Rhein Tech Laboratories, Inc.
360 Herndon Parkway
Suite 1400
Herndon, VA 20170
http://www.rheintech.com

Client: HandEra, Inc.
Model: WF10020
Standards: FCC 15.247
FCC ID: URZ-WF10020
Report #: 2007132

Appendix I: Manual

Please refer to the following pages for a copy of the module manual and a copy of the host manual. The FCC compliance information for the module appears on page 16 of this file, and SAR data appears on the last page of this file.

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**1009-00064
Revision 1.0**

**WF-10020
User Manual**

Revision Date
6/13/2007

CONTACT INFORMATION

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DOCUMENT MODIFICATION LOG

Description of changes	Rev.	Date
Initial release	1.0	6/13/2006

1   General Description

The WF-10020 offers complete drivers for embedded operating systems such as WinCE and Linux. Additional security can be added to the WF-10020 by using the optional security supplicant software offered by HandEra

1.1 Features

- IEEE Std 802.11b compliant
- Simple, high speed SPI interface
- Low power design
- Bluetooth coexistence Packet Traffic Arbitration (PTA) support
- Data Rates 1,2, 5.5 11 Mbps (802.11B)
- RoHS 2006 compliant
- Support for IEEE 802.11i and WPA security enhancements
- EEProm to Store MAC address

