

CHAPTER 2 - DESCRIPTION - OPERATION

2.1 REMINDERS ABOUT THE GENERAL NETWORKS CHARACTERISTICS

Table 1 below gives the characteristics of the radio interface for the GSM 850 / 900, GSM 1800 and GSM 1900 systems :

	GSM 850	GSM 900	DCS 1800	PCS 1900
Frequency Band (MHz)	824 - 849 869 - 894	890 - 915 925 - 960	1710 - 1785 1805 - 1880	1850 - 1910 1930 - 1990
Number of time intervals per TDMA frame	8			
Width 2 x W simplex (MHz)	2 x 25	2 x 25	2 x 75	2 x 60
Duplex spacing (MHz)	45	45	95	80
Modulation speed (kbit/s)	271			
Speech throughput (kbit/s)	13 (5,6)			
Maximum data throughput (kbit/s)	12			
Multiple access	Frequency and temporal multiplexing / frequency duplexing			
Cell radius (km)		0,3 to 30	0,1 to 4	0,1 to 4
SAGEM terminal power (W)	2	2	1	1
Table 1 : Radio Interface				

Table 2 shows powers as a function of the network :


	GSM 850 / 900		DCS 1800		PCS 1900	
Class number	Maximum nominal power (W)	Allowable interval (W)	Maximum nominal power (W)	Allowable interval (W)	Maximum nominal power (W)	Allowable interval (W)
1	-	-	1	[0,63 ; 1,6]	1	
2	8	[5,0 ; 12,7]	0,25	[0,16 ; 0,4]	0,25	
3	5	[3,2 ; 7,9]	4	[2,5 ; 6,3]	2	
4	2	[1,3 ; 3,2]				
5	0,8	[0,5 ; 1,3]				
Table 2: Terminals power class						

Table 3 shows power classes :

	Class 1	Class 2	Class 3	Class 4	Class 5
GSM 850 / 900	43 dBm	39 dBm	37 dBm	33 dBm	29 dBm
DCS 1800	30 dBm	24 dBm	36 dBm	-	-
GSM 1900	30 dBm	24 dBm	33 dBm	-	-
Table 3: RF power classes					

2.2 REMINDERS ABOUT THE CHARACTERISTICS AND OPTIONS OF myX1-2

Remark: This information is given for guidance, and is in no way contractual characteristics vary according to customers and countries.

PRODUCT NAME: myX1-2 & myX1-2w			
DETAILED SPECIFICATIONS:		myX1-2	myX1-2w
GENERAL CHARACTERISTICS			
Size			
Dimension (LxWxH, mm)	106 x 47 x 21		Idem
Weight (g)	93		Idem
Volume (cm3)	78		Idem
Power Management			
Battery type	Li-Ion 680mAh		Idem
Charging time	3hrs typical		Idem
Talk time	3hrs (TW9) targeted		Idem
Standby time	240h (TW9) targeted		Idem
Display and User Interface			
Screen type	Black & White		Idem
Colours	N/A		Idem
Number of lines (text, icon)	up to 7 lines + 1 icon column		Idem
Screen size (mm)	28.7 x 22.15 mm2		Idem
Screen resolution (pixels)	96 x 64 + icon (total 112 x 64)		Idem
Keypad Backlight	yes		Idem
LCD Backlight	yes, green		Idem
Soft keys / navigation	yes, 3		Idem
Sub LCD (clam design)	N/A		Idem
Customisation			
Handset colours	2 colours (blue, prune colours) TBC		Idem
Interchangeable covers	yes, front and back		Idem
Radio			
GSM Band	900 / 1800 MHz, E-GSM, (850/1900 MHz with AMR for Sth Am version)		Idem
Automatic switching between bands	yes		Idem
Voice codecs	HR, EFR, FR		Idem
Operating System	Proprietary		Idem
CONNECTIVITY			
Radio			
GPRS	no		no
UMTS	no		no
Internet			
Browser	no		WAP 1.2
Push	no		yes
Built-in data / fax Modem	no		no
OTA Provisioning			
parameters (Java, WAP, MMS, IM, bookmarks)	no		no
software updates	no		no
Data Transfer			
Serial RS232	no		external accessory cable
IrDA (Obex or other standard)	no		no
Bluetooth	no		no
USB	no		external accessory cable
WiFi (802.11b,a)	no		no
PC synchronisation	no		via cable & Wellphone software for PC

