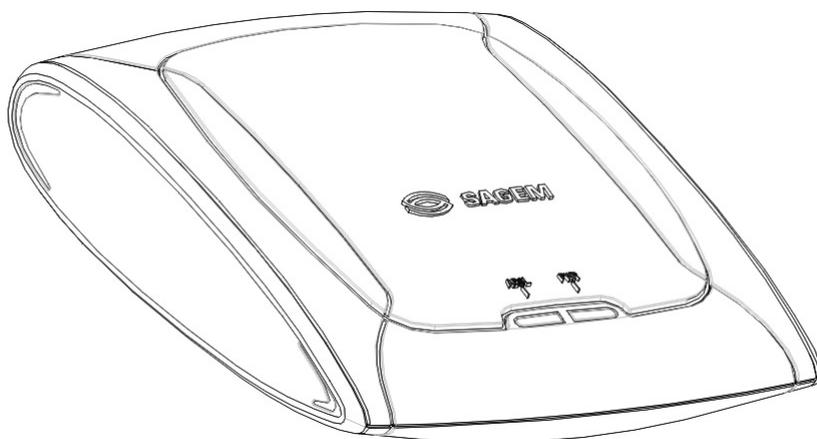


# **SAGEM F@st™ 908 / 948**

## **Ethernet/USB Combo ADSL Modem**



## **Installation Guide**

**Reference:** 251 605 322 ed. 1

May 2004 edition



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## Warning



Warning icon used in this guide



Information icon used in this guide

**Safety instructions**

**Before making any connection**, refer to the safety instructions in **Appendix A** of this Installation Guide.

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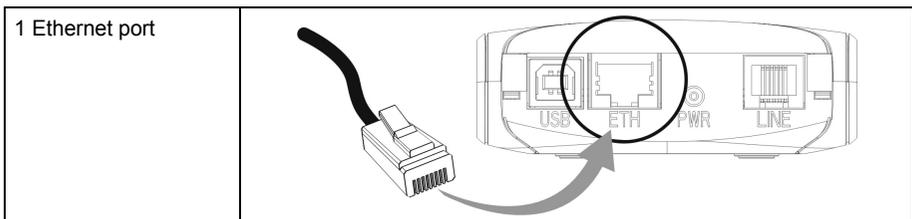
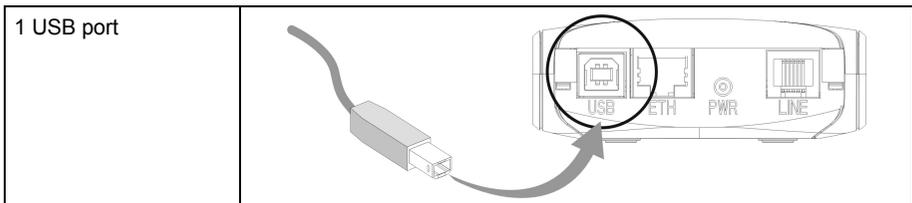
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## 1. Overview of the SAGEM F@st™ 908 / 948 modems

### 1.1 Description

The SAGEM F@st™ 908 / 948<sup>1</sup> modems are ADSL "Combo" modems with USB and Ethernet interfaces used to browse the internet at high speeds using an ADSL-compatible telephone line. Their function is to transmit the data between a computer (PC or Mac) connected by an Ethernet interface and an Internet Access Provider (IAP), via an ADSL link.

The SAGEM F@st™ 908 / 948 ADSL modem has two local interfaces:



Both USB and Ethernet interfaces cannot function simultaneously. It is therefore important to select the correct mode of use for the SAGEM [F@st™](#) 908 / 948 modem: Ethernet or USB mode.

<sup>1</sup> SAGEM F@st™ 908 is an ADSL modem used for an analog telephone network (POTS). SAGEM F@st™ 948 is an ADSL modem used for a digital telephone network (ISDN).

## 1.2 Choosing the connection interface

You can choose between the connection interfaces based on a number of criteria:

- Interface not available: your computer may not have an Ethernet card or an Ethernet port.
- USB devices already used (keyboard, mouse, etc).



If you already have several USB devices, you are advised to use the Ethernet interface to ensure that your Internet connection will be set up in the best possible conditions.