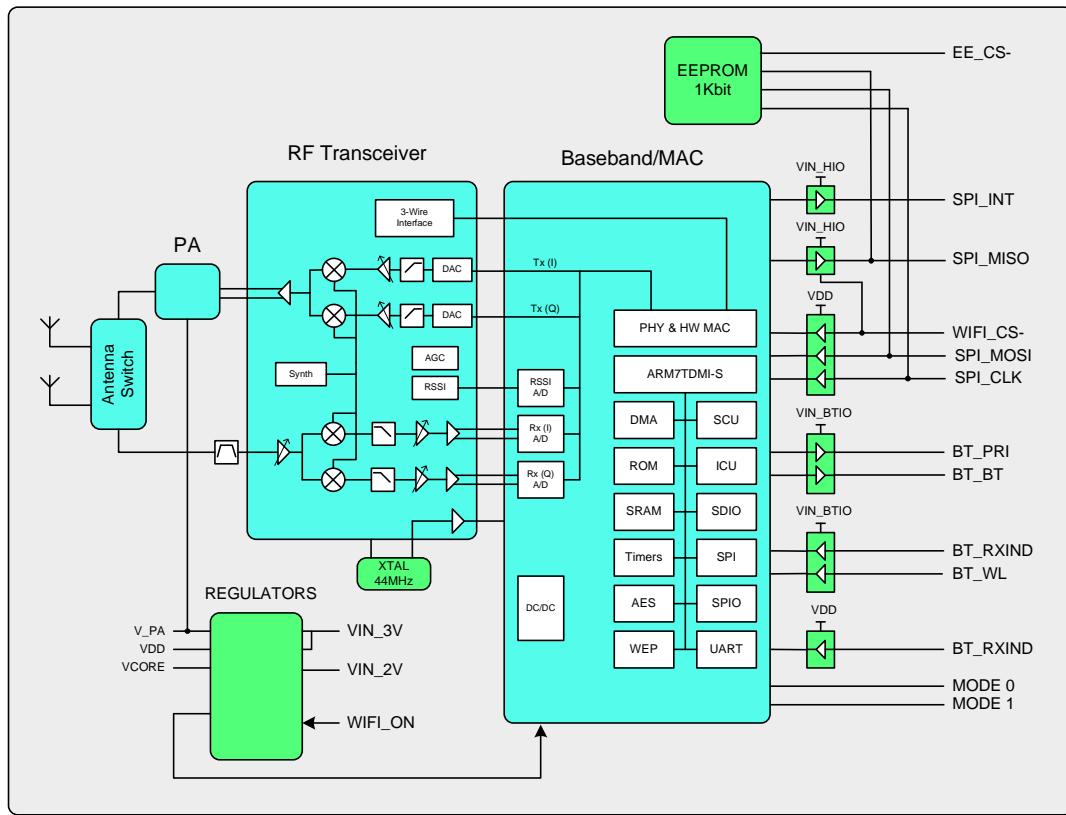# 2　Electrical

2.1　Block Diagram

Figure 1 - Block Diagram

2.2 Connector Pin out

Pin	Name	Type	Power Domain	Description
1	SPI_INT	O	VIN_HIO	SPI Interrupt
2	SDAT2[1]	I/O	---	N SD data bit[2]
3	SPI_MOSI	I	VIN_HIO	SPI Master Out/Slave In
4	SDAT3[1]	I/O	---	SD data bit[3]
5	SPI_MISO	O	VIN_HIO	SPI Master In/Slave Out
6	SD_CMD[1]	I/O	---	SD Command
7	SPI_CLK	I	VIN_HIO	SPI Clock
8	SD_CLK[1]	I	---	SD Clock
9	WIFI_CS-	I	VIN_HIO	SPI Chip select for WIFI module
10	SDAT0[1]	I/O	---	SD data bit[0]
11	MODE0[5]	I	2.85V	SPI/SDIO interface selection
12	SDAT1[1]	I/O	---	SD data bit[1]
13	MODE1[5]	I	2.85V	SPI/SDIO interface selection
14	EE_CS-[2]	I	VIN_HIO	EEProm Chip Select
15	VIN_HIO	PWR	VIN_HIO	SPI I/O Ring Power Supply
16	NC	-	---	NC
17	VIN_2V	PWR	VIN_2V	Core Power Supply
18	BT_PRI[3]	I	VIN_BTIO	Bluetooth high priority traffic indicator
19	MODE2[4]	I	---	NC
20	BT_BT[3]	I	VIN_BTIO	Bluetooth arbitration signal
21	WIFI_ON	I	VIN_HIO	Enable Module
22	BT_RXIND[3]	O	VIN_BTIO	WLAN receive indicator
23	MODE3[4]	I	---	No Connect
24	BT_WL[3]	O	VIN_BTIO	WLAN arbitration signal
25	MODE4[4]	I	---	NC
26	VIN_BTIO	PWR	VIN_BTIO	Bluetooth I/O Ring Power Supply
27	GND	PWR		Ground
28	VIN_3V	PWR	VIN_3V	Main Power Supply
29	GND	PWR		Ground
30	NC	-	---	No Connect

Table 1 - Connector Pin out

Notes:
1. WF-10020 only supports SPI, SDIO reserved for future models.
2. Not required if host stores the MAC address.
3. Optional. Used on systems with co-located Bluetooth device.
4. MODE2, MODE3 and MODE4 reserved for future products.
5. MODE0 and MODE1 must be tied low for SPI.

2.3 DC Characteristics

Symbol	Parameter	Min	Nom	Max	Unit
V_{IN_3V}	Main Power Supply	3.1	-	3.6	V
V_{IN_2V}	Core Power Supply	2.25	-	3.6	V
V_{IN_BTIO}	Bluetooth I/O Ring Power Supply	1.2	-	3.6	V
V_{IN_HIO}	SPI I/O Ring Power Supply	0.9	-	3.6	V
I_{IN_3V}	Main supply current			375	mA
I_{IN_2V}	Core supply current			85	mA
I_{IN_BTIO}	Bluetooth I/O Ring current			500	µA
I_{IN_HIO}	SPI I/O Ring current			500	µA

Table 2

2.4 Interface Selection

The pins MODE0 and MODE1 are used to select between SPI and SDIO. The WF-10020 only supports SPI, therefore, MODE0 and MODE should be set low.

