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J100



Sony Ericsson

Preface

Purpose of this document

This White Paper will be published in several revisions as the phone is developed. Therefore, some of the headings and tables in this document contain limited information. Additional information and facts will be forthcoming in later revisions.

The aim of this White Paper is to give the reader an understanding of the main functions and features of this phone.

People who can benefit from this document include:

- Operators
- Service providers
- Software developers
- Support engineers
- Application developers

Confidential

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On www.sonyericsson.com/developer, developers will find documentation and tools such as phone White Papers, Developers Guidelines for different technologies, SDKs and relevant APIs. The website also contains discussion forums monitored by the Sony Ericsson Developer Support team, an extensive Knowledge Base, Tips & Tricks, example code and news.

Sony Ericsson also offers technical support services to professional developers. For more information about these professional services, visit the Sony Ericsson Developer World website.

Document history

Change history

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Product overview

J100 is a slim, attractive phone encased in a soft and smooth design that fits very comfortably in your palm. It conveys a sense of elegant simplicity at an affordable price and contains a variety of helpful features. The navigation key and the large display numbers make it a very balanced and easy-to-use phone.

The 65k STN colour display offers clear images that make the phone fun to use.

J100 has an intuitive interface that enables fast and efficient use. All the functions and features in the phone are easily reached by pressing the 5-way navigation key.

Key features



65k STN color display

The full graphic 65k STN colour screen facilitates high-quality viewing.



SMS

SMS (Short Message Service) enables you to send text messages over your mobile phone.

T9 Predictive text input

T9™ Predictive text input makes it fast and easy to write text messages. It works by searching a word database to anticipate which word you are writing.



Polyphonic sound

Polyphonic ringtones offer a richer sound than monophonic ringtones, as they contain more than one voice. J100 has several pre-programmed 32-voice ringtones to choose from.



Vibrating alert

The phone vibrates and you feel when a call comes in.



Gaming

Gaming is already a very popular feature in mobile phones. There are two embedded games included in the phone at purchase.



Alarm

J100 supports up to three active alarms. Set a time and your phone will ring at that time.

SIM-based phonebook

The phonebook is one of the most useful features of mobile phones. The number of entries that can be stored in the phonebook depends on the capability of your SIM-card.

Calculator

You have a calculator in your phone that you can use to add and subtract, divide and multiply.

Images



Technologies in detail

This chapter offers a detailed description of the technologies available in this product.

Functions and features

The following table is a complete description of the features in this product. It also compares this product to another Sony Ericsson product.

Feature	J100	J210
Alarm clock Set a time and your phone will ring at that time.	x	x
AMR	x	x
Antenna Built-in antenna.	x	x
Backlight display Blue or other colored backlight to illuminate your phone screen.	x	x
Battery	BST-37	Li-Polymer 700 mAh
Battery charging time	Fully charged within 2,5 hours.	Fully charged within 2,5 hours.
Calculator	x	x
Call list View calls made and calls received.	x	x
Colour	Polar White Twilight Blue	Mineral Grey Floral Green
Conference calls Support for multi-party calling.	x	x
Display Type: Size: Resolution: Technology: Backlight colour:	65k 1.4 inches 96 x 64 pixels CSTN White	65k 1.7 inches 128 x 128 pixels STN LCD White
Exterior description Length x width x breadth	100 x 45 x 20 mm	101 x 43 x 19 mm
Games	x	x

Feature	J100	J210
GPRS (General Packet Radio Services) GPRS is a communication standard enabling packet data transfer.		x
Keypad	Soft keys, Send/End keys, 5-way Navigation key, 0-9,*,#.	Yes/No keys, 5-way Navigation key, 0-9,*,#.
MMS (Multimedia Message Service) Picture messaging with text and sound.		x
Navigation key 5-way navigation key.	x	x
Networks	GSM (R97) 900/1800, 850/1900.	GSM (R99) 900/1800, 1900.
Phonebook (SIM only) The number of entries that can be stored in the phonebook depends on the capability of your SIM-card.	x	
Polyphonic ringtones	32	32
Predictive text input (T9) When you write text messages, predictive text input software predicts what word you are writing and finishes it for you. The prediction is based on previous words used and a customizable dictionary.	x	x
Screensaver When the phone has not been used for a while, a screensaver activates and the phone goes into 'sleep mode'.	x	x
SIM card lock The possibility to protect your SIM card with a four-digit PIN code.	x	x
Sleep mode A power saving feature that minimizes battery power consumption when the phone is in standby.	x	x