MULTIMEDIA		
Messaging		
SMS	MO/MT/CB	Idem
EMS	no	yes, R5
MMS	no	no
Instant messaging (IMPS)	no	no
e-mail client	no	no
Notification	notification via audio and text alert	Idem
Predictive text input	T9 in option	Idem
Messaging memory SMS/EMS/MMS/Email (positions)	up to 10	up to 50
Video & Images		
Camera	no	no
Image features	N/A	Idem
Video Player	no	no
Image Format	bmp, png, gif	Idem
Audio		
Audio Recorder	no	no
Audio player	only for ringtones	Idem
FM radio	no	no
Polyphonic ringtones	yes, 8 tones	Idem
Audio formats	PCM, ADPCM, iMelody 1.2, Midi (8 tones), AMR	Idem
Entertainment		
Clock display	yes	Idem
Menu icons	up to 20	Idem
Ringtones	up to 15	Idem
Wallpapers	N/A	Idem
Screensavers	animated, up to 5	Idem
Boot up & shut down sequences	yes	Idem
Embedded Games	yes, 1	Idem
Downloadable Games / Applications	no	no
Java		
OTA Downloads		
Protocol supported	N/A	EMS, WAP save as, M-Sevices, WSP Get, Download Fun
Animation (fixed & animated) nb / size allowed to store	N/A	up to 150KB for screensavers
Menu icon (fixed & animated) nb / size allowed to store	N/A	up to 150KB
Skins	N/A	Idem
Games nb / size allowed to store	N/A	Idem
Ringtone nb / size allowed to store	N/A	iMelody1.2, Midi, Wave, up to 150KB
Java application nb / size allowed to store	N/A	Idem
File reproduction	implicit	Forward Lock
Real time Downloads		
Audio streaming	Not supported	Idem
Video streaming	Not supported	Idem
Advanced download	Not supported	Idem

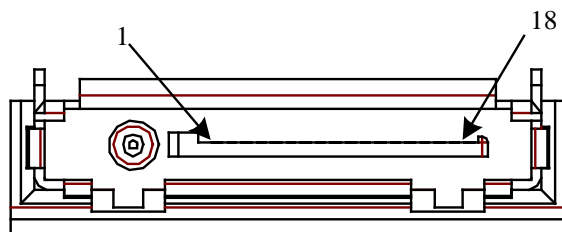
CALL MANAGEMENT		
Voice features		
Mute Mode	no	no
Integrated handsfree mode	yes	yes
Address book features		
Call group	yes	yes
Personal information management	no	no
Ringtone / Icon customisation	yes	yes
Internal phone book (positions)	up to 100	Idem
Advanced Features		
Conference call	yes	yes
Call list (dialed, received and missed)	yes, up to 20 positions	Idem
Caller ID	yes	yes
Anonymous mode	yes	yes
Call wait / call hold / call transfer	yes	yes
Call forwarding	yes	yes
Sim toolkit	yes	yes
Vibrate mode	optional	Idem
Speed dialing	voice mail	Idem
Automatic redial	yes	yes
Any key answer	yes	yes
Automatic hang up	yes	yes

SPECIAL FEATURES		
Keyboard Features		
Scroll key	4-way navigator	Idem
Direct access key	3 programmable keys	2 programmable keys + 1 WAP dedicated key
Keypad lock	yes	yes
Silent key	yes	yes
International access key	no	no
Personal Management Features		
Calculator	yes	yes
Alarm Clock	yes	yes
Timer	yes	yes
Agenda	no	no
To Do	no	no
Voice Recorder	no	no
Currency converter	yes	yes
Languages	yes, set of 2 (english + 1 non latin) or 3 (latin) languages	Idem
Compatible Accessories		
Data cord	N/A	serial and USB tbc
Battery charger	yes	yes
Hands free kit	yes	yes
Car kit	yes	yes
CD-ROM	N/A	Wellphone, myPictureAndSounds
MEMORY		
Internal phone book positions	up to 100	up to 200
Messaging memory SMS/EMS/MMS/Email (positions)	up to 10	up to 50
Redial list (positions)	20	20
Embedded memory	see above	up to 150KB
External multimedia memory	no	no

2.3 DATA/AUDIO/CHARGE CONNECTOR

2.3.1 Connector description

This connector is located at the bottom of the transmission module and enable the connection to various accessories. It comprises power supply pins and signals.



