

<b>TECHNICAL SPECIFICATION SUMMARY</b>	
Model name	Sendo X
Product type	Multimedia Smartphone
Colour	Aluminium
<b>Hardware</b>	
Size in mm (L x W x B)	110.5mm x 48.5mm x 22.8mm
Weight in g (with standard battery)	120g
Volume	108cc
Stand by time (hh:mm) <sup>1</sup>	Up to 100 – 170 hours
Talk time (hh:mm) <sup>1</sup>	Up to 4 – 7 hours
Battery type	Lithium
Battery Capacity (mAh)	1050 mAh
Earphone	Yes
Integrated Handsfree	Yes
Vibrator	Yes
In built MODEM (Data/Fax)	Yes – Integral modem as well as fax modem support
Voice codec support	FR, EFR
Camera	Integrated camera with 4x Digital Zoom, Flash and Red-Eye reduction, self-timer.  Integrated Camcorder with audio recording
Maximum camera resolution (in pixel WxH)	640 x 480
Camera technology	CMOS
Processor	120MHz ARM 9, ARM 7, DSP and graphics coprocessor
<b>Memory</b>	
Internal RAM (in Mbyte)	16MB (approx. 6MB free for applications)
Internal storage memory (in Mbyte)	64MB
Internal memory for customer content (in Mbyte)	Up to 32MB (approx)
Removable memory	MMC or SD card (Hot swappable)
<b>Display</b>	
Display resolution (in pixel WxH)	176 x 220
Display size in mm (WxH)	34.85mm x 43.56mm

<sup>1</sup> Operation times may vary depending on network conditions, SIM settings, charging and battery condition, how you use your phone usage and other factors. Some activities, such as playing games, accessing the Internet or using other features, reduce talk and standby time.

Display technology	TFT
Number of colours in display	Up to 65,536
<b>PAN Connectivity</b>	
Integrated Bluetooth	Yes
Bluetooth version	v1.1
Bluetooth supported profiles	Logical Link Control (L2CAP), Service Discovery (SDP), RFCOMM, Dial Up (DUN), Fax (FAX), Object Push (OPP), File Transfer FTP), Handsfree (HFP), Generic Object Exchange (GOEP), Generic Access (GAP), Serial Port (SPP)
Bluetooth accessories	Optional Bluetooth Car Kit and Bluetooth Headset
Infrared	Yes: IrLAP v1.1, IrLMP v1.1, IrTinyTP v1.1, IrComm v1.0, IrObex v1.2, IrTranP v1.0
PC sync software	Sendo PC Connect synchronisation for PIM and desktop email. Data transfer and data back-up/restore support.
Data cable	USB cable included
PIM data exchange	vCalendar 1.0 vCard v2.1
<b>Radio</b>	
Supported RF bands	900, EGSM 900, 1800, 1900 & CPHS; Automatic switching between bands
GPRS class (number)	8 (4+1)
GPRS coding scheme	CS1, CS2, CS3, CS4
GPRS PBCCH support	PBCCH is implemented but requires testing with individual network operators
GPRS Authentication protocol	PPP PAP, CHAP
GPRS support of multiple PDP context	No
GPRS support of multiple APN	Yes (No practical limit)
<b>SIM Interface</b>	
SIM Toolkit release	ETSI GSM 11.14 Rel98+ version 7.4.0 (Nokia 3650 compatible subset). Exact details available on request.
SIM Toolkit special commands	1. SET UP IDLE MODE TEXT 2.SET UP EVENT LIST: USER ACTIVITY EVENT, IDLE SCREEN AVAILABLE EVENT 3. SEND DTMF
Phonebook transfer from / to SIM	Yes
SIM support	3V or 5V
<b>Messaging</b>	
<b>SMS</b>	
Concatenated SMS	Yes