The USB interface always takes priority over the Ethernet interface.

When both these interfaces are installed, disconnecting the USB side prevents the modem from working on its Ethernet interface.

To work in this way, you must disconnect the power supply from the modem and then reconnect it.



The SAGEM [F@st™](#) 908 / 948 can be connected to a local area network (LAN) via an Ethernet/Ethernet router (installed in Ethernet mode).



The SAGEM [F@st™](#) 908 / 948 is powered from a mains adapter unit. It does not use the power supply provided by the USB interface.

### 1.3 Contents of your ADSL pack

Your SAGEM F@st™ 908 / 948 pack contains the following items:

One SAGEM [F@st™](#) 908 / 948 ADSL modem

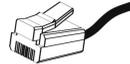


One mains adapter unit

One RJ11 type ADSL line lead



One cross-pinned UTP RJ45 type Ethernet cable



One Type A / Type B USB cable



One modem installation CD-ROM

One CD-ROM for installing the PPPoE client software (optional)



ADSL splitters (optional)

**Note:** This list is not exhaustive. The packaging may also contain safety instructions and other documents.

The modem installation CD ROM contains:

- the applications for installing the drivers,
- the drivers,
- the diagnostic and configuration applications,
- this Installation Guide for SAGEM F@st™ 908 / 948 modems in pdf file format,
- the SAGEM F@st™ 908 / 948 modem Ethernet interface reference manual in pdf file format,
- the SAGEM F@st™ 908 / 948 modem USB interface reference manual in pdf file format.

Contents incomplete or damaged	If the package you receive is incomplete or contains damaged items, contact the Internet access provider (IAP) supplying your SAGEM <a href="#">F@st™</a> 908 / 948 modem.
--------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## 1.4 Prerequisites

<b>Telephone line side</b>	<ul style="list-style-type: none"> <li>➤ Telephone line supporting ADSL transmission.</li> <li>➤ Internet access provider (IAP) subscription</li> <li>➤ Installation of ADSL splitters on each telephone socket used by a terminal (telephone, DECT phone, fax, answering machine, etc).</li> </ul>
<b>Computer side</b>	<p>The minimum configuration of your computer must be:</p> <ul style="list-style-type: none"> <li>➤ Windows XP           Pentium II, 400 MHz, 128 Mb RAM</li> <li>➤ Windows 2000       Pentium II, 266 MHz, 64 Mb RAM</li> <li>➤ Windows ME         Pentium II, 233 MHz, 64 Mb RAM</li> <li>➤ Windows 98         Pentium II, 166 MHz, 32 Mb RAM</li> <li>➤ MacOS 8.6 - 9.x     PowerPC G3, 233 MHz, 64 Mb RAM</li> <li>➤ MacOS X             PowerPC G3, 233 MHz, 128 Mb RAM</li> </ul>
<b>Free space on your computer</b>	100 Mb
<b>A WEB browser</b>	
<b>USB mode</b>	No additional software
<b>Ethernet mode</b>	A PPPoE client software utility must be installed on your computer if not included in your operating system. Refer to section 3.1 in the SAGEM <a href="#">F@st™ 908 / 948 Ethernet interface reference manual</a> for more information.



For the PPPoE and PPPoA modes, the internet access provider (IAP) should provide you with::

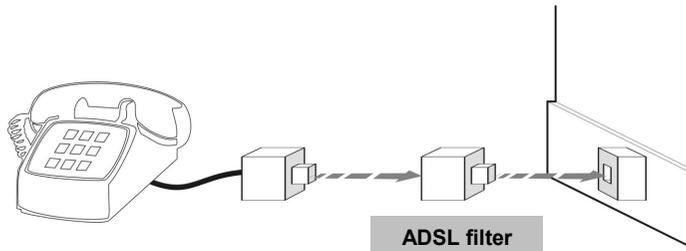
- one user name,
- one password.

## 2. Hardware installation

To install your modem without any difficulty, please follow the steps below in number order.