**DATA/AUDIO/CHARGE
connector**

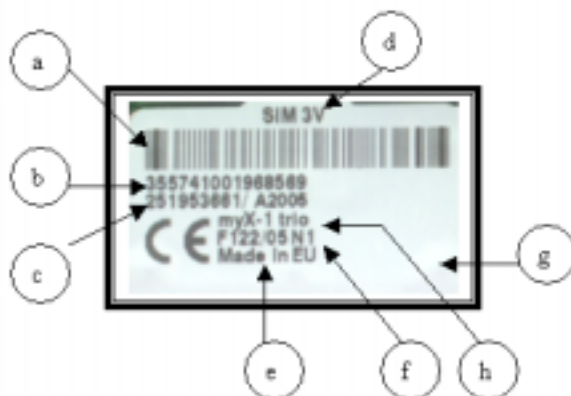
2.3.2 Signal description

SYMBOL	PIN No.	SIGNAL FUNCTION	NATURE E/S, AI, Ana
CHARGER	1	Phone set power ON and power supply signal.	POWER SUPPLY
VBAT	2	POWER SUPPLY IMAGE VOLTAGE, connect this signal to «CHARGER» (pin n°1) to switch the module on.	POWER SUPPLY OUTPUT
ON*	3	SIGNAL RESERVED FOR USE BY SAGEM (car handsfree kit).	OPEN DRAIN OUTPUT
VPP	4	Flash programming voltage	POWER SUPPLY
SDAI2C	5	DATA SIGNAL RESERVED FOR SAGEM SPECIFIC ACCESSORIES.	LOGICAL INPUT/OUTPUT
GND	6	ZERO VOLT	SIGNAL GROUND
SCLI2C	7	CLOCK SIGNAL RESERVED FOR SAGEM SPECIFIC ACCESSORIES.	OPEN DRAIN INPUT/OUTPUT
INTI2C	8	INTERRUPT SIGNAL RESERVED FOR SAGEM SPECIFIC ACCESSORIES.	LOGICAL INPUT
POLANT32 (RXD2)	9	APPLICATION INPUT SERIAL N°2	LOGICAL INPUT
RXDG	10	SERIAL DATA TO BE TRANSMITTED.	LOGICAL INPUT
TXDG	11	SERIAL DATA RECEIVED.	LOGICAL OUTPUT
DIN32	12	RESET	LOGICAL INPUT
ITDATA	13	Interruption signal keep for SAGEM accessories.	LOGICAL INPUT
GND	14	ZERO VOLT.	SIGNAL GROUND
BFRXP	15	Audio frequency signal received (ϕ 0).	ANALOG OUTPUT
BFRXN	16	Complementary output to BFRXP (ϕ 180).	ANALOG OUTPUT
BFTXN	17	AUDIO FREQUENCY SIGNAL TO BE TRANSMITTED ϕ 180. Complementary input to BFTXP.	ANALOG INPUT
BFTXP	18	AUDIO FREQUENCY SIGNAL TO BE TRANSMITTED ϕ 0. Acoustic L.F. signal to be transmitted.	ANALOG INPUT

2.4 IDENTIFICATION

All phones are identified with an identification label stuck on the antenna.