Smart messaging	Yes, except Nokia monophonic ring tones
<b>MMS</b>	
MIME type supported	A wide variety of MIME types are supported for OTA transfers - a partial list follows:  Sending: image/jpeg, image/gif, image/vnd.wap.wbmp, image/png (converted to jpeg before sending), audio/x-amr, audio/amr, video/3gpp, text/plain, application/smil, application/vnd.wap.multipart.related;  Receiving: image/jpeg, image/gif, image/vnd.wap.wbmp, image/png, image/x-bmp, audio/midi, audio/mid, audio/x-midi, audio/x-beatnic-rmf, audio/rmf, audio/x-rmf, audio/sp-midi; audio/x-amr, audio/amr, video/3gpp, text/plain, application/smil
SMIL	Yes (subset)
Maximum size of MMS in kb	100k each way
Maximum number of MMS pages	Unlimited
OTA compliant MMS	Yes
Configuration string	Nokia standard string
Area MMS viewer in pixel (LxW)	176 x 144
Automatic resize	Yes
Support of JPEG	Yes
Support of GIF 87/89a	Yes
Support PNG	Yes
Support of WBMP	Yes
Support of BMP	Yes
<b>Email</b>	
E-mail support	Yes
Number of e-mail accounts	6
Supported protocols	POP3, IMAP4, POP3 with SSL/TLS, IMAP4 with SSL/TLS, SMTP, MIME2
OTA configuration	Yes
PC synchronization (including e-mail)	Yes Microsoft Outlook 98/2000/XP, Microsoft Outlook Express, Windows Address Book (WAB), Microsoft Schedule+, Lotus Organizer 5.0/6.0/97/97GS/4.0GS/4.1, Lotus Notes 4.5/4.6/5.0/6.0
OTA e-mail synchronization and/or push	Not built-in; Several optional third party clients available
<b>Imaging</b>	
Maximum camera image size	Varies according to JPEG compression. Images at the maximum

in memory	resolution of 640 x 480 pixels are typically reduced to around 30kb - 50kb, with complex images being around 70kb.
Wallpaper dimension in pixel (LxH)	176 x 146
Wallpaper supported format	Wallpaper files are stored internally as Symbian MBM format. However the handset will accept files such as JPEG, GIF, PNG etc and will convert them automatically to the required MBM format.
Screensaver Dimension in pixel (LxW)	Small standard "bar" on screen - NOT a configurable image. However the text content of the screensaver is personalisable.
<b>WAP Browser</b>	
WAP version	WAP 2.0 XHTML Mobile Profile with support for WAP 1.2.1 (WML 1.3)
WAP protocol stack	WSP and TCP
WAP PUSH support	Yes (SI, but not SL)
Browser (vendor & version)	Nokia XHTML Mobile Browser
Download method	WSP GET. Nokia COD & OMA Content download also supported.
<b>Web Browser</b>	
Internet browser	<p>Web browser supports the latest standards including HTML 4.01, ECMA-262 2nd &amp; 3rd ed., JavaScript 1.5, XHTML 1.0/1.1, XHTML Basic, XHTML MP, CSS 1&amp;2, CSS MP, WML 1.3, WCSS, cHTML, HTTP 1.0 &amp; 1.1, SSL 3/TLS 1.0 and Unicode (UTF-16).</p> <p>The browser delivers additional end user experience as a result of its unique Small-Screen Rendering (SSR) technology - all content is reformatted to fit Sendo X's screen<sup>2</sup>.</p>
Image formats	<ul style="list-style-type: none"> <li>• jpeg</li> <li>• gif</li> <li>• png</li> <li>• wbmp</li> <li>• bmp</li> </ul>
Markup languages	<ul style="list-style-type: none"> <li>• HTML 2.0, 3.2, and 4.01</li> <li>• XHTML 1.0, Basic, and 1.1 except Ruby</li> <li>• XHTML Mobile Profile</li> <li>• WAP WML 1.3</li> <li>• XML 1.0 and XML Namespaces</li> <li>• cHTML (with tel URL scheme)</li> </ul>
Style and scripts	<ul style="list-style-type: none"> <li>• CSS level 1, 2, 2.1, and Mobile Profile</li> </ul>

<sup>2</sup> SSR technology can be user disabled to view in standard format if required.

