White Paper

June, 2002

# T600/T602


Sony Ericsson

# Contents

# Preface

The Ericsson T600/T602 White Paper is designed to give the reader a deeper technical understanding of how the T600/T602 is designed, and how it interacts with other media. This document will make it easier to integrate with the IT and communications solutions of a company or organization.

People who can benefit from this document include:

- Corporate buyers
- IT Professionals
- Software developers
- Support engineers
- Business decision-makers

The best place to find all the extras you need to support your phone and daily life is at the Sony Ericsson Mobile Internet, http://www.SonyEricsson.com/mobileinternet. Here you will find downloadable ring tones, news, information, and a host of exciting links to other sites.

More information, useful for product, service and application developers, is published on the Ericsson Mobility World. This site, at http://www.ericsson.com/mobilityworld, contains up-to-date information about technologies, products and tools.

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# Product Overview

The T600/T602 is a an amazingly small triple band phone. It has a lithium battery and impressive talk and standby times. It is a phone of modern design and advanced technology with the most popular features. The T600/T602 is produced only in a limited volume.

# Key functions and features

**Small and light**
The T600/T602 measures 92x41x19.5 mm and weighs 60 grams. It is one of the smallest phones of the market.

**Large display**
Although small in size, the T600/T602 has a large display: 101x65 pixels (5 rows). This gives the user maximum readability when using the calendar, WAP and while messaging.

**EMS**
The T600/T602 supports limited Enhanced Messaging Service (EMS), an enhancement of the SMS standard. This makes it possible to include pictures and melodies in messages, and also to receive and edit new pictures and melodies on the phone. There are 115 pre-installed black-and-white pictures at purchase of phone.

**Predictive text input**
The T600/T602 has Predictive Text Input to make messaging easier. Instead of having to press keys several times for a letter, software in your T600/T602 anticipates what word or phrase you are writing.

**Option key**
The T600/T602 keypad has an option key. By pressing this, the most common options for the function currently in use are presented to the user. The option key also provides a help menu for certain functions.

**Calendar**
The T600/T602 has a stand-alone calendar, where the user easily can store important events and tasks. There are three different views to change between: Month, week and day. In the Asian markets, the phones T600c and T602 also have a lunar calendar if you set Chinese to be the menu language of your phone. It appears under *Extras*/*Calendar*.

**WAP 1.2.1 browser**
The T600/T602 has a Wireless Application Protocol 1.2.1 compliant browser, allowing fast and reliable access to Internet services with security according to WTLS class 2. GSM data access type, including High Speed Data (HSCSD), is supported.

**Mobile chat**
The T600/T602 has a Mobile chat over SMS, providing Internet-style chat functionality.

# More in-phone functions

**Melody composer**
The T600/T602 has a built-in Melody Composer, where the user can edit and create up to 8 melodies by using the phone's keypad. Each melody can consist of up to 99 notes over 5 octaves. A note (or rest) can be set in one of six durations. All this gives a great flexibility in creating personal ring tones and melodies for the user.

**SIM AT**
The T600/T602 supports SIM Application Toolkit (Online Services), which makes it possible for operators to provide new services to existing users over the air, including new menus and functions in the phone.

**Profiles**
The T600/T602 profiles feature; groups of settings preset to suit certain environments, such as "Meeting", "Port H-free", "Home". The profiles are also related to intelligent accessories such as a portable handsfree.

**Full graphic display**
The T600/T602 has a large, full graphic display with an easy to navigate, user interface software.

**Shortcuts**
The T600/T602 has a number of shortcuts which make it possible to prepare settings into a favourite menu which the user can access quickly and easily.

**Phone book**
In a company or an organization, you may need to deploy several phones with a common set of phone book entries. This is done in the following way:

Prepare the phone book on one SIM card in one phone. Then copy the contents from this SIM card to the SIM cards of all the other phones. Please see the User's Guide for more information.

**Start-up and shutdown shows**
The T600/T602 has built-in start-up and shut-down shows that feature a short animation with a melody.

# Messaging and chat


The T600/T602 is capable of sending and receiving SMS messages, linked messages and it supports Enhanced Messaging Service (EMS). Also, mobile chat over SMS is supported.

- With the Short Message Service, a user can send text messages containing up to 160 characters to and from GSM mobile stations (up to 70 characters using Chinese text)
- With the long messages feature, the user can link several (3) SMS messages together to create a longer message (network-dependent service)
- With EMS, the T600/T602 lets the user insert pictures and melodies, or ring tones, in outgoing messages. Also, the phone will display pictures and melodies included in incoming messages (network-dependent services)
- The T600/T602 makes it possible to chat with a second party using SMS. The chat is a series of short messages and corresponding replies between two parties, similar to chat services provided on the Internet.

The T600/T602 also lets you save often-used text messages as templates. You can save up to ten templates consisting of up to 160 characters each in the phone's memory.

## Enhanced messaging service (EMS)

Enhanced Messaging Service (EMS) is a powerful enhancement of the SMS standard specified by the 3rd generation Partnership Project (3GPP). It is supported by the major network operators and mobile phone manufacturers. With it, mobile phone users can add life to SMS text messages in the form of pictures and melodies. This gives the users new ways to express feelings, moods and personality in SMS messages.

As well as messaging, users can collect and swap pictures and ring signals and other melodies, downloading them from the Internet or edit them directly on the phone. See related documents

listed under “Documents” on page 24. EMS is a network-dependent service.

### Pictures

In the T600/T602, there are over 110 permanently stored pictures that express different moods and situations. The pictures are grouped by eleven different themes to make them easy to find. In addition, the T600/T602 has another 30 empty positions where the user can save pictures that have been received in incoming messages, or have been created by the user on the phone.

For easy access, the user can save shortcuts to pre-installed or edited pictures in *My Favourites*, see the User’s Guide.

### Melodies

Melodies received in incoming messages and composed by the user on the phone’s keypad can be stored in *My Melodies*. These are easily inserted in outgoing messages, see the User’s Guide. The built in tool for editing and creating melodies on the phone’s keypad is the Melody Composer.

### Picture editor

The user can edit pictures and symbols directly on the phone, to create new, personal pictures for inclusion in EMS messages. The Picture Editor allows the user to view the picture in the display and edit it with the pen tool.

The available tools include:

- Set line thickness
- Zoom in, zoom out
- Change picture width and height
- Select black or white pen

The T600/T602 has a set of predefined pictures for use with EMS, which also can be edited. New pictures can be received with EMS messages and saved in the phone. See the User’s Guide for a description of this function.

## Mobile chat via SMS

The T600/T602 makes it possible to chat with a second party using SMS. The chat is a series of short messages and corresponding replies between the two parties, similar to chat services provided on the Internet. This allows the user to review the conversation history in the display, and to reply by using a few commands. This makes a chat session quicker than usual SMS correspondence.

- Nicknames can be used to help identify the user in the chat.
- A user can temporarily leave a chat session, for example to use the calculator, or play a game, and then resume the chat session.
- Incoming and outgoing messages are identified with special icons in the display, and with the sender’s nickname.
- Users can hide their own messages from the chat display, only viewing the chat messages from the second party.

The chat session can be saved as a history, for later review.

# WAP Services

## Using WAP in the T600/T602

The typical WAP client is a small, portable device which is connected to a wireless network. This includes mobile phones, pagers, smart phones, PDAs and other small devices. In these devices, you have a limited user interface, low memory and computing power compared to desktop and laptop computers.

