



ALCATEL's ONE TOUCH™ 332



DOWNLOAD
REFERENCE MANUAL

SW/BG3_clr/REFMAN/DOWNLOAD - Document issue 1.0

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Document History

Version	Date	Type of modification
0.1	21/07/2003	Creation of the draft
0.2	30/07/2003	Changes made based on corrections and remarks received
1.0	22/08/2003	Initial release





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1 Scope

This document will provide operators with a full understanding of the various data downloading capabilities of ALCATEL's ONE TOUCH™ 332 handsets.

2 References

2.1 Applicable documents

Document Title	Reference Name	
EMS Reference Manual for ONE TOUCH™331	SW/BG3/REFMAN/EMS	v1.0
Technical realisation of the SMS	3GPP TS 23.040 (Release 5)	v5.3.0
Technical realisation of the SMS	3GPP TS 23.040 (Release 4)	v4.4.0
Alphabets and Languages	3GPP TS 23.038	v4.3.0
M-Services Guidelines	PRD AA.35	v3.0
Channel Coding	REC GSM 05.03	v7.3.0
Half Rate Speech Transcoding	REC GSM 06.20	v7.0.1
iMelody	Specifications for Infrared Mobile Communications (IrMC), IrDA	v1.2

2.2 GLOSSARY

3GPP	3 rd Generation Partnership Project
EMS	Enhanced Message Service
iAlcatel	Alcatel proprietary melody format
iMelody	Standard melody format
IrDA	Infrared Data Association
IrMC	Infrared Mobile Communications
ME	Mobile Equipment
MSB	Most Significant Bit
MSEQ	Multimedia Sequential Event Quantification
SMS	Short Message Service
TDD	Terminal Data Download
UDH	User Data Header
VOX	Standard vocal format
WAP	Wireless Application Protocol
WSP	Wireless Session Protocol



3 Supported Object Formats and Bearer Constraints

The ALCATEL ONE TOUCH™ 332 comes with data downloading capabilities which enable the user to enhance and/or personalise his handset and to communicate with other users in more interactive ways. The big advantage of this handset is its 4096-colour screen display and the availability of colour icons for downloading.

3.1 Download Formats Supported

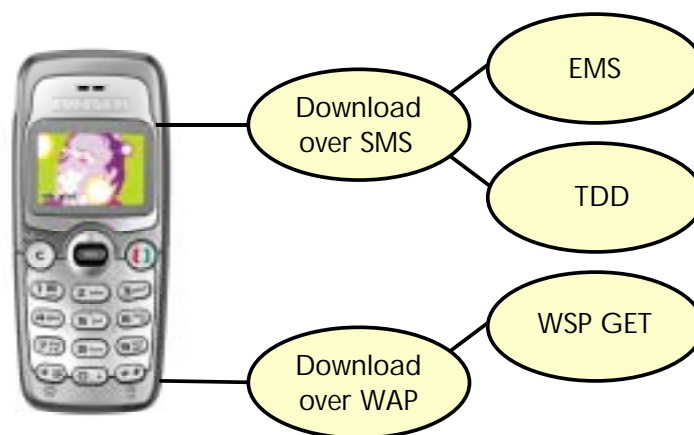
Different types of data can be downloaded:

- four types of Melodies:
 - iMelody: standard format for buzzer melodies, as defined in EMS protocol;
 - iAlcatel: proprietary Alcatel format for buzzer melodies;
 - MSEQ: Alcatel format for polyphonic, multi-instrument melodies;
 - VOX: Alcatel proprietary format for sampled melodies;
- six types of Pictures:
 - Alcatel pictures: static b/w pictures in Alcatel format;
 - Alcatel animations: sequence of static b/w pictures in Alcatel format;
 - WBMP pictures;
 - EMS Release 4 pictures: static pictures in standard EMS format;
 - EMS Release 4 animations: timed sequence of static pictures in EMS format;
 - Alcatel colour pictures: static 256-colour (maximum) pictures in Alcatel (PCO) format;
- SMS templates: sequence of text, pictures and melodies forwarded as an EMS message by the end user.

3.2 Bearer-Format Compatibility

There are two ways of downloading data elements with the ONE TOUCH™ 332:

- Download over SMS (using EMS or TDD)
- Download over WAP (using WSP GET)



3.3 Object Format Bearer Compatibility

Some objects can be downloaded via both bearers, others by one only. The table below specifies bearer constraints.