	<ul style="list-style-type: none"> <li>• Wireless CSS</li> <li>• ECMAScript 2ed and 3ed (JavaScript)</li> </ul>
Protocols	<ul style="list-style-type: none"> <li>• HTTP 1.0</li> <li>• HTTP 1.1</li> </ul>
Security	<ul style="list-style-type: none"> <li>• SSL 3</li> <li>• TLS 1.0</li> </ul>
<b>Digital Rights Management</b>	
Closed content (cannot be forwarded)	<p>Protected MIME types:</p> <ul style="list-style-type: none"> <li>application/java</li> <li>application/java-archive</li> <li>application/x-java-archive</li> <li>text/vnd.sun.j2me.app-descriptor</li> <li>audio/sp-midi</li> <li>audio/midi</li> <li>audio/mid</li> <li>audio/x-midi</li> <li>audio/rmf</li> <li>audio/x-rmf</li> <li>audio/x-beatnic-rmf</li> <li>image/vnd.nok-3Dscreensaver</li> <li>image/vnd.nok-oplogo</li> <li>image/vnd.nok-oplogo-color</li> <li>image/vnd.nok-wallpaper</li> <li>image/vnd.wap.wbmp</li> <li>image/bmp</li> <li>application/vnd.nokia.ringing-tone</li> <li>application/x-NokiaGameData</li> <li>audio/vnd.nok-ringington</li> <li>application/x-mrv.xml</li> <li>application/x-mrv.wbxml</li> <li>application/x-mrm-text</li> <li>application/vnd.oma.drm.message</li> <li>application/vnd.oma.drm.rights+xml</li> <li>application/vnd.oma.drm.rights+wbxml</li> </ul> <p>Protected file extensions:</p> <ul style="list-style-type: none"> <li>.smf</li> <li>.rmf</li> <li>.jar</li> <li>.mrv</li> </ul>

	.mm .awb .cvg .sis .c3d .opl .wbmp .bmp .ngd
OMA DRM support	Yes
OMA DRM version	V1.0 Forward Lock
OTA configuration	Yes
OTA protocol	Over The Air Settings Specification, Version 7.0 (Nokia); Nokia Smart Messaging System Version 3.0.0
<b>Video</b>	
MPEG4	Yes (in 3GP format)
H.263	Yes (in 3GP format)
3GP	Yes (in 3GP format)
Other	Real Video 7, Real Video 8
Video capture	H.263 in .3GP format with sound
<b>Audio</b>	
Polyphonic	Yes
Number Polyphonic tones	64
Polyphonic format	SP-MIDI, MIDI, RMF, XMF, SMAF
AMR	Yes (Narrow band)
WAV	Yes
MIDI	Yes
SP-MIDI	Yes
Beatnik RMF	Yes
XMF	Yes
SMAF	Yes
Real Audio	Yes
Earpiece speaker	Yes
SoniX™ Dual port acoustic speaker	Yes
Stereo audio	Yes, with included stereo headset
<b>Operating System</b>	
Operating system	Sendo enhanced Nokia Series 60 over Symbian OS
<b>Main features overview</b>	
<b>See more</b>	

Camera (still / Video)	Sendo X has an integrated VGA 4x digital zoom Camera, with Flash, Red-eye reduction, low light mode and enhanced viewfinder speeds of up to 30 fps providing super smooth viewing, and with Image capture at 24 bit (up to 16.7 million colors). Users can also photograph themselves with the help of the integral mirror on the reverse of the phone, and a self-timer option. The integral Image Editor allows further enhancement and modification to pictures.
Image Editor (within camera application)	Image Editor allows seamless manipulation of images, options include morphing, cropping, drawing, speech balloons, fun backgrounds/foregrounds with addition of Clip Art, etc.
Photo album	Within the Photo Album, the user can view or delete images, send images to other users, manipulate the image (e.g. rotate and zoom in). The album is also used to manage and view all supported graphics files, whether or not they were created (taken) with the Camera application.
RealOne Video/Audio player	With the RealOne player you can play audio and video clips stored in the phone's memory, or on a memory card, if one is available. Users can also stream live video or audio content from the Internet directly to Sendo X. (Network dependent)
<b>Hear more</b>	
MP3	Integral MP3 player, used in conjunction with Stereo headset and memory expansion, provides a truly mobile sound system. The Sendo X sound experience is enhanced further with superior sound quality as a result of unique SoniX™ sound dual port speaker, allowing users to share their sound experience.
Ringtones	64 Voice Polyphonic Ringtones.
<b>Connect more</b>	
Contacts	Powerful contact management software, allowing multiple user details to be stored and accessed with PIM applications.  Synchronise with leading PC PIM Suites, using the provided Sendo PC Connect software.
Calendar	Powerful calendar application with day, week and month views. Make/capture meetings, Day notes and Anniversaries.  Synchronise with leading PC PIM suites.
Tasks	Create to-do tasks and set their priority.  Synchronise the task list with leading PC PIMs