The WAP browser in the T600/T602 is designed for WML. It is suitable for interaction with customer services, e.g. ticket reservation. It is also handy when you want to access text-based information, such as timetables, share prices and exchange rates and Internet banking and other interactive services.

The built in WAP browser gives the user portable, fast and secure access to a wide variety of services, with the possibility of personalized services. WAP in the T600/T602 offers new opportunities to companies and service providers:

### Bearer type

The T600/T602 accesses WAP over a standard GSM Data connection, including High Speed Data (HSCSD). (Network-dependent services.)

### Connection-oriented

Supporting connection-oriented WAP, the T600/T602 provides WAP browsing with a high reliability. Connectionless WAP is also supported.

### Bandwidth efficiency

One of the key advantages WAP has over text-based HTML pages on mobile devices, is the bandwidth efficiency of communication. This is due partly to the fact that the WAP application is communicated to the wireless devices in the form of binary encoded data.

#### Provide settings

Using SMS messages, configuration settings can be sent over the air, OTA, so that the user does not need to configure the WAP access settings manually.

#### The WAP profiles

The T600/T602 holds eight WAP profiles, each with a group of network settings and a homepage. If you provide a corporate WAP service on your Intranet, it is useful to enter an Intranet WAP profile in user phones. The WAP profile holds network settings and user identification. The users switch between corporate services and WAP services on the Internet, by switching WAP profile.

Yes, gives the most common options for the function currently in use. The option key also provides a help menu for certain functions.

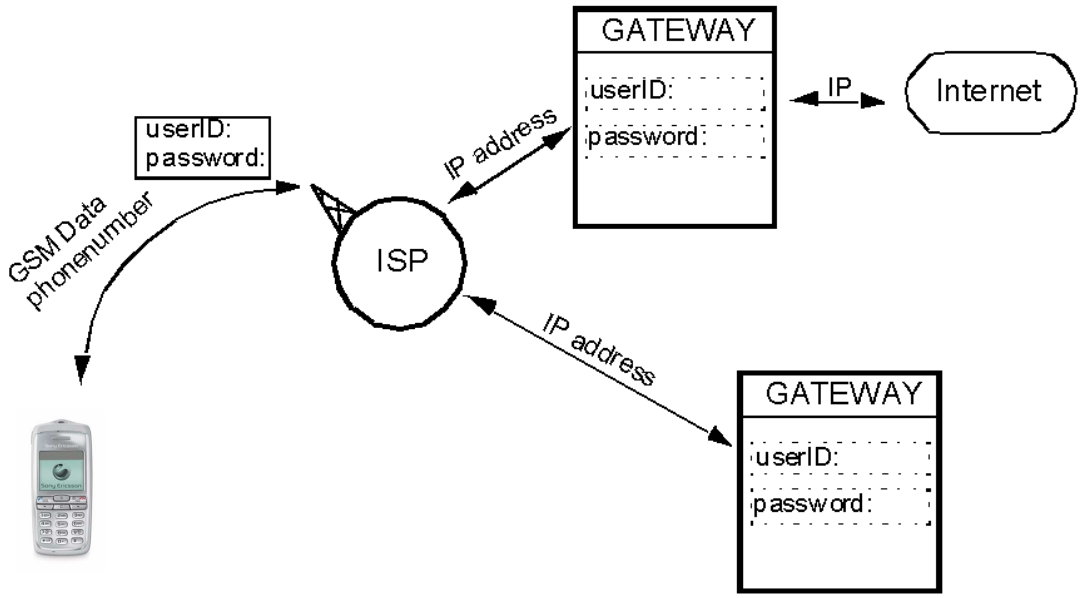
# Technical specifications of the WAP browser

| Feature | Support in the T600/T602 WAP browser |
|---|---|
| Authentication | WAP 1.2.1 Server applications may request Basic Authentication. Gateway may request Authentication during connection setup. |
| Back to previous page | Yes |
| Bearer type GSMData (IP) | Yes, ISDN and analog |
| Bearer type SMS | No |
| Bookmarks | Yes, up to 8 named bookmarks for easy access to frequently visited pages |
| Cache | Yes |
| Character sets* | UTF8 (Default), USAASCII, Latin 1, UCS2 |
| Colour | 1 bit (b/w) |
| Homepage | Yes, up to 8 different, one for each WAP profile |
| Hyperlinks in Text | Yes, highlighted by inverse video |
| Hyperlinks in Images | Yes, indicated by a frame |
| Image Animation | No |
| Image Formats | WBMP, no transparent layers |
| Network Settings | Up to 8 different settings available by selecting WAP profile (Intranet, Internet, Banking, Gateway etc.) |
| OTA Support | Yes |
| PPP Authentication | PAP |
| Reload page | Yes |
| Speed | 9.6 kbit/s or 14.4 kbit/s |
| Tables | Yes |
| WAP/WML | WAP 1.1 & 1.2.1 compliant, WMLScript<br>Layers implemented: WAE, WSP, WDP, WTLS, WTP |
| WAP profiles | 8 WAP profiles, each with its own settings |

*) *When creating WML applications, it is recommended always to save the page contents as UTF8, and this is clearly indicated in the pages before publishing. This ensures that the contents of the application can be viewed, regardless of character sets used in gateways and the phone. All characters are not supported in all phones. The software version depends on the market the phone is intended for. Also, please note that the phone may not support input on a WAP Service which uses certain characters (MMI languages), even if those characters are supported for browsing in the phone.*

# Bearer characteristics

The phone accesses WAP services over IP, where IP is provided over GSM Data.




### GSM data access

- Circuit connection of data calls mean that the phone is connected during the WAP session.
- Connection-oriented WAP uses error recovery services to provide high reliability.
- Higher transmission speed than with SMS access.
- Pricing of GSM data access comparable to that of data calls in the network.
- Suitable for Complex Pull services, Browsing and Data transfer.
- Not suitable for Provisioning, Pager service.
- Connectionless WAP can also be used for those networks that do not support connection-oriented WAP.

# Connection-orientated WAP

The T600/T602 supports connection-oriented WAP over GSM Data. In general, this means that the connection between the WAP browser in the phone and the WAP Gateway is maintained in a session with error recovery services. This gives a high reliability with a reduced risk of errors in the transmission, and improves efficiency in WAP browsing.

# Security using WAP

The T600/T602 is based on the WAP 1.2.1 specifications where security functionality is specified with a technology called Wireless Transport Layer Security (WTLS).

The WAP protocols that handle the connection, its transport and its security are structured in protocol layers. The security is handled by the WTLS layer operating above the transport protocol layer. The WTLS layer is modular and there are WTLS classes that indicate which security level is supported by the application.

- WTLS class 1 specifies an encoding of the information.
- WTLS class 2 includes class 1 and in addition a server authentication, where server certificates are needed in the phone (access lock)

The T600/T602 supports WTLS class 2.