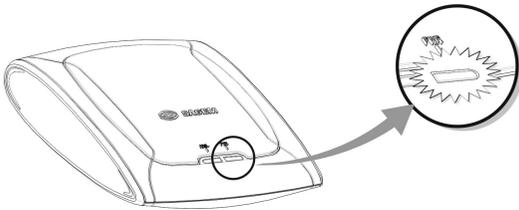
### 1. *Connect the ADSL splitters to your telephone sockets*

The ADSL splitters (or filters) let you make phone calls and use your ADSL line at the same time.



All the sockets used by a telephone device must be fitted with an ADSL splitter. This device may be an analog telephone, a DECT phone, an answering machine, a fax machine, a set top box decoder return channel, etc.

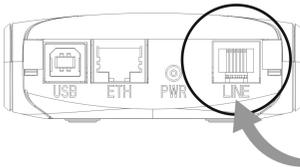
## 2. Power up your modem



For this, use the power supply unit supplied with your modem<sup>2</sup>

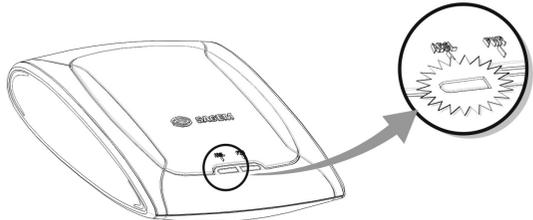
When the modem is powered up, the PWR LED lights.

## 3. Link your modem to your telephone line



The line lead supplied in your pack should connect the modem to the connector provided on your splitter or to a telephone network adapter.

When the modem is linked to the telephone line, ADSL synchronization follows automatically. The ADSL LED is on **permanently**.



At this stage, you have made all the connections you need to use your ADSL modem. All you now have to do is install the applications delivered with the modem and set up your internet access.

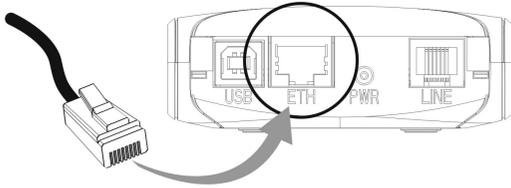
<sup>2</sup> The use of any other power supply unit will invalidate the manufacturer's warranty.

### 3. Installing the modem in Ethernet mode



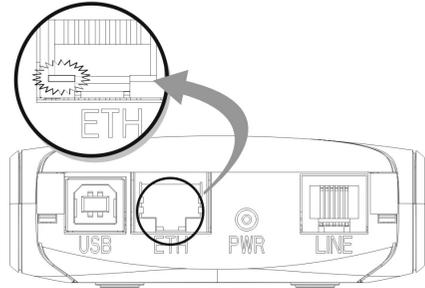
For more details on this installation procedure, refer to the SAGEM F@st™ 908 / 948 Ethernet Interface Reference Manual (see CD-ROM / Reference Manual - Ethernet Interface).

#### 3.1 Connecting the Ethernet interface



For this, use the **cross-pinned** Ethernet cable supplied with your modem.

When the modem is connected to your computer, the Ethernet detection LEDs on your modem and your Ethernet card will light.

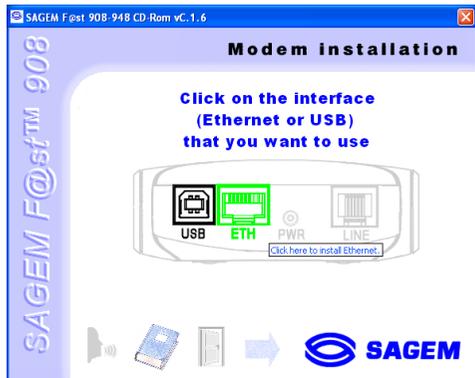


#### 3.2 Installing the software

In Windows XP, for example:

- Insert the CD-ROM of the modem in your computer's appropriate drive and the screen opposite appears.
- Choose the **installation language**, (availability depending on model) by clicking on the  icon.
- Click on the **Ethernet socket**.

Then, please comply with the directions for use, given by the installation software, shown on the successive displays.



- Select your **country** of residence (depending on model ).
- Choose your **Internet Access Provider** in the suggested list.

Once the installation is done, you can go to the next stage.

### 3.2.1 Encapsulation options in Ethernet mode (depending on versions)

The encapsulation parameters are automatically set up, when the Internet Access Provider is chosen in the list offered by the installation software.

