



**XPERIA™**

X10 mini pro

U20i, U20a

White paper

March 2011

**Sony Ericsson**  
make.believe

# Purpose of this document

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Sony Ericsson product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

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# Document history

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<b>Version</b>		
February 2010	First released version	Version 1
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## Sony Ericsson Developer World

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For the latest Sony Ericsson technical documentation and development tools, go to [www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

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# Product overview

## Xperia™ X10 mini pro – Tell everyone

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Know who's with who? Got tickets to tonight's gig? Spread the word. Use Xperia™ X10 mini pro. Compact and clever, and with a full slide-out keyboard, it makes life on the move faster, easier, more responsive. Messaging should be instant, right?

### Your home screen – just like home

Where's best for you? Email top right? Music player bottom left? You decide. Put your favourites in thumb's reach. Use the unique touchscreen interface to drag 'n drop the icons into the corners of your home screen. Messages. Calls. Web. Music. YouTube™. Your favourite apps from Android Market™ or the PlayNow™ service. What you want, where you want.

### One way to everyone

Who's up? Who's around? And who's on the way out? Check out with Timescape™. It shows you everything, from Facebook™ and Twitter™ to messages and calls. One simple app to keep tabs on all your friends. Up front on your home screen. With the latest event at the top.

### From here to infinity

Press the infinite button in the music player and get more. Much more. Favourite stars, mindful music, soulful videos. And the latest laughs from YouTube™. Be a personal trainer. Or download tools for work. Direct from Android Market™. Or why not track down that missing track from the PlayNow™ service?



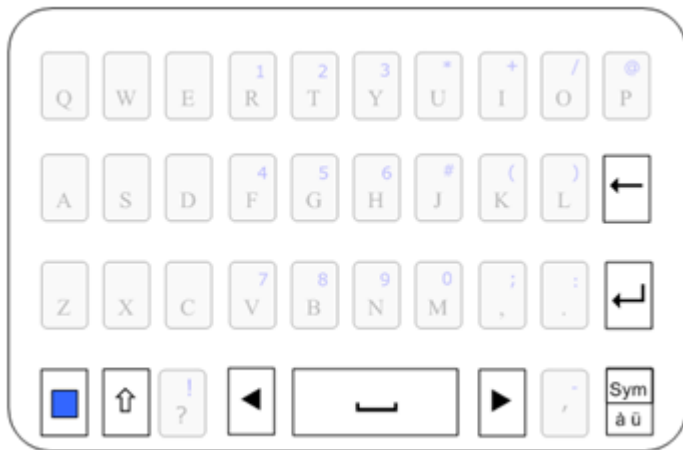
## Xperia™ X10 mini pro keyboard

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Fast and hassle free messaging. The QWERTY keyboard makes your fingers fly as your friends reply. And with the function keys to match, you're definitely on top of things.

### Keyboard function keys

- **Backspace key**
- **Enter key**
- **Mode toggle key:** Switch between typing modes (number keypad or associated characters)
- **Shift key**
- **Arrow keys:** Move cursor left/right
- **Space key**
- **Sym/àü key:** Symbols, smileys and character variants (variants accessed through multitap)



## Facts – dimensions, weight, performance and networks

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<b>Operating system</b>	Google™ Android™ 2.1 (Eclair)
<b>Processor</b>	600 MHz Qualcomm MSM7227
<b>Size</b>	90 x 52 x 17 mm
<b>Weight</b>	120 grams
<b>Available colours</b>	Black Red Pearl White Pink Lime
<b>Main screen</b>	
Resolution	240x320 pixels (QVGA)
Size (diagonal)	2.55 inches
Scratch-resistant	Yes. Coated on plastic.
<b>Input mechanisms</b>	
Touch screen	Capacitive (single touch)
QWERTY keyboard	Yes. 4x10
Text input	Quick text (Zi)
Motion sensor	Accelerometer
<b>Memory</b>	
Phone memory	Up to 128 MB
Memory card support	microSD™, up to 32 GB
<b>Networks</b>	
U20i	UMTS HSPA 900 (Band VIII), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
U20a	UMTS HSPA 850 (Band V), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
<b>Data transfer speeds</b>	
GSM GPRS	Up to 85.6 kbps
GSM EDGE	Up to 236.8 kbps
UMTS HSPA (upload)	Up to 2.0 Mbps (uplink, Cat 5)
UMTS HSPA (download)	Up to 7.3 Mbps (downlink, Cat 8)

