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## SAGEM-LINK L

DIGITAL RADIO RELAY SYSTEM  
1x2 TO 4x2 Mbit/s AND **10BASE T**  
23, 26, 38 GHz



- **1x2 to 4x2 Mbit/s interfaces (G.703)**
- **10BaseT interface with integrated Ethernet Bridge (option)**
- **1.75 MHz channel spacing at 2 Mbit/s**
- **QPSK modulation**
- **Stand alone outdoor unit with integrated antenna**
- **SNMP Network Management**
- **Automatic Transmitter Power Control (ATPC)**
- **Automatic measurement of the link margin**
- **Radio spectrum analysis around the reception channel**



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**Technology in Action**

# SAGEM - LINK L - 2, 2x2, 4x2 MBIT/S

**SAGEM-LINK L** is the "light" version of **SAGEM-LINK**, developed in the most popular 23, 26 and 38 GHz frequency bands and meets all requirements on microwave radios for GSM and GPRS applications. In addition, an Ethernet interface (10BaseT) is available and puts **SAGEM-LINK L** in the position to provide optimised solutions for LAN interconnections.

## ◆ Performance

Complying with European and international standards, **SAGEM-LINK L** uses the latest MMIC and ASIC technologies. Its high reliability is underpinned by:

- its high level of integration
- its low power consumption
- its excellent heat dissipation

QPSK modulation in association with a high performance FEC code guarantees system gain of up to 110 dB for 1.75 MHz channel spacing (high power, 1x2 Mbit/s version). A management module with SNMP interfaces is featured in the RF unit, for connection to a centralized management system.

## ◆ Speed and ease of installation

**SAGEM-LINK L** is offered in two different versions (1x2/2x2 Mbit/s and 2x2/4x2 Mbit/s), whereas the bit rates are programmable. One of the 2 Mbit/s tributaries can be configured either into a G.703 interface or into a 10BaseT interface with a bit rate of 2 or 4 Mbit/s.

Thanks to its compact RF unit with built-in antenna, **SAGEM-LINK L** is simple and quick to install. The various unit connections are made using multi-conductor cable that can reach up to 120 m in length. Commissioning is carried out using a PC equipped with **SAGEM-LINK PILOT L** management software. The software provides the

following tools for link commissioning:

- automatic measurement of the link margin
- radio spectrum analysis around the reception channel (interference detection)

The unit is linked to a site and angle adjustment mechanism for correct antenna orientation.

## ◆ Specifications

- MAIN INTERFACE**
- 2 Mbit/s G.703, 120 Ohm
  - 10BaseT IEEE 802.3 (option)

### ENVIRONMENT

- Input voltage range :  
21.8 to 59 V negative or positive with respect to the earth, optional 220/48 V with back up batteries (independent on ODU)
- Power consumption : 25 W
- Temperature range : -33°C to +55°C

**RELIABILITY** > 16 years

### AUXILIARY INTERFACES

- 1 dry loop for internal alarm signalling
- 1 remote signalling loop

### SNMP CENTRALIZED MANAGEMENT (OPTIONAL)

- 1 Ethernet 10Base-T port

### MANAGEMENT INTERFACE

- V.11 interface for PC management at the end of multi-conductor cable
- RS232 interface on the ODU

### MECHANICAL SPECIFICATIONS

- Dimensions and weight (with built-in antenna)  
RF unit: 230 x 230 x 250 mm, < 6.5kg
- Antenna  
Built-in 18 cm antenna (ETS 300833, Class 3)  
30 to 120 cm antennas available

	23 GHz	26 GHz	38 GHz
Frequency bands (GHz)	22 - 22.6 / 23 - 23.6	24.5 - 26.5	37 - 39.5
Channel spacing	1.75 MHz for 1x2 Mbit/s, 3.5 MHz for 2x2 Mbit/s, 7 MHz for 4x2 Mbit/s 1.75/3.5/7 MHz with 10BaseT		
Frequency tuning range (MHz)	335	348	420
Output power (dBm)	14	14	14
Power adjustment range	30 dB in steps of 0.5 dB + 20 dB fixed		
Frequency stability	+ / - 10 ppm		
Receiver threshold* BER=10 <sup>-6</sup>			
1x2 Mbit/s	-96 dBm	-96 dBm	-94,5 dBm
2x2 Mbit/s	-93 dBm	-93 dBm	-91,5 dBm
4x2 Mbit/s	-90 dBm	-90 dBm	-88,5 dBm
Antenna gain (built-in 18 cm antenna)	28 dBi	30 dBi	33 dBi

\* 1+0 typical values, antenna interface

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