Interface	MODE0	MODE1
SPI	0	0

Table 3 - Interface selection

2.5 SPI Timing Diagram

Figure 2 – SPI Timing Diagram (SPI_MISO clocked on rising edge of SPI_CLK)

Symbol	Parameter	Min	Typ	Max	Units
t_{SCK}	Period of SPI_SCK	15.0	-	-	ns
t_{WH}	Clock high time	7.0	-	-	ns
t_{WL}	Clock low time	7.0	-	-	ns
t_{SU_SS}	Setup time for WIFI_CS-	3.0	-	-	ns
t_{HO_SS}	Hold time for WIFI_CS-	0.0	-	-	ns
t_{SU_MOSI}	Setup time for SPI_MOSI	4.0	-	-	ns
t_{IH_MOSI}	Input hold time for SPI_MOSI	0.0	-	-	ns
t_{EN_MISO}	Output enable time for SPI_MISO	-	-	8.0	ns
t_{DIS_MISO}	Output disable time for SPI_MISO	-	-	6.0	ns

Table 4 – AC Characteristics for SPI
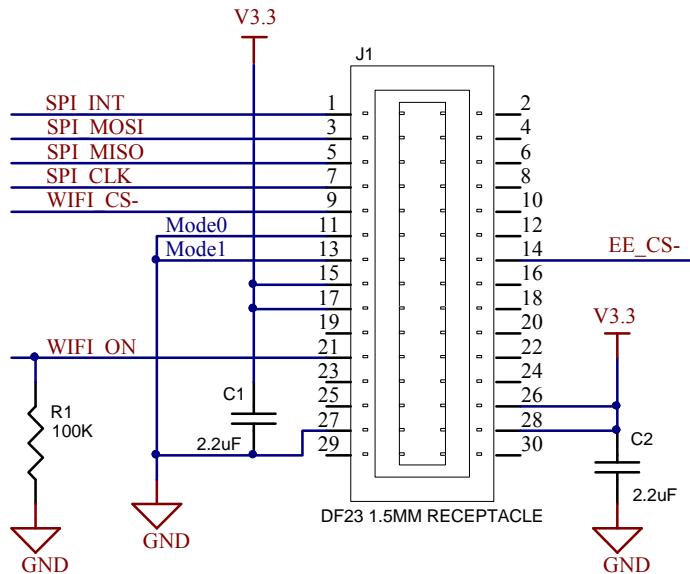
2.6   Host Schematic Example (SPI)

Figure 3 - Simple Host Example (SPI)

2.7   WLAN + Bluetooth Co-location

The WF-10020 supports the IEEE 802.15 recommended practice of Packet Traffic Arbitration (PTA) to avoid simultaneous transmission with co-located Bluetooth devices. PTA is a system protocol that employs an arbitration algorithm by which WLAN and Bluetooth contend for the medium. PTA is implemented using a simple four-line interface on the WF-10020.

- BT_WL
- BT_BT
- BT_PRI
- BT_RXIND

Note: For systems that do not contain a co-located BT device, these lines can be left unconnected.

2.8   Regulatory Approvals

- FCC Part 15 Class B
- FCC Part 15.247, 15.205, 15.209 in USA
- ETS 300 328 in Europe
- CE Mark

2.9   Performance

Receiver

802.11B	1Mbps	2Mbps	5.5Mbps	11Mbps	Units
Sensitivity[1]	-91	-87	-83	-83	dBm

[1]Typical values, PER < 8%

Transmitter

802.11B	1Mbps	2Mbps	5.5Mbps	11Mbps	Units
Output Power[2]	16.1	16.1	17.6	17.6	dBm

[2]Typical values, channel 6.