Document Viewer	<p>Sendo X is able to store a wide range of documents as a result of its significant internal memory, and memory expansion options. Users can view a wide range of documents they transfer from their PC or other mobile devices via Infrared, Bluetooth or USB. The Document Viewer will be launched automatically when the user opens an Email attachment in any of the supported file formats when the appropriate document viewer filter is loaded onto the phone.</p> <p>Sendo X has ships with key office document viewers pre-loaded: Word, Excel, PowerPoint, PDF, ZIP.</p> <p>The Companion CD supplied with Sendo X contains over 40 additional Document Viewer plug-ins that will enable users to view other document formats on their phone.</p>
WAP Browser	Sendo X also ships with a fully integrated WAP 2.0 and xHTML Mobile Profile compliant browser as a standard series 60 component.
Internet browser	Full Internet experience with the Opera browser technology, user-friendly, secure, and exceptionally fast. Along with support for all common Web standards, the browser delivers additional end user experience as a result of its unique Small-Screen Rendering (SSR) technology - all content is reformatted to fit Sendo X's screen <sup>3</sup> .
Message	Message application capable of creating, sending, receiving, viewing, editing, and organising long (concatenated) SMS text messages, MMS multimedia messages (complimented by the onboard Image Editor suite), e-mail and Smart messages <sup>4</sup> .
Instant Messaging	Sendo X is IM enabled, and can be pre-loaded with most leading IM clients – as specified on a Carrier-by-Carrier basis. <sup>5</sup>
Bluetooth	Bluetooth v1.1 for enhanced user connectivity experience.
Infrared	Infrared support for enhanced user connectivity experience.
Modem (Data / Fax)	<p>Sendo X has an integral Modem that can be used via Infrared and Bluetooth with products such as Laptops.</p> <p>Fax Modem support also exists to allow the device to receive/send Fax on a PC, using an optional, third party PC fax application.</p>
SyncML	SyncML enabled, allowing remote synchronisation of Contacts and Calendar when used with a SyncML server.

<sup>3</sup> SSR technology can be user disabled to view in standard format if required.

<sup>4</sup> Smart Messages: special text messages containing data that can be used by an operator to configure settings on the phone.

<sup>5</sup> Instant Messaging: Application will not be present on the phone unless service activated by Carrier.



Call Log	Application providing users with a detailed breakdown of their recent telephony activity.
OTA downloads	The Sendo X user is able to download content and applications onto the phone in a number of ways. Application installation and removal is possible via OTA or with a PC. Content download via: Browser, WAP Push, MMS, Email, Infrared, Bluetooth, as well as supporting PC-based provisioning over USB, Infrared and Bluetooth.
Sendo PC Connect	<p>Sendo PC Connect offers an intuitive interface allowing back up of files, transfer of images, downloads from the internet and synchronisation with PC based PIM's. Sendo X can be connected to the PC via Infrared, Bluetooth or USB cable.</p> <p><b>General PC requirements:</b></p> <ul style="list-style-type: none"> <li>· Microsoft Windows® XP (Professional and Home Editions), 2000, ME, or 98SE.</li> <li>· An Internet browser.</li> <li>· Adobe® Acrobat® Reader® (included on the Companion CD).</li> <li>· VGA or compatible video graphics adapter.</li> <li>· CD-ROM drive.</li> <li>· Keyboard.</li> <li>· Mouse or compatible input device.</li> <li>· 65 MB of available hard disk space.</li> <li>· Available infrared port, USB port or Bluetooth (Serial Port Profile) connection.</li> </ul> <p><b>Optional Sendo PC Connect requirements:</b> Compatible Personal Information Manager (PIM) support: Microsoft Outlook 98/2000/XP, Microsoft Outlook Express, Windows Address Book (WAB), Microsoft Schedule+, Lotus Organizer 5.0/6.0/97/97GS/4.0GS/4.1, Lotus Notes 4.5/4.6/5.0/6.0</p>
<b>Do more</b>	
Now! screen	A unique feature of the Sendo X is the Now! Screen - customisable, one click access to users favourite applications, WEB and WAP sites and personal information for faster & convenient use.
Themes	A feature to allow the user to select different themes to alter the look and feel of the Sendo X phone.
MMS Fun content	Fun content can be accessed for MMS, providing an enhanced user experience for the sharing of images and picture messages.