Nevertheless, the possibility of set up parameters, related to an Internet Access Provider which would not already been listed, has been provided for.

In that particular case, the selection «**Other**» from the Internet Access Provider list, opens a control panel, which allows to choose the encapsulation.

The SAGEM F@st™ 908 / 948 modem supports three encapsulation modes:

- RFC 1483 Bridge,
- RFC 1483 Router DHCP,
- RFC 1483 Router static IP.



If your Internet connection must be set up in PPPoE mode, you will need to use RFC 1483 Bridge encapsulation.

Refer to section 3.1 (connecting to the Internet (PPPoE connection mode) in the Reference Manual - Ethernet Interface.



Please refer to the documentation or the subscription email from your Internet access provider (IAP) to ascertain which encapsulation mode is appropriate to your ADSL line.

## 4. Installing the modem in USB mode



You must run the installation CD-ROM before connecting the USB cable to your computer.

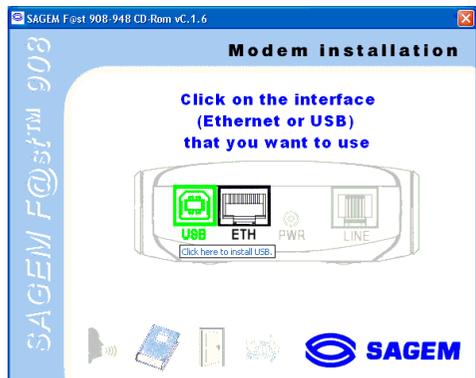


For more details on this installation procedure, refer to the reference manual - SAGEM [F@st™](#) 908 / 948 USB interface (see CD-ROM / Reference Manual - USB Interface).

### 4.1 Installation of the software

In Windows XP, for example:

- Insert the CD-ROM of the modem in your computer's appropriate drive and the screen opposite appears.
- Choose the **installation language**, (availability depending on model) by clicking on the  icon.
- Click on the **USB socket**..



Then, please comply with the directions for use, given by the installation software, shown on the successive displays.

- Select your **country** of residence (depending on model ).
- Choose your **Internet Access Provider** in the suggested list.

Once the installation is done, you can go to the next stage.

#### 4.1.1 Encapsulation options in USB mode (depending on versions)

The encapsulation parameters are automatically set up, when the Internet Access Provider is chosen in the list offered by the installation software.

Nevertheless, the possibility of set up parameters, related to an Internet Access Provider which would not already been listed, has been provided for.

In that particular case, the selection «**Other**» from the Internet Access Provider list, opens a control panel, which allows to choose the encapsulation.

Depending on versions, the SAGEM F@st™ 908 modem offers a number of different encapsulation modes on installation in USB mode:

- PPPoA,
- PPPoE,
- RFC 1483 bridge (DHCP),
- RFC 1483 router (DHCP).



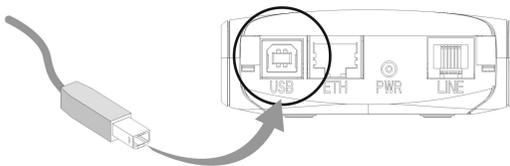
Please refer to the documentation or the subscription email from your Internet access provider (IAP) to ascertain which encapsulation mode is appropriate to your ADSL line.

## 4.2 Connecting the USB interface



This connection will be made on installing the drivers when the installation software prompts you.

- Connect your SAGEM F@st™ 908 / 948 modem to your computer with the USB lead supplied in the packaging.



For this, use the USB cable supplied with your modem.

## 5. Problem solving

### 5.1 Interpreting LED indications

#### 5.1.1 LEDs visible on the modem cover

LED	ADSL	PWR
On steady	ADSL synchronized	Modem powered up
Off	No ADSL sync	Modem not powered
Blinking	Trying to set up ADSL synchronization	Not applicable

#### 5.1.2 "ETH" connector LEDs on the rear panel of the modem

LED	Status	Meaning
Left	On	Indicates that the connection is OK and that the link is set up between the computer and the SAGEM <a href="#">F@st™</a> 908 / 948 modem
	Off	No connection
Right	Blinking	Traffic in progress (sending or receiving)

## 5.2 Problem solving in Ethernet mode

### 5.2.1 No modem power supply

LEDs	Flag	Status	Meaning
ADSL off PWR off	 Red	Modem not powered	<p>Check that the modem is receiving power supply. Only the power supply unit supplied with the modem should be used.</p> <p>Check that your PSU's electrical specifications are compatible with your mains electricity network.</p> <p>Lastly, uninstall then reinstall the BridgeMon application.</p>



**Reminder:** The SAGEM F@st™ 908 / 948 is powered only from a mains adapter unit. It does not use the power supply provided by the USB interface.