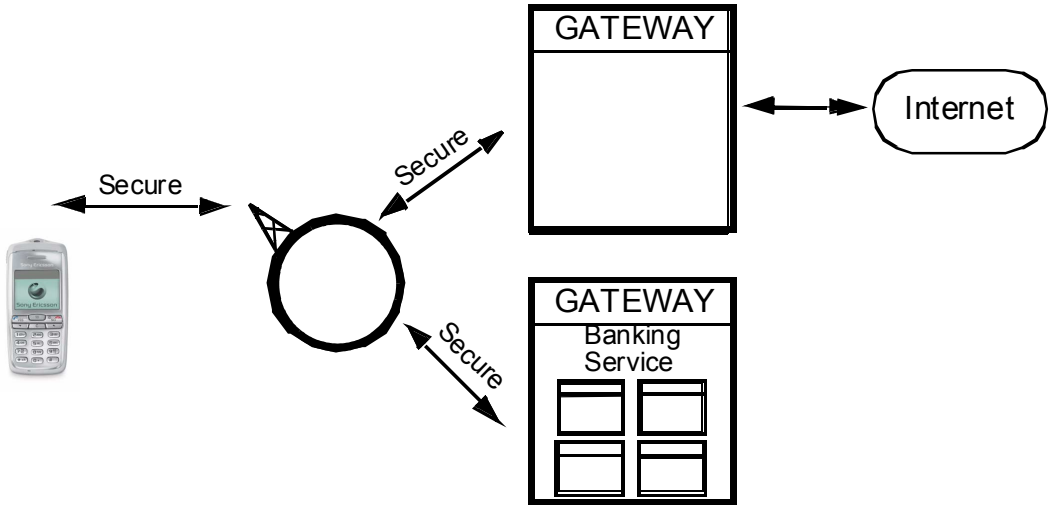



*Figure 1 . Example showing the limitations of security implementation.*

## Over The Air provisioning of WAP settings

To simplify configuring WAP setting in a number of phones, all settings can be sent as an SMS message to each phone. This makes it easy for an operator, a service provider or a company to distribute settings for Internet/Intranet, and WAP, without having to configure each phone manually. This also makes it easy to upgrade the services provided to the users, without the need for users to perform any manual configuration.

- The OTA configuration message is distributed via SMS point-to-point.
- The setup information is a binary encoded XML message. To receive information about OTA specifications, please contact your local Sony Ericsson representative for consumer products.
- The user is not alerted about new settings until the ongoing browsing session ends. Furthermore, settings are not charged during an ongoing browsing session.
- The necessary user interaction is limited to receiving and accepting/rejecting the configuration message, and selecting which WAP profile to allocate the settings to.
- Security can be handled using a keyword identifier displayed on the screen as a shared secret between the SMS sender and the receiver. It is important that the user has a way to verify that the configuration message is authentic.

## Configuration of WAP settings

To perform the WAP configuration of a single phone it is suggested to use the functions and information provided on the Sony Ericsson homepage at http://www.SonyEricsson.com/.

A manual configuration is made using the menu system in the phone. This is described in the User's Guide.

# In-phone functions and features

*Subscription and/or network-dependent

| **In-phone functions and features** | | |
|---|---|---|
| A | Alarm clock with snooze function | Yes |
| | Alphabet input (Arabic, Chinese, Cyrillic, Greek, Hebrew and Thai) | Yes |
| | Alternate Line Service* | Yes |
| | Antenna connector, external for HF kits | No |
| | Automatic redialling | Yes |
| B | Background light | Yes |
| | Background picture/wallpaper in standby | Yes (115) |
| | *Bluetooth* wireless technology support | No |
| | Bookmarks (URL memory) | Yes (8) |
| | Built-in antenna | Yes |
| | Business card exchange | Yes, via EMS |
| C | Calculator | Yes |
| | Calendar | Yes |
| | Call barring* | Yes |
| | Call divert* | Yes |
| | Call forwarding* | Yes |
| | Call hold* | Yes |
| | Call list (last dialled, answered and missed calls) | Yes (30) |
| | Call screening* | Yes |
| | Call time/call cost (a.k.a Advice of Charge, Information/Charging)* | Yes |
| | Call transfer* | Yes |
| | Call wait | Yes |
| | Calling card service | Yes |
| | Calling Line Identification (CLI) | Yes, as the number of the caller. |
| | Chinese text input | Yes (Stroke, Pinyin and Bopomofo) |

| **In-phone functions and features** | | |
|---|---|---|
| | Clock | Yes, with Time Zone* |
| | Closed User Groups (CUG)* | Yes |
| | Code memo | Yes |
| | Conference calls* | Yes |
| | Connected Line Identity Presentation (COLP) | Yes |
| | CSD (Circuit Switched Data), a.k.a. GSM Data | Yes |
| D | Date | Yes |
| | Display light | Yes, white (display), blue (keypad) |
| E | EDGE (enhanced Data rates for Global Evolution)* | No |
| | e-GSM | Yes |
| | E-mail | Yes, WAP-based |
| | E-mail address storage | No |
| | E-melody | Yes |
| | EMS (Enhanced Messaging Service)* | Yes, –limited version – pictures and melodies only |
| | E-OTD (Enhanced Observed Time Difference) | No |
| | External antenna connector | No |
| F | Fax modem | No |
| | Fixed Dialling Numbers (FDN)* | Yes |
| G | Games | Yes, 5 games |
| | GPRS (General Packet Radio Services)* | No |
| | GSM | Yes, 900/1800/1900, phase 2+ |
| H | HSCSD (High Speed Data)* | Yes |
| | Help texts | Yes |
| I | I-melody | Yes |
| | Infrared port | No |
| | Input methods | T9 Text Input, multitap alphabetic (GSM standard), T9 Text Input, Bopomofo, Pinyin and Stroke (T602/T600c). |
| | International roaming | Yes |

| **In-phone functions and features** | | |
|---|---|---|
| K | Keypad lock | Yes |
| L | Language selection | Yes |
| | Lunar calendar | Yes (T602/T600c) |
| M | Memory check | Yes |
| | Menu help | Yes |
| | Mobile chat | Yes |
| | Modem, built-in | No |
| O | Option key | Yes, gives the most common options for the function currently in use. The option key also provides a help menu for certain functions. |
| P | Phone book | Yes, up to 200 contacts + SIM |
| | Phone book item, send as SMS | Yes |
| | Phone lock | Yes |
| | Picture editor | Yes, stand-alone picture editor facility. Here the user can create new and edit existing pictures (WBMP). |
| | Pictures, downloadable | Yes, limited only by memory |
| | Pictures, exchange | Yes, via EMS |
| | Picture messaging support (Nokia) | Yes (download/receive only) |
| | Picture Phone book | No |
| | Power gauging (remaining talk and standby) | No |
| | Power-on prevention (30 seconds) | Yes |
| | Predictive text input | Yes |
| | Profiles | Yes (5) |
| R | Re-dialling, automatic | Yes |
| | Ring signal composer | Yes |
| | Ring signal exchange | Yes, via EMS |
| | Ring signals, pre-programmed | Yes (15) |
| | Ring signals, My melodies (user-defined) | Yes (8) |

| **In-phone functions and features** | | |
|---|---|---|
| S | Screensaver | No |
| | Shortcuts | Yes |
| | SIM Application Toolkit* | Yes |
| | SIM card copy | Yes |
| | SIM card lock | Yes |
| | Sleep mode (sleeping display) | No |
| | SMS (Short Message Service)* | Yes |
| | SMS Cell Broadcast* | Yes |
| | SMS counter | No |
| | SMS templates | Yes (10) |
| | Sound handling | Yes |
| | Speaker phone | No |
| | Speech coding | EFR, FR and HR |
| | Speed dialling | Yes |
| | Start-up/Shutdown shows | Yes |
| | Status menu | Yes |
| | Stopwatch | Yes |
| | Swatch Internet Time | No |
| | Synchronization with PC | No |
| | SyncML | No |
| T | Timer | Yes |
| | Two Line Service (a.k.a Alternate Line Service, ALS) | Yes |
| U | User greeting (a.k.a. start-up/shutdown shows) | Yes |
| V | Vibrating alert | Yes |
| | Voice coding | Yes |
| | Voice control (dialling, plus answering and rejecting with HF) | No |
| | Voice mail | Yes |
| | Voice memo | No |
| W | WAP browser | Yes, WAP 1.2.1 browser |
| | WTLS for added WAP security* | Yes, WTLS class 1 and 2 |

# Network-dependent features

## SMS messaging

The T600/T602 is capable of sending and receiving SMS messages.