Games	<p>Sendo Pinball: Complete 10 different tasks of increasing difficulty to become a Sendo power user!</p> <ul style="list-style-type: none"> <li>• Intuitive controls</li> <li>• Realistic physics</li> <li>• Tons of targets, secrets and skill shots</li> <li>• Great graphics</li> <li>• Story-based gameplay</li> <li>• Multi-channel sounds</li> <li>• High scores</li> </ul> <p>Funny Farmer: You are in charge of your own farm. Starting off with a small amount of money you need to cultivate &amp; trade your produce. Profit made from working on the farm can be used to purchase more seeds, animals and farm buildings. Can you become a Master Farmer?</p> <p>Optional Series 60 games</p>
Profiles	The Profiles application allows users to configure phone general behaviour.
Notepad	Allows users to make short notes.
Converter	Converter application, allowing the conversion of Currency, Area, Energy, Length, mass, Power, Pressure, Temperature, Time, Velocity
Calculator	Simple calculator application.
Recorder	Record sounds to use as ringtones or voice memos. Recordings can also be sent via MMS.
Clock	Simple clock application with Alarm function.
Memory	Sendo X provides up to 32MB of end user memory allowing storage of up to 1000 images, and albums worth of MP3 tracks or up to 30 minutes of video.
Memory expansion	Sendo X supports both MMC and SD memory cards that can be hotswapped while the phone is still switched on.
Settings manager	Application to allow easy personalisation of all phone settings.
Applications controller	Application to facilitate the management of loaded applications.
Speed Dial	Application to allow users to assign a Numeric key to a memory stored telephone number.
Java application manager	Application to facilitate the management of Java applications.
Voice control	Sendo X provides voice-driven features beyond standard name dialing that fundamentally enhance the user experience. Core phonetic engines offer speaker independent speech recognition allowing users to dial and to use natural language to navigate the user interface. The entire user phonebook is voice-enabled, as is

	access to all major phone features. Initial supported languages are UK English, French, German, Spanish, Italian and Spanish. (language availability linked to device language pack).
Help library	Context sensitive help resource.
<b>Supported languages</b>	
Language packs	<p><b>Language Pack at product launch:</b> UK English, Italian, Spanish, German, French, Dutch, Portuguese.</p> <p>Other languages will be available on a market-by-market basis as part of defined language packs. Availability will depend on Sendo X availability in relevant countries. These languages include: English US, French Canadian, Portuguese Brazilian, Polish, Turkish, Greek, Tagalog, Bahasa Malaysia, Bahasa Indonesia, Spanish Colombian, Swedish, Finnish, Danish, Norwegian, Icelandic, Latvian, Lithuanian, Estonian, Greek, Russian, Ukrainian, Czech, Slovak, Hungarian, Bulgarian, Romanian, Serbian, Slovene and Croatian.</p> <p>Chinese language-only (no English) versions will also be available pending Sendo X availability in greater China markets. The following versions are planned: Separate Chinese Simplified (Stroke and Pinyin input), Chinese Hong Kong Traditional (Stroke input), Chinese Taiwan Traditional (BoPoMoFo [ZhuYin] input).</p>