### 5.2.2 Modem not detected

Firstly check that the conditions in the previous section are satisfied.

LEDs	Flag	Status	Corrective action
ADSL off PWR on	 Red	<p>Modem powered.</p> <p>Modem not detected by your computer.</p>	<p>Check that the Ethernet cable supplied in your pack is correctly connected to your modem and to an active Ethernet port on your computer. At both ends, you have Ethernet detection LEDs. <b>The Ethernet cable to be used is a cross-pinned UTP RJ45 cable.</b></p>

### 5.2.3 Absence of ADSL synchronization

Firstly check that the conditions in the previous section are satisfied.

LEDs	Flag	Status	Corrective action
<p><b>ADSL off</b> <b>PWR on</b></p>	 <p><b>Red</b></p>	<p>Modem detected by your computer.</p> <p>ADSL not synchronized</p>	<p>Check the connection of your ADSL splitters. Each of your installation's telephone sockets should be fitted with an ADSL splitter.</p> <p>Check that the RJ11 type line lead supplied with your modem is connected to one of your sockets. It is best not to use any telephone line extension.</p> <p>Lastly, check with your IAP that the ADSL service is available on your telephone line.</p>

### 5.2.4 Internet connection not possible

Firstly check that the conditions in the previous section are satisfied.

LEDs	Flag	Status	Corrective action
ADSL on PWR on	 Green	ADSL set up. Modem initialized Connection not possible	<p><b>In PPPoE mode:</b></p> <p>Check that your PPPoE client software is correctly installed on your computer:</p> <p>In Windows XP, MacOS X, you can refer to section 4.1 of the SAGEM <a href="#">F@st™ 908 / 948 Ethernet Interface Reference Manual</a>.</p> <p>For any other OS, look up the documentation supplied with the PPPoE client software you are using. If you have more than one Ethernet card on your computer, check that your PPPoE client is linked to the Ethernet card to which your modem is connected.</p> <p><b>In DHCP mode:</b></p> <p>Check that your computer receives an IP address from the network.</p> <p>For this, in Windows, you can open a DOS window and type the command « ipconfig ».</p> <p>Lastly, in your Web browser's properties, check that no remote network connection is selected by default.</p> <p>For Microsoft™ Explorer®:</p> <p>Menu: Tools/ Internet options/ Select: "Never dial a connection"</p>
ADSL on PWR on	 Lock	ADSL set up Modem locked.	<p>You cannot access the Internet because the modem is in locked mode. Please refer to section 2.6.4 in the SAGEM <a href="#">F@st™ 908 / 948 Ethernet Interface Reference Manual</a> to unlock your modem.</p>

## 5.3 Problem solving in USB mode

### 5.3.1 "ADSL" and "PWR" LEDs off

- Check that the USB lead is correctly connected to your computer (or to a HUB).
- Check that the drivers are correctly installed (refer to the reference manual - SAGEM F@st™ 908 / 948 USB interface and the sections dealing with the status of the modem in Windows® XP, MacOS 8.6-9.x or MacOS X).

**Note:** If your computer is connected to a hub, disconnect all the devices connected to isolate your modem.

If there is no indication to help you solve the problem:

- Install again (refer to the reference manual - SAGEM F@st™ 908 / 948 USB interface and the sections dealing with installation of the modem in Windows® XP, MacOS 8.6-9.x or MacOS X).

### 5.3.2 "ADSL" LED off and "PWR" LED on

- Check that the line lead is correctly connected to your modem and to the telephone line.
- Check with your Internet access provider (IAP) that the ADSL service has been opened on your telephone line.