<b>Talk time (GSM)</b>	4 hours *
<b>Standby time (GSM)</b>	300 hours *
<b>Talk time (UMTS)</b>	3 hours 30 min *
<b>Standby time (UMTS)</b>	360 hours *
<b>Music listening time</b>	17 hours 30 min *
<b>Video playback time</b>	10 hours *
<b>Battery</b>	970 mAh

\* According to GSM Association Battery Life Measurement Technique.

Note: Battery performance may vary depending on network conditions and configuration, and phone usage.



## Application overview list

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### **Sony Ericsson signature applications**

Sony Ericsson Timescape™  
Sony Ericsson Home application  
Sony Ericsson Music player  
Sony Ericsson Album application  
Sony Ericsson FM radio

### **Sony Ericsson services**

PlayNow™\*\*  
TrackID™  
Sony Ericsson Sync

### **Google services**

Android Market™\*  
Google Mail™  
Google Calendar™  
Google Maps™ with Street View  
Google Media Uploader  
Google Phone-top Search  
Google Search widget  
Google Talk™  
Google Voice™ Search\*\*  
YouTube™  
Google Latitude™

### **Games**

California Gold Rush  
Peggle  
Rollercoaster Revolution 99 Tracks

### **Other applications**

Facebook™  
Wisepilot™ turn-by-turn navigation (free trial version)\*\*  
Exchange ActiveSync® support with Dataviz™ RoadSync™  
Back-up and Restore

*\* Applications in the Android Market™ varies widely in size, from less than 100 KB for small utilities to 3-4 MB for full games, music player applications, or other major offerings. The average size, if a representative selection of useful and fun applications are selected, is about 1 MB. This mean that on average, more than 100 applications can be downloaded and used without problems. With the ready availability of Android Market™ in the phone, it is also very easy to delete and later reinstall infrequently used applications.*

*\*\* The service is not available in all markets.*

## Full feature list

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### 1. Signature features

#### Sony Ericsson Timescape™

##### The place to meet your friends

The Timescape™ application manages all your communication with one person in one place. Browse through your conversations the bright way to check out your Facebook™, Twitter™, and texts. Now they're all kept together so you don't have to open loads of different applications to see what's going on.

#### Infinite button

##### Everything you want – from everywhere

Find out all about your friends in a flash. Press the infinite button in the phone book and smart filter everything that's going on with each person. In the Sony Ericsson Music player, the infinite button lets you explore more information about your favourite celebrities and artists.

#### Sony Ericsson Sync

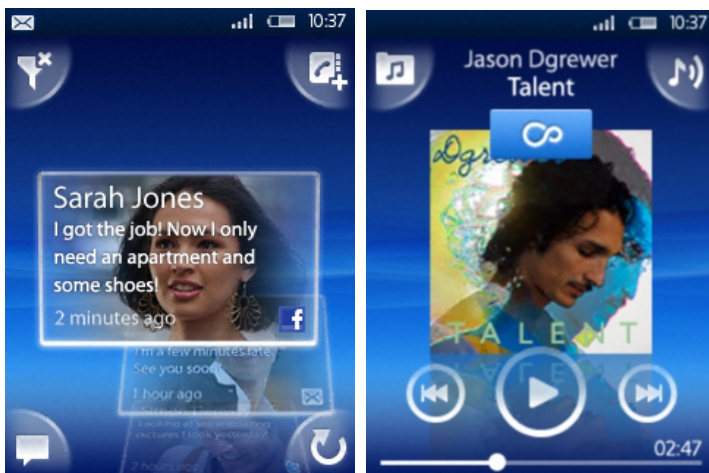
##### Make your mobile life available on the web

Synchronise your phone data with Sony Ericsson Sync. Match your phone contacts with your contacts on Facebook™. All your synchronised phone data is right at your fingertips – in your account on [www.sonyericsson.com](http://www.sonyericsson.com).

