



ALCATEL's ONE TOUCH™ 331



SW/BG3v1c/REFMAN/DOWNLOAD - Document issue 1.0

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Document History

Version	Date	Type of modification
0.1	11/03/2003	Creation of the draft
1.0	13/03/2003	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™ 331 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 Realization of the SMS	3GPP TS 23.040 (Release 5)	v5.3.0
Technical realization of the SMS	3GPP TS 23.040 (Release 4)	v4.4.0
Alphabets and Languages	3GPP TS 23.038	v4.3.0
Download Fun Protocol Specification	OPWV 102- June 2001	v1.0
M-Services Guidelines	PRD AA.35	v3.0
Fun Object Naming Convention	Openwave - June 2001	v1.1
Channel Coding	REC GSM 05.03	v7.3.0
Hale 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
MMS	Multimedia Messaging Service
MSB	Most Significant Bit
MSEQ	Multimedia Sequential Event Quantification
SAR	Segmentation And Re-assembly
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 Introduction

The ALCATEL ONE TOUCH™ 331 comes with data downloading capabilities which enable the user to enhance and/or personalize his handset and to communicate with other users in more interactive ways. Different types of data can be downloaded:

- Three types of **Melodies**
 - iMelody: standard format for buzzer melodies, as defined in EMS protocol.
 - MSEQ: Alcatel format for polyphonic, multi-instruments melodies.
 - VOX: Alcatel proprietary format for sampled melodies.
- Five types of **Pictures**
 - Alcatel pictures: static pictures in Alcatel format.
 - Alcatel animations: sequence of static pictures in Alcatel format.
 - WBMP pictures
 - EMS pictures: static pictures in standard EMS format.
 - EMS animations: timed sequence of static pictures in EMS format.
- **SMS templates**: sequence of text, pictures and melodies forwarded as an EMS by the user.

There are two ways of downloading data elements:

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



For more information on the protocols used for data downloading, please refer to the FRD documents listed in *Section 2.1 Applicable Documents*.

4 Bearer limitations

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	7 Kbytes*
TDD OVER SMS	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.

* The maximum size for WSP GET objects can also be limited by the WAP Gateway.

5 Data formats

!! WARNING !!

Alcatel's ONE TOUCH™ 331 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.

5.1 Melodies

5.1.1 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™ 331 supports iMelody 1.0, 1.1 and 1.2.

The ONE TOUCH™ 331 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

5.1.2 iAlcatel melody

iAlcatel is a proprietary Alcatel monophonic melody format, which principle is 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

5.1.3 MSEQ melody

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

WSP GET

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

TDD over SMS

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

5.1.4 VOX melody

VOX is a sampled melody. It is an Alcatel format which 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

5.2 Pictures

5.2.1 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™ 331 supports black and white pictures only (no gray levels).

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 =< 128** (where dy is the picture's height)
- Alcatel recommends an EMS picture size of 32 x 32.

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

5.2.2 WBMP Picture

The WBMP is a standard picture format. In all cases, the picture's size must NOT 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

5.2.3 EMS Picture

EMS

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

5.2.4 Alcatel Animation

The Alcatel Animation is a succession of static pictures which are associated with a display time. 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

5.2.5 EMS Animation

EMS

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

5.3 SMS template

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