- With the Short Message Service, a user can send text message containing up to 160 characters to and from GSM mobile stations.

A Service Centre (SC) acts as a storage and forwarding centre.

SMS consists of two basic services:

- Mobile Orientated SMS (from a mobile station to an SMS-C)
- Mobile Terminated SMS (from an SMS-C to a mobile station)

For Mobile Originated SMS, an SMS message is sent from a Mobile Station to the SMS-C where it is forwarded to its destination. This can be another Mobile Station, or a terminal in the fixed network.

A Mobile Terminated SMS is when an SMS message is forwarded from the SMS-C to a Mobile Station. When the Mobile Station receives the message, it returns a delivery report saying the transfer was successful.

## Fixed dialling and restricted calls

For a company or an organization, it can be useful to restrict phone calls. Fixed dialling involves presetting a number of digits, for example area codes. This restricts the user to making calls only to numbers which use the preset digits as leading digits. Fixed Dialling makes use of the PIN2, and it requires fixed dial fields on the SIM Card.

Restricted calls allows outgoing or incoming calls in certain situations, for example international calls to be blocked

# SIM Application Toolkit

The SIM Application Toolkit (SIM AT) is a smart-card-centric method of deploying programs that apply only to GSM and to SMS and USSD transports. Programs must be distributed on smart-cards. WAP is an Internet-centric method of deploying programs that is independent of network technology. Programs and content are kept centrally on web servers and downloaded as required. While there is some overlap, WAP is a particularly good choice when deploying programs that also have an HTML version for desktop use. Work is currently underway on building interfaces between the two technologies.

For an operator, a company or service provider, SIM AT offers a powerful way to develop programs and services to users, without the need for new or upgraded equipment. All necessary setup and programming is distributed to the users over the air, directly to their phones. In the T600/T602, a separate menu is available, and there are also functions which allow the phone to initiate calls, send data and display information for the user.

## SIM AT services supported by the T600/T602

| **Service** | **Mode** | | **Support in T600/ T602** |
|---|---|---|---|
| CELL BROADCAST DOWNLOAD | | | Yes |
| DISPLAY TEXT | 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 press “Yes” to confirm 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. | No |
| | | 1 = character sets defined by bit 1 and bit 2 are disabled and the “Yes/No” response is requested. | No |

| **Service** | **Mode** | | **Support in T600/ T602** |
|---|---|---|---|
| GET INPUT | General: No limit of hidden input characters | | 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 = 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 | Yes |
| | | 1 = help information available | Yes |
| MORE TIME | | | Yes |
| PLAY TONE | | | Yes |
| POLLING OFF | | | Yes |
| POLL INTERVAL | | | Yes |
| PROVIDE LOCAL INFOR-MATION | ‘00’ = Location Information (MCC, MNC, LAC and Cell Identity) | | Yes |
| | ‘01’ = IMEI of the ME | | Yes |
| | ‘02’ = Network Measurement results | | No |
| | ‘03’ = Date, time and time zone $(DTTinPLI)$ | | No |
| REFRESH | General: The reset option requests the user to turn off and turn on the mobile. | | No |
| | ‘00’ = SIM Initialization and Full File Change Notification; | | Yes |
| | ‘01’ = File Change Notification; | | Yes |
| | ‘02’ = SIM Initialization and Full File Change Notification; | | Yes |
| | ‘03’ = SIM Initialization; | | Yes |
| | ‘04’ = SIM Reset; | | Yes |
| SELECT ITEM | | | Yes |
| SEND SHORT MESSAGE | bit 1: | 0 = packing not required | Yes |
| | | 1 = SMS packing by the ME required | Yes |
| SEND SS | | | Yes |

| Service | Mode | Support in T600/ T602 |
|---|---|---|
| SET UP CALL | General: Capability configuration | Yes |
| | Setup speech call CallParty Subaddress | No |
| | DTMF support | Yes |
| | '00' = set up call, but only if not currently busy on another call; | Yes |
| | '01' = set up call, but only if not currently busy on another call, with redial; | Yes |
| | '02' = set up call, putting all other calls (if any) on hold; | Yes |
| | '03' = set up call, putting all other calls (if any) on hold, with redial; | Yes |
| | '04' = set up call, disconnecting all other calls (if any); | Yes |
| | '05' = set up call, disconnecting all other calls (if any), with redial; | Yes |
| SET UP MENU | | Yes |
| SMS PP DOWN-LOAD | | Yes |

# User interaction with SIM AT

**DISPLAY TEXT**
A text string of up to 240 characters (120 UCS coded) is supported.

**Text clearing times**
- 3 seconds. 60-second timeout limit for the user to clear the text.

**'Key' responses'**
- Long NO' - Proactive session terminated by user.
- 'NO' - Backward move in proactive session. Any other key clears display if the command is performed successfully.

**GET INKEY**
Prompt for a one character input. Pressing 'YES' without entering a character gives warning message "Minimum 1 character".

**'Key' responses'**
- CLR' clears current character.
- 'Long NO' terminates the proactive session.
- 'NO' - Backward move in proactive session.
- 'YES' - Command performed successfully.

**GET INPUT**
Prompt for character input. Pressing 'YES' without entering a character gives warning message "Minimum 'no' characters". The phone will refuse to accept further input when maximum response length is exceeded.

**MMI Maximum Response lengths**
- SMS default alphabet characters - 160 characters.

**'Key' responses'**
- CLR' clears current character/characters.
- 'Long NO' terminates the proactive session.
- 'NO' - Backward move in proactive session.
- 'YES' - Command performed successfully.

**SELECT ITEM**
Scroll to highlight item in selection. The maximum number of items supported by the phone within one Select Item command, is 30.

**'Key' responses**
- Down arrow – Scroll down list.
- Up arrow – Scroll up list.
- 'Long NO' terminates the proactive session.
- 'NO' - Backward move in proactive session.
- 'YES' - 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. Responses are “MESSAGE FAILED” or “MESSAGE SENT”.

**‘Key’ responses‘**

- Long NO’ or ‘NO’ terminates the proactive session.

**SET UP CALL**

If the ME is on a call when the command ‘Set up Call, putting all other calls on hold’ is sent, the user will see the text ‘Setting up a call current call will be held’. If the ‘YES’ key is pressed the current call will be put on hold and the new call set up. If the ME is on a call when the command ‘Set Up Call, disconnecting all other calls’ is sent, the user will see the text ‘Setting up a call current call will be disconnected’. If the ‘YES’ key is pressed the current call will be disconnected and the new call set up.