3   Mechanical

3.1   Dimensions

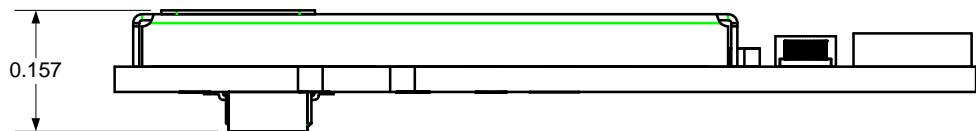Note: All dimensions in inches.
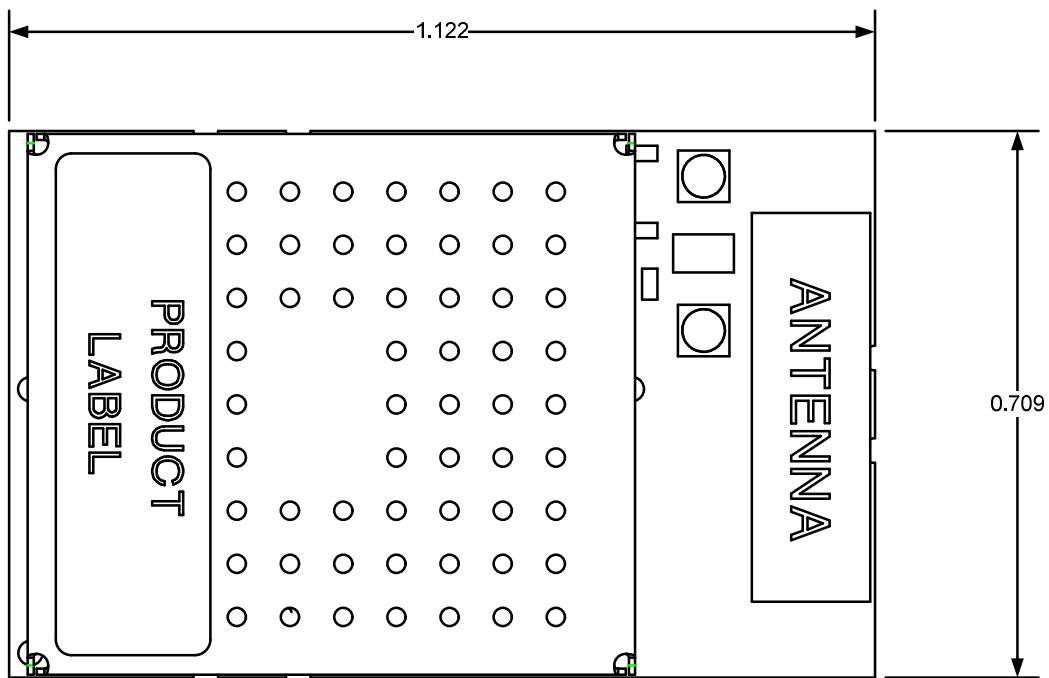