Feature	J100	J210
SMS long (Text Messaging) Concatenated SMS text messaging up to 765 characters.	x	x
Soft keys	x	
Standby time	Up to 300 hours	Up to 200 hours
Status view The display shows the network being used, time and other status information.	x	x
Stopwatch	x	x
Talk time	Up to 8 hours	Up to 4.50 hours
Vibrating alert The phone vibrates and you feel when a call comes in.	x	x
Voicemail Support for voicemail operator service including automatic answering and message recording.	x	x
Volume control You can control ring signal volume in the sounds and alert menu.	x	
Weight (with battery)	79 g	75 g

Facts and figures

This chapter offers readers a detailed listing of all the technical data relating to the product. Comprehensive descriptions of performance and technical characteristics are presented in table format for quick and easy access.

Technical specifications

General technical data

System	GSM 900/1800, GSM 850/1900
Speech coding	AMR supported where available, for high speech quality.
GSM SIM	GSM SIM - GSM 11.11, Small plug-in card, 1,8 V and 3 V.

Performance and technical characteristics

Dimension	GSM 900/ E-GSM 900	GSM 1800	GSM 1900
Frequency range (MHz)	TX: 880 – 915 RX: 925 – 960	TX: 1710 – 1785 RX: 1805 – 1880	TX:1850 –1910 RX:1930 – 1990
Channel spacing	200 kHz	200 kHz	200 kHz
Number of channels	174 Carriers *8 (TDMA)	374 Carriers *8 (TDMA)	299 Carriers *8 (TDMA)
Modulation	GMSK	GMSK	GMSK
TX Phase Accuracy	< 5° RMS Phase error (burst)	< 5° RMS Phase error (burst)	< 5° RMS Phase error (burst)
Duplex spacing	45 MHz	95 MHz	80 MHz
Frequency stability	+/- 0.1ppm	+/- 0.1ppm	+/- 0.1ppm
Voltage operation (nominal)	3.6 V	3.6 V	3.6 V
Transmitter RF power output	33 dBm Class 4 (2 W peak)	30 dBm Class 1 (1 W peak)	30 dBm Class 1 (1 W peak)
Transmitter RF power output	33 dBm Class 4 (2 W peak)	30 dBm Class 1 (1 W peak)	30 dBm Class 1 (1 W peak)
Transmitter Output impedance	50 ohm	50 ohm	50 ohm
Transmitter Spurious emission (according to specification)	< - 36 dBm up to 1 GHz < -30 dBm over 1 GHz	< - 30 dBm	< - 30 dBm
Receiver RF sensitivity	Better than - 102 dBm	- 102 dBm	- 102 dBm
Receiver RX Bit error rate	< 2.4%	< 2.4%	< 2.4%

USSD technical data

Feature	Support
USSD support	GSM Phase 1/2 (Cross-phase compatibility).
Mode support	UI-mode supported. SAT initiated USSD supported.
UI-mode details	<ul style="list-style-type: none"> It is possible to scroll the text up and down in USSD messages. It is possible to highlight embedded numbers and take actions accordingly.

SIM AT services supported

Service	Mode	Support
CALL CONTROL BY SIM		Yes
DATA DOWNLOAD TO SIM	Cell Broadcast	Yes
	SMS	Yes
DISPLAY TEXT	Text of up to 240 characters (120 UCS2 coded).	Yes
	bit 1: 0 = normal priority	Yes
	1 = high priority	Yes
	bit 8: 0 = clear message after a delay	Yes
	1 = wait for user to clear message	Yes
GET INKEY	General: The GET_INKEY requires that the user confirms his/her choice	Yes
	bit 1: 0 = digits (0-9, *, # and +) only	Yes
	1 = alphabet set	Yes
	bit 2: 0 = SMS default alphabet	Yes
	1 = UCS2 alphabet	Yes
	bit 3: 0 = character sets defined by bit 1 and bit 2 are enabled	Yes
	1 = character sets defined by bit 1 and bit 2 are disabled and the Yes/No response is requested	Yes