**SET UP MENU**

Incorporates a SIM Application Toolkit Menu Item into the ME’s main menu structure. From the standby display, the right or left arrow buttons can be pressed to select the Menu Items. (Note: The SIM AT menu option is found in the ‘Extras* menu).

If Alpha Identifier is supplied in the Set Up Menu command, this is used as the SIM AT entry in the ME’s main menu. If no alpha identifier is supplied and only one item provided, then this item is used as header. 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 using the ‘YES’ key, all the items sent in the Set Up Menu command will be available for selection, in the same way as the Select Item command. A limit of 30 menu items has been set within this command.

**‘Key’ responses**

- Down arrow - Scroll down list.
- Up arrow - Scroll up list.
- Side key: - Scrolls the menu.
- ‘YES’ - Envelope (Menu Selection).

# Terminology

**API**
Application Programming Interface.

**Bearer**
The method for accessing WAP from the phone, for example GSM Data (CSD) and SMS.

**bFTP**
binary File Transfer Protocol.

**Bookmark**
A URL and header/title stored in the phone.

**Browsing session**
The period from the first access of content until the termination of the connection.

**Calling Line Identification (CLI)**
Shows the number of the caller, or a picture assigned to the number of the caller in the mobile phone display. Not all numbers can be displayed. Network-dependent feature.

**Card**
A single WML unit of navigation and user interface. May contain information to present to the user, instructions for gathering user input, etc.

**CGI**
Common Gateway Interface. Server technology that generates web pages dynamically.

**CS**
Circuit Switched.

**CSD**
Circuit Switched Data.

**Deck**
A collection of WML cards.

**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.

**EFR**
Enhanced Full Rate, speech coding.

**EMS**
Enhanced Message Service. Allows the user to add simple pixel pictures and animations, sounds and melodies to a text message. The EMS 3GPP standard also includes text formatting.

**ETSI**
European Telecommunications Standards Institute.

**FR**
Full Rate, speech coding.

**Gateway**
A WAP Gateway typically includes the following functions:

- A Protocol Gateway – the protocol gateway translates requests from the WAP protocol stack to the WWW protocol stack (HTTP and TCP/IP).
- Content Encoders and Decoders – the content encoders translate Web content into compact encoded formats to reduce the size and number of packets travelling over the wireless data network.

**GSM**
Global System for Mobile Communications. GSM is the world's most widely-used digital mobile phone system, now operating in over 100 countries around the world, particularly in Europe and Asia-Pacific.

**GSM 900**
The GSM system family includes 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.

**GSM 1800**
Also known as DCS 1800 or PCN, this is a digital network working on a frequency of 1800 MHz. It is used in Europe and Asia-Pacific.

**GSM 1900**
This is a digital network working on a frequency of 1900 MHz. It is used in North America.

**HDML**
Handheld Device Markup Language.

**HDTP**
Handheld Device Transport Protocol.

**HR**
Half Rate, speech coding.

**HSCSD**
High Speed Circuit Switched Data.

**HTML**
HyperText Markup Language.

**HTTP**
HyperText Transfer Protocol.

**Image**
WBMP or GIF image contained in a Card.

**IRC**
Internet Relay Chat.

**ISP**
Internet Service Provider.

**ITTP**
Intelligent Terminal Transfer Protocol.

**LED**
Light Emitting Diode.

**LAN**
Local Area Network.

**ME**
Mobile Equipment.

**Micro browser**
Accesses and displays the Internet content in a mobile phone, using small file sizes and the bandwidth of the wireless-handheld network.

**MMI**
Man-Machine Interface.

**MS**
Mobile Station.

**MT**
Mobile Termination.

**OTA**
Over-the Air Configuration. To provide settings for the phone by way of sending an SMS message over the network to the phone. This reduces the need for the user to configure the phone manually.

**PDA**
Personal Digital Assistant.

**Phone book**
A memory in the mobile phone or SIM card where phone numbers can be stored and accessed by name or position.

**PIM**
Personal Information Management.

**SC**
Service Centre (for SMS).

**Service provider**
A company that provides services and subscriptions to mobile phone users.

**SL**
Service Loading.

**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. The T600/T602 uses the small plug-in card.

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

**SS**
Supplementary Services.

**SyncML**
An open standard for synchronization of all devices and applications over any network.

**TCP/IP**
Transmission Control Protocol/Internet Protocol.

**TE**
Terminal Equipment.

**TLS**
Transport Layer Security.

**URL**
Uniform Resource Locator.

**USSD**
Unstructured Supplementary Services Data.

**VAD**
Voice Activated Dialling.

**VAS**
Value Added Service.

**WAE**
Wireless Application Environment.

**WAN**
Wide Area Network.

**WAP**
Wireless Application Protocol. Handheld devices, low bandwidth, binary coded, a deck/card metaphor to specify a service. A card is typically a unit of interaction with the user, that is, either presentation of information or request for information from the user. A collection of cards is called a deck, which usually constitutes a service.

**WAP Application**
A collection of WML cards, with the new context attribute set in the entry card.

**WAP service**
A WML application residing on a web site.

**WBMP**
WAP Bitmap.

**WDP**
Wireless Datagram Protocol.

**WML**
Wireless Markup Language. A markup language used for authoring services, fulfilling the same purpose as HyperText Markup Language (HTML) does on the World Wide Web (WWW). In contrast to HTML, WML is designed to fit small handheld devices.

**WMLScript**
WMLScript can be used to enhance the functionality of a service, just as, for example, JavaScript may be utilized in HTML. It makes it possible to add procedural logic and computational functions to WAP-based services.

**WSP**
Wireless Session Protocol.

**WTLS**
Wireless Transport Layer Security.

**WTP**
Wireless Transaction Protocol

**WWW**
World Wide Web.

**XML**
Extensible Markup Language.

# Related information


## Documents

- The T600/T602 User's Guide
- WAP 1.2.1 Specification
- iMelody specifications are found in "Infrared Data Association; Specifications for Ir Mobile Communications (IrMC); iMelody (October 2000)"
- Enhanced Messaging Service White Paper
- Developers' Guidelines for EMS


## Links

- http://www.SonyEricsson.com/mobileinternet - a site for updates on Ericsson products and technologies
- http://www.ericsson.com/mobilityworld - information, tools, whitepapers and software updates on Ericsson products and technologies
- http://www.irda.org - home of the Infrared Data Association
- http://www.etsi.org - home of the European Telecommunications Standards Institute
- http://www.wapforum.org - home of the WAP Forum


## Trademarks and acknowledgements

# Technical specifications

The consumer pack includes:

- 1 Mobile Phone T600/T602
- 1 Standard Battery BSL 14 (610 mAh)
- 1 Standard Charger CST-13
- 1 Wriststrap
- 1 Sony Ericsson service and support leaflet
- 1 User's guide

## General technical data

| | |
|---|---|
| Product name | T600/T602 |
| SAR measurements: figures | European/Asian markets:<br>SAR 10g max value, phone: 0.80 W/kg (915 MHz cheek position)<br>Australian market:<br>SAR 1g max value, phone: 1.30 W/kg (915 MHz cheek position)<br>American (FCC) markets:<br>SAR 1g max value PCS-band, phone: 0.70 W/kg (1850 MHz cheek position)<br>American (FCC) markets:<br>SAR 1g max value PCS-band, body worn: 0.80 W/kg (1880 MHz) |
| SAR measurements: laboratory | Electromagnetic Near Field and Radio Frequency Dosimetry, Sony Ericsson Mobile Communications |
| System | Tri-band. GSM phase 2 recommendations. GSM 900 (3GPP TS 51.010-1), GSM 1800 (3GPP TS 51.010-1) and GSM 1900 (NATWG 03), e-GSM supported |
| Speech coding | HR, FR, EFR supported where available, for high speech quality |
| SIM card | Small plug-in card, 3V type |
| Type number | 1130402-BV, 1130402-CN |

## Radio Frequency (RF) Exposure and SAR

The mobile phone is a low-power radio transmitter and receiver. When it is turned on, it emits low levels of radio frequency energy (also known as radio waves or radio frequency fields).

