

ACCREDITED SOLUTION

SAILOR 700 – UCH-250 Fax over IP



Document Name: SAILOR 700 – UCH-250 Fax over IP

Revision: F

Introduction: This document describes the Universal Communication Hub 250 (UCH-250) from the company On-Go Inc. This document describes how it can be used for Fax over IP together with the SAILOR 700 VSAT system.

Typical Users:

- ▶ Yachts
- ▶ Luxury Yachts
- ▶ Merchant vessel
- ▶ Coast Guard
- ▶ Sailboats
- ▶ Oil rigs
- ▶ Patrol boats

Product Description: The UCH-250 from On-Go Inc. is powerful technology that provides transparent communication and networking capabilities. Located at the remote premises, the UCH-250 bridges the interface incompatibility gap between peripheral devices and networks by acting as a network router, device interface, and protocol converter.

USAGE:
The UCH-250 lets you fully utilize your existing analogue G3-fax devices to send facsimiles over the packet data connection on your SAILOR FleetBroadband terminal.

HOW IT WORKS:
The UCH-250 converts the fax signals to data format that can be transmitted over the SAILOR 700 packet switched data channel. The fax data is received by a fax server at shore which again converts the fax data back to analogue fax signals and roams the fax to the Public Switched Telephone Network (PSTN).



On-Go Inc.
contact details:

E-mail	mailto:sales@on-go.com
Phone	+1.301.765.8030
Web	http://www.on-go.com

Thrane & Thrane
contact details:

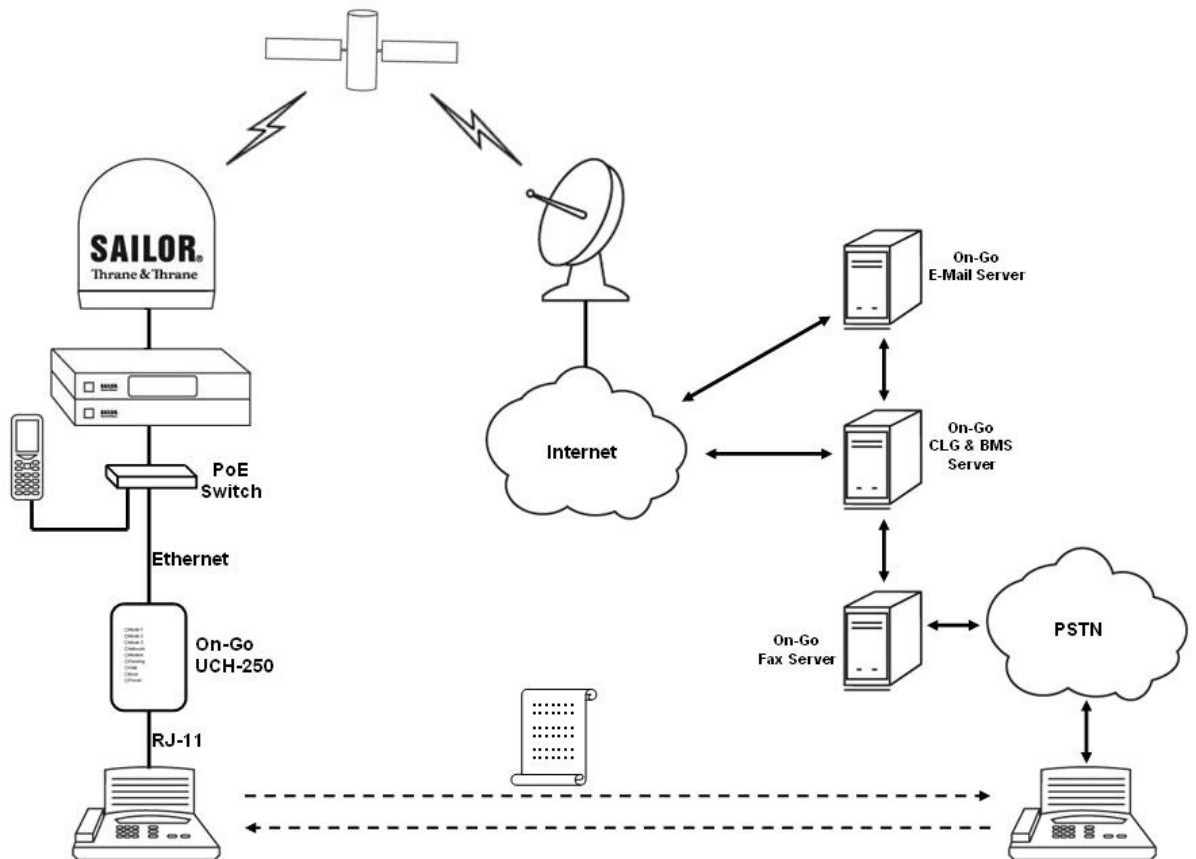
E-mail	mailto:solutions@thrane.com
Thrane & Thrane Distributors	http://www.thrane.com/Contact/Distributors.aspx

Tested on products:

SAILOR 700 ADU RF Section	Software version: 2.00
SAILOR 700 ADU Main Section	Software version: 2.02
SAILOR 700 ACU	Software version: 2.02
SAILOR 700 VMU	Software version: r242_1
UCH-250	Application Software version: 2.1.4