#### Sony Ericsson Home










##### Your home screen – just like home

Where's best for you? Email top right? Music player bottom left? You decide. Put your favourites in thumb's reach. Use the unique touchscreen interface to drag 'n drop the icons into the corners of your home screen. Messages. Calls. Web. Music. YouTube™. Your favourite apps from Android Market™ or the PlayNow™ service\*. What you want, where you want.



\*The service is not available in all markets.

## 2. Categorized features

 <p><b>Camera</b>                      5 megapixel camera                      Auto focus                      Geo tagging                      Photo and video light                      Photo flash (LED)                      Sony Ericsson Album application                      Video recording</p>	 <p><b>Music</b>                      Album art                      Bluetooth™ stereo (A2DP)                      Music tones (MP3/AAC)                      PlayNow™ application                      Sony Ericsson Music player                      TrackID™ application</p>	 <p><b>Web</b>                      Bookmarks                      Pan &amp; zoom                      WebKit web browser                      HTML 4.01                      XHTML 1.1</p>
 <p><b>Communication</b>                      Call list                      Conference calls                      Facebook™ application                      Polyphonic ringtones                      Sony Ericsson Timescape™                      Speakerphone                      Twitter™                      Vibrating alert                      Wisepilot™ turn-by-turn navigation* (free trial version)</p>	 <p><b>Messaging</b>                      Conversations                      Email                      Email setup wizard                      Instant messaging                      Microsoft® Exchange Active-Sync®                      Picture messaging (MMS)                      Predictive text input                      Text messaging (SMS)</p>	 <p><b>Design</b>                      Full slide-out keyboard                      Auto rotate                      Picture wallpaper                      Touchscreen</p>
 <p><b>Entertainment</b>                      3D games                      FM radio with RDS                      Infinite button                      Video streaming                      Video player</p>	 <p><b>Organiser</b>                      Alarm clock                      Calculator                      Calendar                      Flight mode                      Notes                      Phonebook with dialer                      Sony Ericsson Home with digital clock widget                      Stopwatch                      Tasks                      Timer</p>	 <p><b>Connectivity</b>                      3.5 mm audio jack (AVP)                      A-GPS                      Bluetooth™ technology                      Micro USB connector                      NeoReader® barcode scanning app                      Sony Ericsson Sync                      USB mass storage                      USB support                      Wi-Fi™ (802.11 b/g)</p>

\*The Wisepilot™ service may not be available in every market. For more information, go to [www.sonyericsson.wisepilot.com](http://www.sonyericsson.wisepilot.com)

### 3. Google services



#### **Google**

Android Market™  
Google Mail™  
Google Calendar™  
Google Latitude™  
Google Maps™ with Street View  
Google Maps™ for Mobile  
Google Media Uploader  
Google Mobile Application  
Google Phone-top Search  
Google Search widget  
Google™ Sync  
Google Talk™  
Google Voice Search\*  
Set-up Wizard  
YouTube™

*\*The service is not available in all markets.*

# Technologies in detail

**\*NOTE:** The information outlined below is general and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Ericsson Developer World or your Sony Ericsson contact person where applicable.

## Device-to-device communications (local)

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### Bluetooth wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile Audio/Video Control Transport Protocol Audio/Video Distribution Transport Protocol Audio/Video Remote Control Profile Generic Access Profile Generic Audio/Video Distribution Profile Handsfree Profile Headset Profile Object Push Profile Phone Book Access Profile Serial Port Profile Service Discovery Application Profile
Core version and supported core features	v2.0+EDR
Connectable devices	All products supporting at least Bluetooth spec. 1.2 and at least one of the profiles above

More information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

[www.bluetooth.com](http://www.bluetooth.com)

## Wi-Fi™

Wi-Fi™ is a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. Wi-Fi hotspots exist in an increasing number of locations, for example, airports, hotels, cafés and bistros. Mobile phones that support Wi-Fi can facilitate high data transfer rates and lower calling costs.