Governments around the world have adopted comprehensive international safety guidelines, developed by scientific organizations, e.g. ICNIRP (International Commission on Non-Ionizing Radiation Protection) and IEEE (The Institute of Electrical and Electronics Engineers Inc.), through periodic and thorough evaluation of scientific studies. These guidelines establish permitted levels of radio wave exposure for the general population. The levels include a safety margin designed to assure the safety of all persons, regardless of age and health, and to account for any variations in measurements.

The radio wave exposure guidelines employ a unit of measurement known as the Specific Absorption Rate, or SAR. Tests for SAR are conducted using standardised methods with the phone transmitting at its highest certified power level in all used frequency bands. The actual SAR level of the mobile phone while operating can be well below the value stated below. This is because the mobile phone is designed to use the minimum power required to reach the network. Therefore, the closer you are to a base station, the more likely it is that the actual SAR level will decrease.

Variations in SAR below the radio frequency exposure guidelines do not mean that there are variations in safety. While there may be differences in SAR levels among various mobile phones, all Sony Ericsson mobile phone models are designed to meet the relevant guidelines for radio frequency exposure.

- SAR data information for residents in countries/regions that have adopted the SAR limit recommended by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), which is 2 W/kg averaged over ten (10) gram of tissue (for example European Union, Japan, Brazil and New Zealand):
- The highest SAR value for this model phone when tested by Sony Ericsson for use at the ear is 0.80 W/kg (10g).

# Exterior description

| | |
|---|---|
| Size | 92x41x19.5 mm (with battery) |
| Weight | 60 grams with standard battery |
| Graphic display | Graphical display 101 x 65 pixels<br>black and white, visible size 27.3 x 17.5 mm |
| Display | Type: graphical<br>Resolution: 101 pixels wide, 65 pixels high<br>Size: 30.0 x 20.1 mm (viewing), 27.3 x 17.5 mm (used), 101 x 65 pixels<br>Technology: LCD, black and white<br>Colours displayed together: 2 colours<br>Size (rows): 5<br>Refresh rate: 70 Hz<br>Backlight colour: 1<br>Fonts: 1<br>Possibility to display the Euro symbol: yes<br>Zooming availability: no |
| Antenna | Built-in |
| Text size | 12 pixels Latin, 16 pixels Chinese |
| Text rows | 4 + icon row |
| Colours | 3, Moonlight Silver, Marine Blue, Sand Gold (T602) |
| Battery | Li-Ion Battery BSL-14 (610 mAh) |
| Network LED | No |
| Keypad | Metallic-painted hard plastic on silicon matt<br>18 keys + side key (five different keypads: Latin, Arabic, Hebrew, Chinese, Bopomofo, Thai<br>Keypad lock: option key<br>Use of several keys simultaneously (e.g. for games) is possible |

# Ambient temperatures

| | |
|---|---|
| Operating | Max: +55°C, Min +5°C |
| Storage | Max: +60°C, Min -20°C |
| Charging | Max: +45°C, Min 0°C |

# Supported Man-Machine Interface (MMI) languages

Depending on software in the phone, these languages are supported:

Arabic (AR), Brazilian Portugese (PB), Bulgarian (BG), Czech (CS), Chinese simplified (ZS), Chinese traditional (ZC), Croatian (HR), Danish (DA), Dutch (NL), English (EN), Estonian (ET), Finnish (FI), French (FR), German (DE), Greek (EL), Hebrew (HE), Hungarian (HU), Indonesian (ID), Italian (IT), Latvian (LV), Lithuanian (LT), Malay (MS), Norwegian (NO), Philippine-Tagalog (TL), Polish (PL), Portuguese (PT), Romanian (RO), Russian (RU), Serbian (SR), Slovakian (SK), Slovenian (SL), Spanish (ES), Swedish (SV), Thai (TH), Turkish (TR), Vietnamese (VI).

*) *Some languages may not be available at launch*.

# Current consumption, talk and standby times

| Dimension | Value in GSM 900 | |
|---|---|---|
| Transmission current | 100 mA (min)<br>295 mA (max) | |
| Standby current | 2.7 mA (min), (paging rate 9, 1 neighbour present)<br>6.1 mA (max), (paging rate 2, 16 neighbours present) | |
| Standard Battery (Li-Ion)<br>BSL-14 (610 mAh) | Talk time | 1.5 - 5 hours |
| | Standby time | 80 - 180 hours |
| | Charging time | 1 hour |

# Games

| Name | Type of game | Interactive | Vibration |
|---|---|---|---|
| Car Race | Driving game | No | Yes |
| Puzzle | Puzzle game | No | No |
| Pyramid | Card game | No | No |
| Smash | Action game | No | Yes |
| TBD | | | |

* All games will stop and be saved in the memory if interrupted by an incoming call.
You can resume the games after the call.

| Technical platform information | |
|---|---|
| AVR micro-controller | 13 Mhz frequency |
| Video management memory | No |
| API (Application Program Interface) | No games API, externally available |

# Speech coding

| Dimension | Full rate | Enhanced full rate |
|---|---|---|
| Type | RPE/LPC with LTP | ACELP |
| Bit rate | 13.0 Kbp/s | 13.0 Kbp/s |
| Frame duration | 20 ms | 20 ms |

| Dimension | Full rate | Enhanced full rate |
|---|---|---|
| Block length | 260 bits | 244 bits |
| Class 1 bits | 182 bits | |
| Class 2 bits | 78 bits | |

# Cell broadcast service

| Feature | Support in the T600/T602 |
|---|---|
| User notification of the reception of a CB message | Message displayed on screen |
| Handling of reception of several unread messages | The last message overwrites the previous one |
| Support of all CMBI from 0 to 65535 | No |
| File support | CBMI and CBMID |
| Support CB SIM data download | No |
| Support of all applicable Data Coding Scheme values as defined in 3G TS 23.038 V3.3.0 | Yes |
| Ability to display in a understandable way a message with a DCS “language unspecified” whatever language is set in the SIM card | Yes |
| Ability to extract a phone number or short number of a CB message to re-use it (to send an SMS or call the sender) | Yes |
| Support of multi-page CB-messages | Yes |