Figure 4 – Side View
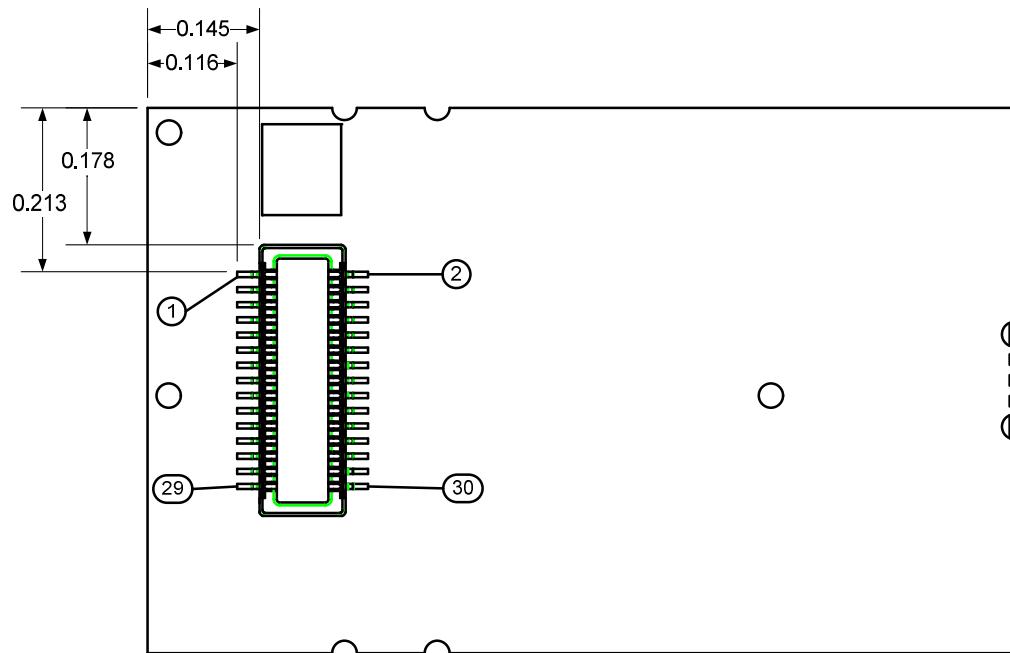

Figure 5 – Front View

Figure 6 – Bottom View

Figure 7 - Host to Module

WF-10020 connector: Molex 55560-0307, or Hirose DF23C-30DP-0.5V(92)
Host PCB connector: Molex 54722-0307, or Hirose DF23C-30DS-0.5V(92)

3.2   Environmental

Non-Operational Conditions:
Ambient temperature: -30°C to +125°C.
Relative humidity: 5-95%, non-condensing.

Operational Conditions:
Ambient temperature: -30°C to +85°C.
Relative humidity: 5-95%, non-condensing.

4 Software

4.1 Platform Support

Drivers for the following platforms currently exist for the WF-10020 module.

4.1.1 Intel PXA270

- WinCE 5.0
- Linux 2.6
- MX21

4.1.2 Freescale MX21

- PalmOS 5.4
- WinCE 5.0

4.1.3 Samsung S3C2410

- WinCE 5.0

4.2 Feature Matrix

Feature	Palm base driver	Palm - Personal security	Palm - Enterprise security	WinCE 5.0
WEP	Yes	Yes	Yes	Yes
TKIP	No	Yes	Yes	Yes
AES/CCMP	No	Yes	Yes	No
WPA-PSK	No	Yes	Yes	Yes
EAP-TLS	No	No	Yes	Yes
EAP-TTLS	No	No	Yes	No
EAP-PEAP	No	No	Yes	Yes
LEAP	No	No	No	No
CCX	No	No	No	No
Roaming	No	Yes	Yes	(handled by OS)
PowerSave	Yes	Yes	Yes	Yes

4.3 Definitions

4.3.1 WEP

- 40 bit / 64 bit encryption keys
- 104 bit / 128 bit encryption keys
- RC4 encryption standard is used to encrypt data using encryption keys entered by the user

4.3.2 WPA

There are several meanings for WPA (Wi-Fi Protected Access). WPA is a commercial term developed by the Wi-Fi consortium to add better security to legacy or WEP products. The core of WPA1 is the TKIP key management protocol. WPA1 was designed to run on legacy wireless hardware.