Supported standards	Wi-Fi™ certified. When applicable, 802.11g is prioritized over 802.11b.
Connectable devices	Wi-Fi™ access points
Frequency band	2.4 GHz
Data transmission rate	54 Mbps
Security	Open Open WEP Shared WEP WPA Personal and WPA2 Personal
Encryption	TKIP and AES
Power save	WMM-UAPSD QoS, WMM

## Messaging

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### MMS (Multimedia Messaging Service)

MMS 1.0 is supported.

### Email

Bearer type (IP)	GPRS, EGPRS, UMTS
Character sets	USASCII UTF-8 UTF-16 ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO-2022-JP Japanese Shift_JIS Japanese BIG5 Traditional Chinese GB2312 Simplified Chinese KOI8-R Cyrillic Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish Windows® 1258 Vietnamese
Protocols	POP3 and IMAP4
Push email	Microsoft® Exchange ActiveSync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and START-TLS
HTML mail	Yes (read only)

#### More information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

[www.openmobilealliance.org](http://www.openmobilealliance.org)

## Positioning – location based services

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Supported standards:

OMA Secure User Plane Location (SUPL) v1.0

3GPP™ Control Plane location (incl. Emergency location)



## Multimedia

### Audio & Video

<b>Audio Playback</b>	<b>Decoder format</b> Audio decoding MPEG-1/2/2.5, audio layer 3 AAC, AAC+, eAAC+ AMR-NB  General MIDI (GM) GML SP-MIDI DLS (Mobile DLS supported) Linear PCM iMelody RTTTL/RTX OTA Ogg vorbis	<b>Supported in file format</b> MP3 (.mp3) 3GPP (.3gp); MP4 (.mp4, .m4a) 3GPP (.3gp); AMR (.amr) 3GPP (.3gp); AMR (.amr)  SMF (.mid) SMF (.mid) SMF (.mid); XMF (.xmf, .mxmf) XMF (.xmf) WAV (.wav) iMelody (.imy) RTTTL/RTX (.rtttl, .rtx) OTA (.ota) Ogg vorbis (.ogg)  Note: All listed audio file formats are supported ringtone file formats
<b>Video Playback</b>	<b>Decoder format</b> MPEG-4 Visual Simple Profile H.264 Baseline Profile H.263 Profile 0	<b>Supported in file format</b> 3GPP (.3gp); MP4 (.mp4) 3GPP (.3gp); MP4 (.mp4) 3GPP (.3gp)
<b>Audio/Video Streaming</b>	Streaming transport	RTSP according to 3GPP™
<b>Video encoding</b>	<b>Encoder format</b> MPEG-4 Visual Simple Profile AMR-NB	<b>Supported in file format</b> MP4 (.mp4)
<b>Audio encoding</b>	<b>Encoder format</b> AMR-NB	<b>Supported in file format</b> AMR-NB (.amr)
<b>DRM</b>	DRM (Digital Rights Management) — features the rights and copy protection of downloaded content.	OMA DRM 1.0

## Synchronisation (OMA DS)

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OMA Data Synchronisation protocol versions 1.1.2 and 1.2.

OMA Data Formats: vCard 2.1, vCalendar 1.0.

Related information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

## Web browser

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Browser version	Android 1.6 Browser (WebKit version AppleWebKit/528.5+)
Navigation/rendering	Pan & Zoom* Landscape/portrait rendering* Full page PC rendering*  * Adobe™ Flash™ is not supported.
Search	Internet Search
Browser compliancy	HTML version. 4.01 HTML version. 5.0 (Canvas) XHTML Basic version 1.0 XHTML 1.1  CSS 2.1  ECMA-script 262 3rd edition JavaScript 1.7 HTTPXMLRequest AJAX  DOM 2.0
Protocol compliancy	HTTP/1.1 TLS 1.0 and SSL 3.0 Gzip

Related information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

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