# Short message service

| Feature | Support in the T600/T602 |
|---|---|
| SMS Center Number | It is possible to pre-record the SMS Center Number. |
| Pictures | It is possible to insert a picture/an icon into the text message. EMS compliant mobile handsets will be able to see the picture correctly. |
| Input methods | Predictive text input |
| Reply to messages | It is possible to reply to received messages by SMS, phone call, ... |
| Message creation methods support | Predictive writing |

| Feature | Support in the T600/T602 |
|---|---|
| Enhanced predictive writing method by: | |
| predictive keyboard which replaces the PDA keypad, alphabet keypad, keyboards for numbers, punctuation and symbols | No |
| copy, cut and paste words | No |
| teaching of predictive words that are not in the predictive dictionary | Yes |
| Possibilities when creating a message: | |
| save a sent message in a “sent items” folder | Yes |
| insert a line in the message | Yes |
| assign a validity period to the message | Yes |
| print via IrDA | No |
| use predefined 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 in the inbox | Yes |
| get delivery time and date | Yes |
| print via IrDA | No |
| Possibilities of the previously sent message: | |
| delivery report of the message | Yes |
| forward the message | Yes |
| save the message in the Inbox | No |
| know the remaining capacity storage | No |
| print via IrDA | No |
| 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 remining capacity storage | No |

| Feature | Support in the T600/T602 |
|---|---|
| Supported ways for replying to a received SMS: | |
| via SMS | Yes |
| via phone call (set up a call to the number contained in the message body) | Yes |
| via WAP call (go to the WAP address contained in the message body) | No |
| via USSD session | No |
| Possibility to offer the user the ability of sending an SMS to a list of recipients | Yes, using Phone Book groups |
| Possibility to write an e-mail address as a recipient adress | Yes, if SMS type=e-mail |
| SMS storage | In the SIM and in the handset. |

# Enhanced message service

| Feature | Support in the T600/T602 |
|---|---|
| Level of compliance supported by the handset regarding the specifications described in release 99. | Enhanced Messaging Service (EMS) according to the standard 3GPP TS 23.040 v3.5.0. |
| Number of messages that the handset is able to handle to generate a concatenated message | 3 |
| Capacity storage | 20 messages |
| Outgoing messages | It is possible to...<br>• choose whether to send the message or not after writing it. |
| Incoming messages | • It is possible to re-use the content of an EMS message. Sounds, pictures and animations can be inserted in a new message. |
| Concatenated messages | A receipt is received in the handset when all parts of a concatenated message have been delivered. |
| Attachments | It is possible to attach pictures and sounds to an EMS message. |
| Text formatting | No |
| Sounds | Chimes high, chimes low, ding, tada, notify, drum, claps, fanfare, chords high, chords low. |
| I-melody | Yes, version 1.2. |

| Feature | Support in the T600/T602 |
|---|---|
| Melodies | It is possible to...<br>• edit and create melodies by using the phone key-pad.<br>• send and receive melodies via EMS.<br>• download melodies and commercial tunes from Web/WAP portals. |
| WBMP | Yes |
| Picture sizes | 16x16 pixels, 32x32 pixels, variable size receipts in black and white. |
| Pictures | It is possible to...<br>• edit and create pictures by using the phone keypad.<br>• send and receive pictures via EMS.<br>• download pictures from Web/WAP portals.<br>• receive pictures in enhanced messages originated by service providers. |
| Animations | No |
| TP-PID field value given by the handset before sending an EMS message | 0x00 |

# Enhanced Messaging Service technical data

| EMS Feature | Support in T600/T602 | | |
|---|---|---|---|
| Concatenation (linked SMS) | Yes, 3 parts, each message up to 134 bytes of user data | | |
| iMelody format support | Note range: | From octave 3 note c to octave 7 note b (Notes out of range are discarded) | |
| | Flat note: | Yes, & | |
| | Sharp note: | Yes, # | |
| | Rest: | Yes, r | |
| | Beat: | Yes, | |
| | Style: | Yes, (S) | |
| | Volume modifiers: | Yes, (V+,V-) | |
| | Volume: | Yes, (V) | |
| | Duration Specifier: | Yes, (. : ;) | |
| | Led: | No | |
| | Vibe: | Yes | |
| | Backlight: | Yes | |

| **EMS Feature** | **Support in T600/T602** | | |
|---|---|---|---|
| | Repeat: | Yes | |
| Include melody in message | Yes, according to iMelody v1.2 format | | |
| Include picture in message | Yes | | |
| Melody composer | Yes, up to 8 user defined melodies and ring tones in My Melodies, each melody up to 99 notes long. Six note durations available. | | |
| Picture editor | Yes, edit My Pictures in the display using black or white pen, line thickness, zoom in, zoom out, picture size. | | |
| Picture, pre-defined sizes | Originated on phone (WxH in pixels): | | 16x16, 32x32 |
| | Received to phone (WxH in pixels): | | Small: 8x8,<br>Medium: 16x16,<br>Large: 32x32 |
| Picture, variable sizes | Originated on phone (WxH in pixels): | | |
| | Received to phone: | Width in pixels: (Pictures wider than display are truncated.) | In multiples of 8 pixels up to the screen width (i.e.8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96) |
| | | Height in pixels: | from 1 to 128 |
| | Note: The total product of Width and Height must never exceed 128 bytes. | | |
| Play melody on focus | Yes | | |
| Pre-defined pictures | Yes, grouped by themes | | |
| Text templates | Yes | | |

# Instant messaging/ Chat

| **Feature** | **Support in the T600/T602** |
|---|---|
| Support of instant messaging | No |
| Chat application | Yes, SMS as the radio bearer. |

# Performance and technical characteristics

| Dimension | GSM 900/E-GSM 900 | GSM 1800 | GSM 1900 |
|---|---|---|---|
| Frequency range | TX: 880 – 915 MHz<br>RX: 925 – 960 MHz | TX: 1710 – 1785<br>RX: 1805 – 1880 | TX: 1850 – 1910<br>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 | < 5º RMS Phase error (burst) | < 5º RMS Phase error (burst) | < 5º RMS Phase error (burst) |
| Duplex spacing | 45 MHz | 95 MHz | 95 MHz |
| Frequency stability | +/- 5 ppm (downlink RX) | +/- 175 Hz (downlink RX) | +/- 175 Hz (downlink RX) |
| Voltage operation (nominal) | 3.6 Volts | 3.6 Volts | 3.6 Volts |
| Transmission current average | 295 mA (max)<br>100 mA (min) | 210 mA (max)<br>95 mA (min) | 210 mA (max)<br>95 mA (min) |
| Transmitter RF power output | 32 dBm Class 4 (2W peak) | 30 dBm Class 1 (1W peak) | 30 dBm Class 1 (1W peak) |
| Transmitter Output impedance | 50 Ω | 50 Ω | 50 Ω |
| Transmitter Spurious emission | < -36 dBm up to 1 GHz<br>< -30 dBm over 1 GHz<br>(according to GSM spec.) | < - 30 dBm (according to GSM spec.) | < - 30 dBm (according to GSM spec.) |
| Receiver RF level | Better than – 102 dBm | Better than – 102 dBm | Better than – 102 dBm |
| Receiver RX Bit error rate | < 2% | < 2% | < 2% |