Type of data	Via SMS?	Via WAP?
Audio		
iMelody	YES	YES
iAlcatel	YES	YES
MSEQ	YES	YES
VOX	YES	YES
Image		
Alcatel b/w picture	YES	YES
Alcatel animated b/w picture	YES	YES
PIC pictures	YES	YES
ANI pictures	YES	YES
Wireless Bitmap	YES	YES
PCO still colour image	NO	YES
Template		
SMS Template	YES	NO

The size constraints governing downloadable objects per download method and object format are discussed below.

3.4 Object Size Constraints Per Bearer

The different means to download data do not have the same capabilities. The table below lists the usual size limitations for each type of bearer. Please remember that these limits are valid for ALL types of data and content types, except if specified otherwise.



Bearer	Maximum size
WSP GET (WAP download)	7 Kbytes (N.B.: the maximum size of objects downloadable using WSP GET may also be limited by the WAP Gateway server)
TDD	4000 bytes
EMS	128 bytes

Note: The 128-byte limit for EMS implies that objects must be less than 128 bytes AFTER being converted into EMS in order to be forwardable as EMS-compatible objects.

3.5 Available Resources for Download Content Developers

Alcatel has created some special pages in the WAP section of its Internet web site. Those pages are for developers and operators seeking more information on data download protocols and/or tips on content object development. Go to this URL address:

<http://www.alcatel.com/wap/>

The home page of the just-for-developers "One Touch Ahead" section is displayed. Register by supplying a login name. Receive a password via E-mail and then enter, to:

- consult further documentation related to this and other Alcatel handsets;
- find free downloadable content development tools;
- obtain free samples of downloadable objects, along with tips on creating more.

Further useful information and downloadables (user's manual in several languages, e.g.) may also be found at the end user-oriented My One Touch section of Alcatel's web site:

<http://www.my-onetouch.com/>



4 Content Object Maximum Sizes

!! WARNING !!

Alcatel's ONE TOUCH™ 332 download features support only UTF-8 characters for titles.

WAP SI PUSH must also be encoded in UTF-8

EMS objects (with an *.ems* content type) can be forwarded to any EMS-compatible handset. To be EMS-compatible, objects must ALWAYS be less than 128 bytes AFTER conversion into EMS.

In this document, EMS means EMS RELEASE 4.

4.1 Melodies

4.1.1 iMelody

The iMelody format is a minimal set of tones that can be used to transfer melodies between devices. To be compliant with the EMS standard, the melody must be limited to 128 bytes. The ONE TOUCH™ 332 supports iMelody 1.0, 1.1 and 1.2.

The ONE TOUCH™ 332 plays all melodies in continuous style (no rest between notes).

WSP GET

Type of data	Content type	Supported	Max. size (bytes)
iMelody	audio/iMelody	YES	7168
	application/vnd.alcatel.iMelody.EMS	YES	128

TDD over SMS

Type of data	Supported	Max. size (bytes)
iMelody	YES	4000

EMS

Type of data	Supported	Max. size (bytes)
iMelody	YES	128

4.1.2 iAlcatel melody

iAlcatel is a proprietary Alcatel monophonic melody format, intended to dissociate the duration and the frequency. It enables better compression rates and therefore faster downloads. To be compliant with the EMS standard, the iAlcatel melody must be limited to 128 bytes once converted into iMelody.



WSP GET

Type of data	Content type	Supported	Max. size (bytes)
iAlcatel	application/vnd.alcatel.iAlcatel	YES	7168
	application/vnd.alcatel.iAlcatel.EMS	YES	128

TDD over SMS

Type of data	Supported	Max. size (bytes)
iAlcatel	YES	4000

4.1.3 MSEQ Melody

MSEQ (Multimedia Sequential Event Quantification) is an Alcatel-specific format which supports polyphony and multi-timbrality (several notes and several instruments).

WSP GET

Type of data	Content type	Supported	Max. size (bytes)
MSEQ	application/vnd.alcatel.SEQ	YES	7168
MSEQ	application/vnd.alcatel.SEQ	YES	7168

TDD over SMS

Type of data	Supported	Max. size (bytes)
MSEQ	YES	4000

4.1.4 VOX melody

VOX is a sampled melody. It is an Alcatel format that requires the Half Rate vocoder. If the user sends a VOX melody to a handset which does not support HR vocoding, then the VOX melody will NOT play.