Service	Mode	Support
GET INPUT	General: No. of hidden input characters	160
	bit 1: 0 = digits (0-9, *, # and +) only	Yes
	1 = alphabet set	Yes
	bit 2: 0 = SMS default alphabet	Yes
	1 = UCS2 alphabet	Yes
	bit 3: 0 = ME may echo user input on the display	Yes
	1 = user input not to be revealed in any way (see note)	Yes
	bit 4: 0 = user input to be in unpacked format	Yes
	1 = user input to be in SMS packed format	Yes
	bit 8: 0 = no help information available	No
	1 = help information available	No
MORE TIME		Yes
PLAY TONE		Yes
POLLING OFF		Yes
POLL INTERVAL		Yes
PROVIDE LOCAL INFORMATION REFRESH	'00' = Location Information (MCC, MNC, LAC and Cell Identity)	Yes
	'01' = IMEI of the ME	Yes
	'02' = Network Measurement results	Yes
	'03' = Date, time and time zone (DTTinPLI)	Yes
	'04' - Language setting	No
	'05' - Timing setting	No
	General: The reset option requests the user to wait while the phone restarts	Yes
	'00' =SIM Initialization and Full File Change Notification	Yes
	'01' = File Change Notification	Yes
	'02' = SIM Initialization and File Change Notification	Yes
	'03' = SIM Initialization	Yes
	'04' = SIM Reset	Yes
	SELECT ITEM	

Service	Mode	Support
SEND DTMF		Yes
SEND SHORT MESSAGE	bit 1: 0 = packing not required 1 = SMS packing by the ME required	Yes Yes
SEND SS		Yes
SEND USSD		Yes
SET UP CALL	General: Capability configuration Set-up speech call CallParty Subaddress DTMF support	No Yes No
	'00' = set up call, but only if not currently busy on another call	No
	'01' = set up call, but only if not currently busy on another call, with re-dial	No
	'02' = set up call, putting all other calls (if any) on hold	No
	'03' = set up call, putting all other calls (if any) on hold, with re-dial	No
	'04' = set up call, disconnecting all other calls (if any)	No
	'05' = set up call, disconnecting all other calls (if any), with re-dial	No
SET UP EVENT LIST	'00' = MT call	Yes
	'01' = Call connected	Yes
	'02' = Call disconnected	No
	'03' = Location status	Yes
	'04' = User activity	Yes
	'05' = Idle screen available	No
	'06' = Card reader status	N/A
	'07' = Language selection	No
	'08' = Browser termination	No
	'09' = Data available	No
	'0A' = Channel status	No
SET UP IDLE MODE TEXT		Yes, 1 row of text is supported
SET UP MENU		Yes
OPEN CHANNEL		No

Service	Mode	Support
CLOSE CHANNEL		No
RECEIVE DATA		No
SEND DATA		No
GET CHANNEL STATUS		No

User Interaction with SIM AT

Display text

Text of up to 240 characters (120 UCS coded) is supported.

Text clearing times are 2-35 seconds and a 30-second time-out limit for the user to clear the text.

'Key' responses:

- 'Long Back' – Proactive session terminated by user.
- 'Back' – Backward move in proactive session.

'OK'/'Back'/'Long Back' clears the display if the command is performed successfully.

Get inkey

Prompt for a one-character input. Pressing 'Ok' without entering a character gives warning message "Minimum 1 character". 'Key' responses:

- 'C' clears current character.
- 'Long Back' terminates the proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

Get input

Prompt for character input. The phone will refuse to accept further input when maximum response length is exceeded. UI Maximum Response lengths:

- Digits Only – 160 characters.
- SMS default alphabet characters – 160 characters.
- Hidden Characters (digits only) – 20 characters.