2.4.1 Illustration



2.4.2 Description

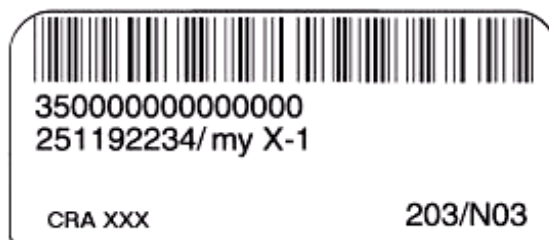
- a : IMEI (bar code),
- b : IMEI (15 characters)
- c : Reference of product / aesthetic used .
- d : Sim card Indication (Sim 3V...),
- e : Production area Indication,
- f : Date code + Manufacturing level,

Ex. F203/03 = (F) fabrication area (F : Fougères), (203) day of year, (03) last digit of year (03→2003).

- g : Logo and agreement.
- h : Product designation

2.4.3 Description after repair

A new sticker is positioning by Repairing Centre on the antenna:

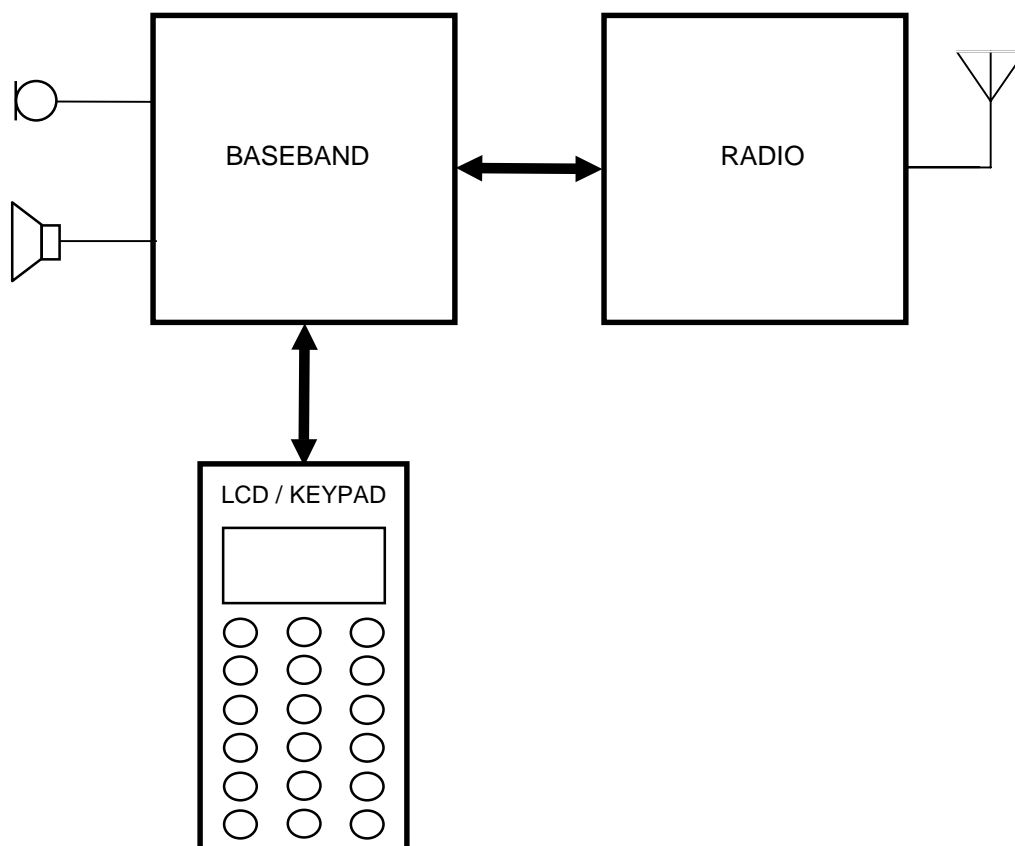


This extra line will appear if the mobile has already been repaired.

- **CRA XXX** ⇒ N° of CRA,
- **203/N03** ⇒ Date of repair: (203) repairing day, (03) last digit of year (03→2003).