# WAP browser technical data

| Feature | Support in the T600/T602 WAP browser |
|---|---|
| Back to previous page | Yes |
| Bearer type GPRS (IP) | No |
| Bearer type GSM Data (IP) | Yes, HSCSD, ISDN and analog |

| Feature | Support in the T600/T602 WAP browser |
|---|---|
| Bookmarks | Yes, up to 8 named bookmarks for easy access to frequently visited pages |
| Bookmark Export/Import | |
| Cache | Yes (size 8 kbyte) |
| Character sets * | UTF8 (Default), USASCII, Latin1, UCS2 |
| Clear cache | Yes |
| Colour | No |
| Home page | Yes, up to 8 different, one for each WAP profile |
| HTML version for WAP browser | No. The WAP browser supports WML 1.3 |
| Hyperlinks in Text | Yes, highlighted by inverse video |
| Hyperlinks in Images | Yes, indicated by a frame |
| Image Animation | No |
| Image Formats | WBMP, no transparent layers |
| Network Settings | Up to 8 different settings available by selecting WAP profile (Intranet, Internet, Banking, Gateway etc.) |
| OTA Support | Yes |
| PPP Authentication | PAP supported |
| Reload page | Yes |
| Tables | Yes |
| User Agent Profiles | Yes, list of client characteristics - e.g. display size |
| WAP/WML WAP | WAP 1.2.1 |
| | *) When creating WML applications, it is recommended that you always save the page contents as UTF8, and that this is clearly indicated in the pages before publishing. This ensures that the contents of the application can be viewed, regardless of character sets used in gateways and the phone. All characters are not supported in all phones. The software version depends on which market the phone is associated to. Also, please note that the phone may not support input on a WAP Service which uses certain characters (languages), even if those characters are supported for browsing in the phone. |
| WAP browser | WAP 1.2.1 baseline |
| WAP profiles | Dynamic - up to 8 WAP profiles, each with its own settings |
| WTLS (security) | Yes,<br>WTLS Class 1 - Encoding<br>WTLS Class 2 - Encoding + Server Authentication. Root Certificates needed in phone |

# WAP Operator technical data

| Feature | Support in the T600/T602 for WAP |
|---|---|
| **WAP Browser** | |
| Version | 1.2.1 baseline |
| HTML | No |
| **WAP Provisioning** | |
| Total Parameter sets | 8 |
| Parameter set list | Name<br>Startpage<br>IP settings:<br>CSD phoneno., CSD Data rate, CSD dial type<br>IP address, datamode (conn.less or oriented)<br>UserId and password<br>Security on/off<br>Show images on/off<br>Response timer |
| Manual selection | Yes, between Analog (V32) and Digital (V110) |
| Parameter sets include | WAP/CSD |
| Factory pre-configuration | WAP/CSD (possibility to lock a setting) |
| OTA | WAP/CSD |
| Simultaneous OTA | WAP/CSD |
| Single OTA | WAP/CSD |
| Bookmarks | Not empty by default |
| URL format | Underlined |
| **Security mechanism** | |
| OTA provisioning (if empty) | No |
| Interface (if empty) | No |
| Re-provisioning (Set 1 filled) | As above |
| Interface (Set 1 filled) | As above |
| Carrier reset/provisioning | Yes, but not if the set is pre-configured in the factory and locked. |
| SWIM | Not used for provisioning.<br>The SWIM is only used for WAP security in WTLS connections. |
| SWIM certificate | Trusted certificates can be used for WTLS connections. |
| **Applicative provisioning** | |
| Preferred bearer customization | Yes |
| Email customization | No |

| Feature | Support in the T600/T602 for WAP |
|---|---|
| Other applications/features | No |
| **Technologies** | |
| WAP Forum OTA provisioning | No |
| Openwave OTA | No |
| Other | Yes. The Ericsson-Nokia solution. |
| Provisioning bearer | SMS |
| Parameter sets available | 8 |
| Parameter sets for OTA modification | 8 |

| | |
|---|---|
| **PUSH** | |
| **Content types** | |
| Service Indication (SI) | No |
| Service Loading (SL) | No |
| Cache Operation (CO) content type | No |
| Session Initiation Application (SIA) | No |
| **Man Machine Interface** | |
| SI/content retrieval postponing | No |
| SI menu structure accessability | No |
| SL reception warning | No |
| SIA reception warning | No |
| Cache size limitations | No |
| Number of push messages | No |
| Push de-activate | No |
| Dynamic push menu changes | No |
| **Security** | |
| Mechanisms for push | None |
| Trust with PPG | No |
| WSP push sessions | No |
| Denial of service/spoofing | No |
| **User agent profile** | |
| UA profile content sent at beginning of WSP session | No |

| Feature | Support in the T600/T602 for WAP |
|---|---|
| OA profile content size | No |
| URL sent pointing to the UA profile at the beginning of WSP session | No |
| URL location | On the manufacturer web site. |
| **WTAI** | |
| WTA Make Call | No |
| WTA Send DTMF | No |
| WTA Add Phone Book | No |
| Other WTA/WTAI | No |
| | |
| **DOWNLOAD** | |
| **WAP solutions** | |
| SAR/WSP/HTTP GET solution to download content over WAP | No |
| Download Fun from Openwave | No |
| Other download content over WAP | No |
| **Features** | |
| Download application/product memory check | No |
| Downloaded object solution | No |
| UAP indication for downloading | No |
| Other features | No |
| **Object formats** | |
| Ringing tones | iMelody, eMelody |
| Wallpapers | Image/WBMP |
| Pictures | Image/WBMP |
| Games | |
| JAVA applications | No |
| Screen savers | No |
| Audio files | audio/MPEG4 not used,MP3 not used, WAV not used |
| Skins | No |
| Video | Video/MPEG4 not used |
| | |
| | |

| Feature | Support in the T600/T602 for WAP |
|---|---|
| **GRAPHICAL USER INTERFACE** | |
| **Man Machine Interface** | |
| Soft keys | None |
| Separate/dedicated back or erase keys | No |
| Screen backlight on when browsing? | No |
| Predictive writing for WAP sessions? | No |
| “http://” string displayed automatically when entering URLs | Not displayed but the "http://" is added automatically to the URL. |
| **Elements** | |
| Number of display lines for a WAP connection | 4 to 7 plus Title, depending on the selected font size. |
| Pop-up menus | Yes. Single select list to conserve space. |
| Radio buttons | Yes. Single select list to conserve space. |
| Check boxes | Yes. Boolean selection. |
| Push buttons | No |
| Horizontal rules | Yes. Separate sections of WML card. |

# USSD technical data

| Feature | Support in the T600/T602 |
|---|---|
| USSD support | GSM Phase 1/ 2 (Cross-phase compatibility). GPRS behaviour according to class B |
| Mode support -mode | MMI-mode supported.<br><br>No application mode support (not needed for any application). |
| MMI-mode details | • USSD messages displayed until removed by user<br>• It is possible to scroll up and down the text in USSD messages |

# Image format technical data

| **Format** | **Visible** | Max | Animation | Colours | Visible colours | Transparency support |
|---|---|---|---|---|---|---|
| WBMB | 101x80 pics | 320x320 pixels | No | Black/ White | 2 | |

# Images – downloading to phone

| **Feature** | **File type** | Max. size | WAP |
|---|---|---|---|
| EMS icons | WBMP | WxH<=1024 pixels | Yes |
| Background | WBMP | Limited by the memory | Yes |

Exceptions:

EMS icons: WBMP max WidthxHeight<=1024 pixels (eg 32x32=1024)

WAP: Can not show animations in the WAP Browser.

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