WSP GET

Type of data	Content type	Supported	Max. size (bytes)
VOX	application/vnd.alcatel.VOX	YES	7168

4.2 Pictures

4.2.1 Alcatel Picture

Alcatel Picture is a proprietary format. Alcatel pictures are used for EMS messages (when EMS compliant), idle screen and switch on/off. Note: Alcatel's ONE TOUCH™ 332 supports black and white pictures only (no gray levels).

WSP GET

Type of data	Content type	Supported	Max. size (bytes)
Alcatel Picture	application/vnd.alcatel.picture	YES	866
	application/vnd.alcatel.picture.EMS	YES	128

TDD over SMS

Type of data	Supported	Max. size (bytes)
Alcatel Picture	YES	4000

Pictures must be limited to the sizes listed below (sizes are given *width x height*):

- Idle screen
 - Up to 35 x 39 pixels (with the picture displayed on the right of the screen and the clock on the left). Pictures up to 35 x 41 are also accepted BUT only 35 x 39 pixels will be displayed. Alcatel recommends a size of 32 x 32 for best results.
 - Up to 96 x 39 pixels (with the picture displayed full width across the screen and the clock at the bottom). Pictures up to 96 x 41 are also accepted BUT only 96 x 39 pixels will be displayed.
- Switch on/off
 - All sizes from 1 x 1 to 96 x 65 (full screen).
 - Alcatel recommends heights of 8, 16, 24, 32, 40, 48, 56 and 64.
- EMS-compatible pictures
 - Picture's width (dx) must be a multiple of 8 (8, 16, 32, 40, 48, 56, 64, 72, 80, 88, 96)
 - Picture's height must comply to the rule: $dx * dy/8 \leq 128$ (where dy is the picture's height)
 - Alcatel recommends an EMS picture size of 32 x 32.

4.2.2 Alcatel Animation

The Alcatel Animation is a looped set of static pictures associated with a display timer. This format is compatible with the EMS animation format: it can be forwarded by the user as an EMS to any EMS-compatible mobile phone.

- The animation can include up to 7 pictures of equal sizes.
- All sizes are accepted, from 1 x 1 pixels to 96 x 65 pixels (full screen).
- The pictures must be Alcatel Pictures (refer to the previous section).



To be compliant with the EMS standard:

- The animation must be a sequence of 4 pictures with equal sizes.
- The size of the pictures must be either 8 x 8 pixels or 16 x 16 pixels (recommended size).

WSP GET

Type of data	Content type	Supported	Max. size (bytes)
Alcatel Animation	application/vnd.alcatel.animation	YES	7168
	application/vnd.alcatel.animation.EMS	YES	128

TDD over SMS

Type of data	Supported	Max. size (bytes)
Alcatel Animation	YES	4000

4.2.3 EMS Picture

EMS

Type of data	Supported	Max. size (bytes)
EMS Picture	YES	128

4.2.4 EMS Animation

EMS

Type of data	Supported	Max. size (bytes)
EMS Animation	YES	128

4.2.5 WBMP Picture

The WBMP is a standard picture format. In no case must the picture's size exceed 96 x 65 pixels (if the picture exceeds this size, it will be rejected).

WSP GET

Type of data	Content type	Supported	Max. size (bytes)
WBMP Picture	application/vnd.alcatel.wbmp	YES	784
	application/vnd.alcatel.wbmp.EMS	YES	128



4.2.6 Alcatel Color Palette (PCO) Picture

WSP GET

Type of data	Content type	Supported	Max. Nbr. colours	Max. size (bytes)
Alcatel Colour Palette (PCO)	application/vnd.alcatel.colorpalette	YES	256	6248

4.3 SMS Templates

An SMS template is a sequence of different data types. When the mobile receives such a template, it can be saved as a canned message. The user will then be able to edit the canned message and send it as an EMS-compatible message.

Note: The EMS message shall not exceed 10 SMS.

TDD Over SMS

Type of data	Content type	Supported	Max. size (bytes)
SMS template	application/vnd.alcatel.sms	YES	4000



END OF DOCUMENT