2.5 PHONE BLOCK DIAGRAM

2.5.1 myX 1-2 block diagram



2.5.2 Standards and environment

Conformance Document

SAGEM SA declare under its sole responsibility that the product Dual Band GSM/DCS Type B2003 conforms to the

requirements of the following EEC directives:

EEC Directive	1999/5/CE
Safety	EN 60950
EMC	EN 301 489-1 / EN 301 489-7
Low voltage directive	73/23/CEE
Network	3GPP TS 51.010-1 v 5.2.0 selected with GCF-CC v 3.10.0 included
Requirements	GT01 v 4.7.0 / TBR 19 Edition 5 / TBR 20 Edition 3 / TBR 31 Edition 2 TBR 32 Edition 2 / EN 301 419-1 / EN 301511
Health	EN 50360 / EN 50361

2.6 EQUIPEMENTS

The description and operation of SAGEM myX 1-2 are given in the "User's handbook" supplied with the phone. This chapter only describes equipment that operates with the myX 1-2 phones .

2.6.1 Battery packs



Over view

2.6.1.1 Characteristics

Type	Technology	Weight	Voltage capacity
L680	Li-Ion	21 g	3,6 V /680 mA/H

2.6.1.2 Description

Li-ion type batteries are used. They are rechargeable using:

- mains power supply modules,
- 12 V / 24 V, cigar lighter chargers,
- car handsfree kits (compact and comfort),
- Power supply data.

Batteries caution use:

- A2005 Battery is not compatible for the A2003.
- Store the batteries in a dry and cool place (excessive cold and heat damage the batteries reliability).
- They must never be stored in bulk, even the rejects, to avoid any short circuits.
- Do not dismantle the battery packs. (Li-Ion regulations).
- Only use original mains power supply module.
- **All the out of order batteries must be returned to SAGEM.**

2.6.1.3 Charging time

The following table shows typical charging times for different batteries.

Battery	500 mA travel chargers	AC* and K** chargers	"Simple" unregulated chargers 230 V Nom. (110 V Nom.)	
	94 V à 254 V		230 V (110 V)	254 V (121 V)
L680	2h45	3 h	3h45	3h20

* : cigar lighter chargers (12 V et 24 V)

** : car handsfree kits (Values screen off).

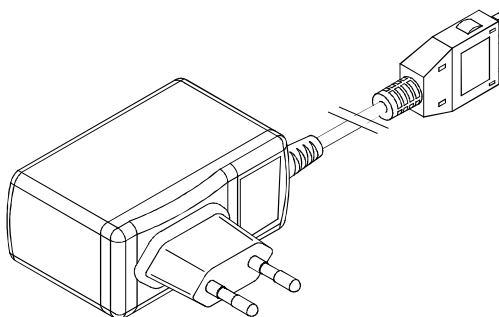
2.6.2 Mains modules

2.6.2.1 Description

These mains power supply modules accept large dynamic variations in the power supply network. They are available for a number of connector types:

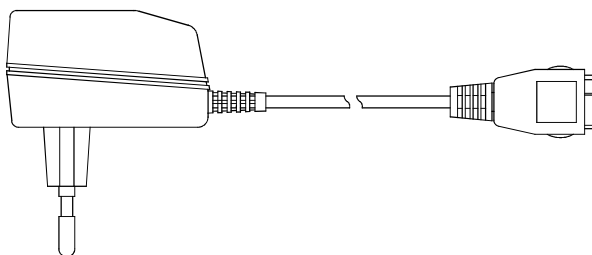
- E.U,
- United Kingdom
- United States,
- Australia.

2.6.2.2 Travel mains modules



Designation	Weight (g)	Vol (cm ³)	Primary voltage
<i>UNREGULATED TRAVEL MAINS POWER SUPPLY MODULES 6.5 V. 500 mA.</i>			
TRAVEL 500 mA. EC	100	75	110/230 V
TRAVEL 500 mA. UK	110	90	110/230 V
TRAVEL 500 mA. US	125	65	110/230 V
TRAVEL 500 mA. AUS	100	75	110/230 V

2.6.2.3 Mains modules



Reference	Weight (g)	Vol (cm ³)	Primary voltage
<i>SIMPLE UNREGULATED MAINS POWER SUPPLY MODULES 1.5 V. 300 mA.</i>			
EC MAINS MODULE	180	85	230 V
UK MAINS MODULE	180	120	230 V
US MAINS MODULE	210	105	110 V
AUS MAINS MODULE	190	105	230 V