Instructions:

The next part explains the configuration of the SAILOR 700 and the UCH-250 unit. The system overview on picture 1 shows the fax machine connected to the UCH-250 which again connects to the LAN of the SAILOR 700 terminal. The SAILOR 700 terminal sends the IP Fax over the satellite through to the Internet and to the On-Go Infrastructure. The Call Logic Gateway (CLG) is a server-based component that provides call processing and account management functionality, while the Business Management Server (BMS) is a server-based component that provides operations capabilities. The fax server handles incoming and outgoing faxes to/from the PSTN network. The email server receives emails from the Internet and converts them to IP fax and forwards them to UCH-250 devices. The UCH-250 will send the fax to the attached fax machine where the fax will be printed out.



Picture 1: System Overview

SAILOR 700 Configuration:

The SAILOR 700 works with factory default settings. The SAILOR 700 terminal only needs to be online on the Internet for the UCH-250 to be able to send fax. With factory default settings plug in the UCH-250 Ethernet to the LAN port of the SAILOR 700.

UCH-250 Configuration:

The UCH-250 works with factory default settings. Therefore there is no need for configuration of the UCH-250 if it was received directly from On-Go Inc. Anyway the switch settings are described below; this is useful if the UCH-250 has been used for another application and configuration before connecting it to SAILOR 700.

The dip switches SW1 and SW2 are located under a small lid on the bottom of the UCH-250 unit. See picture 3 below



Picture 3: Dip Switches

Table 1 and table 2 shows the dip switch settings for default configuration settings which apply DHCP for the Ethernet interface and Store and Forward Fax.

POS 1	ON	Normal Operation
POS 2	ON	Polling Off
POS 3	ON	Print Delivery Report
POS 4	ON	Bypass Initial Contact to Server

Table 1: SW1 Default Configuration

POS 1	ON	Use Default Configuration
POS 2-8	XXX	Don't care.

Table 2: SW2 Default Configuration

Mobile Originated fax allows an off-the-shelf G3 fax machine to be used to send documents with the SAILOR 700.

Here is a description of how to send a fax and how the UCH-250 unit will indicate the progress until it prints a confirmation for the transmission.

Switch on the SAILOR 700, the fax machine and UCH-250 unit.

Connect the LAN port of the SAILOR 700 to the Ethernet port of the UCH-250 unit.

Wait until the SAILOR 700 is locked to the satellite and connected to the network (the control unit shows "Online"). Connect the G3 fax machine to the RJ11 port of the UCH-250 unit, wait for the Modem LED to be ON (indicating modem port is ready).

The system is now IDLE and following LEDs should be illuminated:

Network LED	ON
Modem LED	ON
Power LED	ON

Take the fax off hook, and dial the number in the format: COUNTRY CODE + NUMBER. Do not dial any prefix like 00 or 011; the system will handle that automatically.

The fax machine is now transmitting the fax page to the UCH-250 and following LEDs should show following status:

Network LED	ON
Modem LED	Blinking
Power LED	ON

UCH-250 Default settings:

Sending FAX:

UCH-250 IDLE

FAX to UCH-250

UCH-250 to On-Go Fax Server

After the UCH-250 has received the fax it will forward it to the On-Go infrastructure via the satellite and Internet connection and the On-Go fax server will forward the fax to the end destination fax via landlines. During this process the LEDs should show following status:

Network LED	ON
Modem LED	ON
Pending LED	Blinking
Power LED	ON

Receiving Confirmation

When the end destination has received the fax a confirmation will be sent back from the On-Go fax server and forwarded to the remote UCH-250 unit which will print a confirmation report on to the fax machine. During this the LEDs should show following status:

Network LED	ON
Modem LED	Blinking
Power LED	ON

UCH-250 IDLE

And now the system will be idle again and following LEDs should be illuminated:

Network LED	ON
Modem LED	ON
Power LED	ON

Receiving a FAX:

Mobile terminated fax is automatic. When the user subscribes to a service plan with On-Go Inc, a "MAILBOX" number (telephone number) will be assigned to the UCH-250 unit. When a fax is sent to that MAILBOX number, a notification is sent to the UCH-250 unit and the UCH-250 unit will connect to the Gateway to pick up that message. When the message is completely downloaded to the UCH-250 unit, it will simply RING the fax machine locally and print the message out. The On-Go service can support mobile terminated fax originated from a fax machine or from email (i.e. When an email is sent to MAILBOX_NUMBER@uch.on-go.com, it is automatically converted and sent to the UCH-250 unit as a fax).

Local Commands:

The user can command UCH-250 to perform certain tasks or retrieve internal status and reports. This command is performed through DTMF tones (such as dial from a phone or the fax machine). To enter the command, simply take the attached telephony device of fax machine off hook, enter the key sequence and then hang up. To get a full list of supported commands just dial ### and hang up.

Tested:

Several successful tests were done sending faxes from SAILOR 700 to G3-fax at shore and from G3-fax at shore back to SAILOR 700. Furthermore emails were sent from shore to the MAILBOX_NUMBER@uch.on-go.com of the UCH-250 and verified it was received well as a fax on the SAILOR 700 system.

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