly consulted. This can be done by obtaining the complete Modem handbook from the manufacturer. If you wish to return to using the modem afterwards for Global Link, then the baudrate must be reset to 38400, otherwise the unit will not connect. The Kielradio modus can be changed to the command interface by pressing the *ESC-Key*. The Pactor modem manual should be consulted for this.

## **L           Mailmanager**

Kielradio has developed a software utility which enables access to any Email account and improves the performance of the Global link Network. This programme offers the following advantages:



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- Synchronous connection to both mail servers (SMTP, POP3)
- Re-establishment of broken connections without the need for data repetition
- Online compression including external Email accounts
- Shortens the connection time up to a factor of five
- No additional charges

This programme can be downloaded for free from Kielradio's website and is available without charge for all Global Link customers. The software is delivered with complete documentation and an online handbook. Therefore, further documentation is dispensed with here