### 5.3.3 "ADSL" LED on steady and "PWR" on

#### In PPP mode

The modem is synchronized but the PPP link with your Internet access provider (IAP) is not set up; check:

- that the PPP "username" and "password" that you entered are those given to you by your Internet access provider (IAP),
- that the VPI/VCI parameters and encapsulation mode match those of your Internet access provider (IAP). If not, contact your IAP.

#### In DHCP mode

The modem is synchronized but does not receive an IP address from the network; check:

- that the VPI/VCI parameters and encapsulation mode match those of your Internet access provider (IAP). If not, contact your IAP.



## Appendix A - Safety instructions

### Safety instructions



#### READ THE FOLLOWING INSTRUCTIONS CAREFULLY

#### Environment

- The SAGEM F@st™ 908 / 948 must be installed and used inside a building (for desktop use).
- The ambient temperature must not exceed 45°C.
- The SAGEM F@st™ 908 / 948 must not be exposed to strong sunlight or to a strong heat source.
- The SAGEM F@st™ 908 / 948 must not be placed in an environment subject to significant steam condensation.
- The SAGEM F@st™ 908 / 948 must not be exposed to splashed water.
- The SAGEM F@st™ 908 / 948 must not be covered.
- The SAGEM F@st™ 908 / 948's mains adapter unit must not be covered.

#### Maintenance

- Do not open the casing. This action is reserved only for qualified personnel, approved by your operator.
- Cleaning: do not use liquid or aerosol-based cleaning products.

#### Power source

- The SAGEM F@st™ 908 / 948 modem is supplied with its own power supply unit. It must not be used with any other adapter.
- This Class II adapter requires no earth. The connection to the mains electricity supply must comply with the instructions on its label.

- Use a readily accessible power outlet, near to the modem. The power lead is 2 m long.
- Arrange the power lead in such a way as to ensure that the modem's power supply cannot be disconnected accidentally.

### Safety levels

Primary power supply port	HPV <sup>3</sup>
Double pole mains AC outlet	
DC power port	SELV <sup>4</sup>
Miniature socket (PWR)	
Type B USB port (USB)	SELV
RJ45 Ethernet port (ETH)	SELV
RJ11 line port (LINE)	TNV-3 <sup>5</sup>



Products bearing this symbol are compliant with EMC regulations and with the Low Voltage Directive published by the Commission of the European communities (EC)

### CE declaration

**CE declaration of conformity** of *SAGEM SA* declares that the *SAGEM F@st™ 908 / 948* product is compliant with the requirements of European directives 1995/5/CE and with the main requirements of directives 89/336/CEE dated 03/05/1989 and 73/23/CEE dated 19/02/1973.

The CE declaration of conformity for the *SAGEM F@st™ 908 / 948* is made in the context of the R&TTE directive.

<sup>3</sup> Hazardous Primary Voltage circuit

<sup>4</sup> Safety Extra Low Voltage circuit

<sup>5</sup> Telecommunication Network Voltage level 3 circuit

## Appendix B - Technical specifications

### Hardware specifications

Mechanical		
Dimensions	Width	: 85 mm
	Depth	: 105 mm
	Thickness	: 32 mm
Weight	120 g	
Installation	On desktop	

Power supply	
<b>Mains</b>	
Type	: Wall-mounted adapter unit
Class	: II
Mains voltage	: 198 V - 264 V
	: 50 Hz / 60 Hz
Output voltage	: 12 VDC
Absorbed power	: < 6 W
<b>DC power input</b>	
Voltage	5 V - 20 V
Absorbed power	# 2.5 W

USB interface	
Data rate	< 12 Mbit/s
Standard	USB 1.1
Data	Asynchronous
Transmission mode	Bidirectional
Consumption	< 2.5 W
Connectors	USB - Type B socket

<b>ETH interface</b>	
Specification	IEEE 802.3
Configuration	Auto-negotiation 10/100BASE-T
	Half/Full Duplex
Data rate	10/100 Mbit/s autosensing
	Range: 100m
Connectors	RJ45 - 8-pin
	Port : MDI type

