

## **Specialized product: Off the Shelf Cell Phones and with 3rd Party Software for Blind or Low Vision**

### **Why:**

These phones provide telecommunications capability for people who are blind or have low vision. These specialized phones provide speech navigation for the embedded operating system.

### **Market research performed:**

<http://www.afb.org/Section.asp?SectionID=4&TopicID=327&DocumentID=3599>  
<http://www.afb.org/Section.asp?SectionID=57&DocumentID=2419>

### **Be Aware Of**

Cell phones need to be able to “speak” functions and read menu items and incoming messaging as well as caller id. Certain phones need specific third party software in order to be compliant.

### **Conforming products:**

#### **Off-the-Shelf Phones**

1. LG Phones with Voice Command.
2. Nextel Motorola i355 and i580
3. Samsung A640

### **Service Providers and Off-the-Shelf Phones**

#### **AT&T:**

Provides its cell phone solution through the ATT National Center for Customers with Disabilities (NCCD) <http://www.wireless.att.com/about/disability-resources/nccd.jsp>

Voice calls: 1-866-241-6568

TTY calls: 1-866-241-6567

AT&T offers a full rebate of the TALKS screen reader for their customers with vision loss purchasing selected Symbian phones.

#### **Alltel:**

LG AX8600

[http://www.etoengineering.com/vision\\_phones.htm](http://www.etoengineering.com/vision_phones.htm)

#### **Sprint:**

LG Fusic

Samsung A640

[http://www2.sprint.com/mr/gp\\_dtl.do?article=342](http://www2.sprint.com/mr/gp_dtl.do?article=342)

**Verizon:**

LG VX4500

LG VX4650

LG VX5300

LG VX8300

LG VX8350

LG VX8700

LG VX9900

<http://aboutus.vzw.com/accessibility/index.html>**Pricing**

Cell phone prices always fluctuate and vary depending on service agreements and the life cycle of the phones. Most of these off the shelf phones priced between \$30 and \$100.

**Third Party Software**

There are three companies that manufacture third party screen reader software for cellular phones: Code Factory, Dolphin, and Nuance. Third party software provides speech and braille access to nearly every function of the phones with which they are compatible. These third party software products provide access to cell phones in a way that is very similar to how JAWS or WindowEyes provide access to computers.

**Cell Phone and Third Party Software Vendors and Integrators**

MaxiAids

Attention Alphonso McFadden

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Farmingdale, New York 11735

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TT: 800-281-3555.

Fax: 631-752-0689.

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## **Section 508 Applicable provisions:**

### § 1194.23 Telecommunications products.

- a) Telecommunications products or systems which provide a function allowing voice communication and which do not themselves provide a TTY functionality shall provide a standard non-acoustic connection point for TTYs. Microphones shall be capable of being turned on and off to allow the user to intermix speech with TTY use.
- (b) Telecommunications products which include voice communication functionality shall support all commonly used cross-manufacturer non-proprietary standard TTY signal protocols.
- (c) Voice mail, auto-attendant, and interactive voice response telecommunications systems shall be usable by TTY users with their TTYs.
- (d) Voice mail, messaging, auto-attendant, and interactive voice response telecommunications systems that require a response from a user within a time interval, shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.
- (e) Where provided, caller identification and similar telecommunications functions shall also be available for users of TTYs, and for users who cannot see displays.
- (f) For transmitted voice signals, telecommunications products shall provide a gain adjustable up to a minimum of 20 dB. For incremental volume control, at least one intermediate step of 12 dB of gain shall be provided.
- (g) If the telecommunications product allows a user to adjust the receive volume, a function shall be provided to automatically reset the volume to the default level after every use.
- (h) Where a telecommunications product delivers output by an audio transducer which is normally held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.
- (i) Interference to hearing technologies (including hearing aids, cochlear implants, and assistive listening devices) shall be reduced to the lowest possible level that allows a user of hearing technologies to utilize the telecommunications product.
- (j) Products that transmit or conduct information or communication, shall pass through cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide the information or communication in a usable format. Technologies which use encoding, signal compression, format transformation, or similar techniques shall not remove information needed for access or shall restore it upon delivery.
- (k) Products which have mechanically operated controls or keys, shall comply with the following:
  - (1) Controls and keys shall be tactilely discernible without activating the controls or keys.

- (2) Controls and keys shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls and keys shall be 5 lbs. (22.2 N) maximum.
- (3) If key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeat rate shall be adjustable to 2 seconds per character.
- (4) The status of all locking or toggle controls or keys shall be visually discernible, and discernible either through touch or sound.

§ 1194.25 Self contained, closed products.

- (a) Self contained products shall be usable by people with disabilities without requiring an end-user to attach assistive technology to the product. Personal headsets for private listening are not assistive technology.
- (b) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.
- (c) Where a product utilizes touchscreens or contact-sensitive controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).
- (g) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.
- (h) When a product permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of contrast levels shall be provided.
- (i) Products shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

§ 1194.26 Desktop and portable computers.

- (a) All mechanically operated controls and keys shall comply with §1194.23 (k) (1) through (4).
- (b) If a product utilizes touchscreens or touch-operated controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).