'Key' responses:

- 'C' clears current character.
- 'Long Back' terminates the proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

Select item

Scroll to highlight item for selection. 'Key' responses:

- Navigational key press down – Scroll down list.
- Navigational key press up – Scroll up list.
- Long 'Back' terminates proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

Send short message

Default message "Sending message, please wait" can be replaced for the Alpha Identifier text, or suppressed completely if a null text is provided.

Default responses are "MESSAGE FAILED" or "MESSAGE SENT". 'Key' responses:

- Long 'Back' or 'Back' ends the proactive session.

Set up menu

Incorporates a SIM Application Toolkit Menu Item into J100 main menu structure.

If an Alpha Identifier is supplied in the Set Up Menu command, this is used as the SIM AT entry in J100 main menu. If no alpha identifier is supplied and several items are found in the menu, a default title is used. If the SIM AT Menu Item is selected by pressing 'Select', all the items sent in the Set Up Menu command will be available for selection, in the same way as the Select Item command.

Short Messaging Service

Feature	Support
SMS Centre Number	It is possible to pre-load the SMS Centre Number.
Input methods	Predictive text input and/or multitap.
Reply to messages	It is possible to reply to received messages by SMS or phone call.
Message creation methods support:	Predictive writing and/or multitap.
Copy, cut and paste words	No
Teaching of predictive words that are not in the predictive dictionary	No
Possibilities when creating a message:	
save a sent message in an "Outbox" folder	Yes
insert a line in the message	No
assign a validity period to the message	No
use pre-defined messages	Yes
Possibilities when receiving a message:	
reply to the sender	Yes (only to the sender, not to all or part of the message recipients).
forward the message	Yes
save the message on SIM	Yes
get delivery time and date	Yes
Possibilities of the previously sent message:	
delivery report of the message	No
forward the message	Yes
save the message on the phone	Yes
know the remaining capacity storage	Yes
Possibilities of the previously received message:	
reply to the sender	Yes (only to the sender, not to all or part of the message recipients).
save the message in the Inbox	Yes
forward the message	Yes
know the remaining capacity storage	Yes
Supported ways for replying to a received SMS:	

Feature	Support
via SMS	Yes
via phone call (set up a call to the number contained in the message body)	Yes
via USSD session	No
Possibility to offer the user the ability of sending an SMS to a list of recipients	No
Possibility to write an email address as a recipient address	No
SMS storage	Incoming messages (Inbox) are stored on the SIM-card. User-created messages (Outbox, drafts) are stored in the phone.

Abbreviations

AMR

Adaptive Multi Rate.
Audio format for speech sounds.

API

Application Programming Interface.

DTMF or Touch Tone

Dual Tone Multi-Frequency signal – codes sent as tone signals. Used for telephone banking, accessing an answering machine, etc.

e-GSM

Extended GSM. New frequencies specified by the European Radio Communications Committee (ERC) for GSM use when additional spectrum is needed (Network-dependent). It allows operators to transmit and receive just outside GSM's core 900 frequency band. This extension gives increased network capability.

ETSI

European Telecommunications Standards Institute.

GSM

Global System for Mobile Communications. The GSM system family includes GSM 850, GSM 900, GSM 1800 and GSM 1900. There are different phases of roll-out for the GSM system and GSM phones are either phase 1 or phase 2 compliant.

MT

Mobile Termination.

SIM-card

Subscriber Identity Module card – a card that must be inserted in any GSM-based mobile phone. It contains subscriber details, security information and memory for a personal directory of numbers. The card can be a small plug-in type or credit card-sized, but both types have the same functions.

SMS

Short Messaging Service. Allows messages of up to 160 characters to be sent and received via the network operator's message centre to a mobile phone.

UI

User interface.

USSD

Unstructured Supplementary Services Data.

Related information

Documents

- Sony Ericsson J100 User Guide
- Sony Ericsson J210i White Paper
- Sony Ericsson Product Specification

Links

- www.sonyericsson.com/
- www.ericsson.com/mobilityworld/
- www.midi.org
- www.extendedsystems.com
- www.gsmworld.com/
- www.imc.org
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- www.imc.org/pdi/

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