<b>ADSL interface</b>	
Transmission code	DMT
Standards supported	ANSI T1.413 Issue 2
	G.992.1 (G.DMT) - appendix A for SAGEM F@st™ 908 and appendix B for SAGEM F@st™ 948
	G.992.2 (G.Lite)
	G.Handshake (Multimode)
Maximum upstream rate	896 kbit/s
Maximum downstream rate	8160 kbit/s
Latency	Simple (fast or interleaved)

### **Climatic environment**

#### **Warehousing**

Standard	ETS300 019-1-1, class T1.2
Temperature	-25° C to +55° C
Relative humidity	10 to 100 %

#### **Transport**

Standard	ETS300 019-1-2, class T2.3
Temperature	-40° C to +70° C
Relative humidity	10 to 100 %

### Operation

Standard	ETS300 019-1-3, class T3.2
Temperature	-5° C to +45° C
Relative humidity	5 to 85 %
Pressure	84 hPa to 106 hPa (880 to 1060 mbar)
Solar radiation	700 W/m <sup>2</sup>

#### Mechanical environment

Standard	ETS300 019-1
Warehousing	Class T1.2
Transport	Class T2.3
Operation	Class T3.2

#### Physical/chemical environment

Standard	ETS300 019-1
Warehousing	Class T1.2
Transport	Class T2.3
Operation	Class T3.2

### Software specifications

#### ATM

Signaling	PVC
Adaptation layer	AAL5
Number of VCs	1
OAM management	OAM F4 and F5
Quality of service	UBR

#### Encapsulation protocols in Ethernet interface mode

RFC 1483 Bridge	VCMUX or LLC
RFC 1483 Router (depending on versions)	VCMUX or LLC

### Encapsulation protocols in USB interface mode

PPPoA	VCMUX or LLC
PPPoE	VCMUX or LLC
RFC 1483 Router / DHCP	VCMUX or LLC
RFC 1483 Bridge / DHCP	VCMUX or LLC

## PC, Mac and Linux compatibility

### PC

Windows® 98 FE  
 Windows® 98 SE  
 Windows® 2000  
 Windows® Millenium  
 Windows® XP  
 Windows® NT (only in Ethernet interface mode)

### Mac

OS 8.6  
 OS 9.04, OS 9.1, OS 9.2  
 OS X (10.1 & 10.2)

### Linux

Mandrake 8.2 to 9.0  
 RedHat 7.2 to 8.0

## Default configuration

### BridgeMon application

**Bridge Lock function**                      **Off**

### WAN characteristics

**Automatic configuration**

**Appendix C - Glossary**

AAL5	ATM Adaptation Layer type 5
ADSL	Asymmetric Digital Subscriber Line
ARP	Address Resolution Protocol
ATM	Asynchronous Transfer Mode
BAS	Broadband Access Server
CO	Central Office
DHCP	Dynamic Host Configuration Protocol
DSLAM	Digital Subscriber Line Access Multiplexer
ETH	Ethernet
IP	Internet Protocol
IAP	Internet Access Provider
ISP	Internet Service Provider
LAN	Local Area Network
LLC	Logical Link Control (Encapsulation with header)
MAC	Medium Address Control
OAM	Operation, Administration and Maintenance
OUI	Organization Unique Identifier
PCR	Peak Cell Rate
PPP	Point to Point Protocol
PPPoA	PPP over ATM
PPPoE	PPP over Ethernet
PVC	Permanent Virtual Channel
QoS	Quality of Service
RARP	Reverse Address Resolution Protocol
RFC	Request For Comments
RJ11	Standard six-pin miniature socket
RJ45	Standard eight-pin miniature socket
SNAP	SubNetwork Attachment Point

TCP	Transmission Control Protocol
UBR	Unspecified Bit Rate
UDP	User Datagram Protocol
USB	Universal Serial Bus
VC	Virtual Channel
VCI	Virtual Channel Identifier
VCMUX	Encapsulation (without header)
VP	Virtual Path
VPI	Virtual Path Identifier
WAN	Wide Area Network



**SAGEM SA** Network Division

Le Ponant de Paris - 27, rue Leblanc - 75512 PARIS CEDEX 15 - FRANCE

Tél. : +33 1 40 70 63 63 - Fax : +33 1 40 70 66 40

<http://www.sagem.com>



**SAGEM SA** - Société anonyme à directoire et conseil de surveillance au capital de 36 405 229 €