4.3.3 WP1

- TKIP – Temporal Key Integrity Protocol is used by WPA as a method to periodically generate new keys. This helps to provide protection so that keys cannot be easily broken by surveillance. TKIP was devised to upgrade security on existing WEP products without requiring new encryption support in hardware.
- RC4 – Encryption standard used to encrypt data using TKIP managed keys. RC4 is generally implemented in the 802.11 chipset for speed.
- 802.1X – Access Control method, used to determine if a device is allowed access to the network. 802.1X provides a family of protocols for user authentication, including PAP, MS-CHAP, and EAP. EAP (Extensible Authentication Protocol) does not actually perform authentication itself, but rather provides a framework for processing higher-level authentication methods, such as TLS and PEAP. The authentication server may reside locally in an access point, or in a remote server which communicates to the access point (and the supplicant) through the RADIUS (Remote Access Dial Up Server) protocol.
- High-level authentication methods (EAP-methods) – Protocols such as TLS and PEAP that perform authentication using the EAP protocol as a transport. These authentication methods often include encryption key generation and two-way authentication (both device and network). TLS (Transport Layer Security) is a standardized version of the Netscape security protocol SSL, and uses digital certificates for user authentication. PEAP (Protected-EAP) is an encrypted version of EAP in which the EAP exchanges are performed in a protected "tunnel."
- LEAP – Cisco Light-EAP, developed before the 802.1X standard was complete. LEAP provides the same functionality as 802.1X, with the authentication server implemented inside Cisco access points. LEAP is considered more secure than WEP but less secure than WPA1.
- MIC – The Message Integrity Checker is used to detect tampering with packets on an active wireless link. The MIC can also invoke countermeasures if tampering is detected, such as temporarily shutting down the network.
- WPA "Personal" usage model: WPA-PSK
  - This configuration is sometimes called "WPA Personal". PSK stands for "Pre-Shared Keys" and refers to a manual process of initial key distribution. The word "distribution" is used because a single key is provided to many users of the same access point. For example, a system administrator might distribute the key to many users of a single access point. The users need to manually enter the key provided by the system administrator into their computers through a preferences panel. Afterwards, TKIP takes over management of the keys.
- WPA "Enterprise" usage model: WPA-EAP
  - This configuration provides automatic key management using an 802.1X authentication server. This is sometimes called "WPA Enterprise", and requires more sophisticated infrastructure. Generally special software such as a RADIUS Server program is required to run on a server. This software is responsible for authenticating users.
- There are many high-level authentication/key distribution methods that can be used with WPA-EAP. The method specified by WPA is TLS.

4.3.4 WPA2

- WPA2 (Wi-Fi Protected Access 2). WPA2 is a commercial term developed by the Wi-Fi consortium to refer to the more generic IEEE 802.11i suite of security protocols. The core of WPA2 is the CCMP key management protocol and the AES encryption engine.
- CCMP – Counter Mode-CBC MAC Protocol is used as a superset replacement of TKIP in WPA2.
- AES - Advanced Encryption Standard is an encryption method that is used to encrypt data using CCMP managed keys. AES is provided by the 802.11 chipset.
- RSN – A network in which all stations use 802.11i advanced security protocol is called a Robust Security Network. If legacy devices are allowed to connect, the network is called a TSN (Transitional Security Network).
- WPA2 cannot be implemented on legacy 802.11 chipsets because of the required hardware AES support.

4.3.5 CCX

Cisco Compatible Extensions(CCX) are a collection of protocols defined by Cisco for wireless security, forming a super-set of WPA and 802.11i. In addition to authentication and encryption, CCX includes specifications for power management, roaming, and VOIP. As of 2005 there are four different versions, each version adding extensions to the previous version.

- V1 – 802.11, 802.1X, WEP, LEAP, CKIP (Cisco TKIP), multiple SSID support.
- V2 – WPA, roaming, power management.
- V3 – WPA2, EAP-FAST, Wi-Fi multimedia.
- V4 – PEAP-MSCHAP, voice metrics, AP-directed roaming.

5 Appendix A: Agency Certifications

5.1 United States (FCC):

The WF-10020 802.11b Module complies with Part 15 of the FCC rules and regulations. Compliance with the labeling requirements, FCC notices and antenna usage guidelines is required.

> 1
> The HandEra WF-10020 802.11b Module may only be used with antennas that have been tested and approved for use with this module. All other antennas must be tested to comply with FCC § 15.203 (Unique Antenna Connectors) and § 15.247 (Emissions) and will require a Class 2 Permissive Change or a new Certification.

Co-location with transmitters other than Bluetooth model WML-C29, FCC ID: POOWML-C29XX, is not allowed.

IMPORTANT NOTE: In the event that these conditions can not be met, then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product.

5.1.3 FCC Notices

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect equipment and receiver to outlets on different circuits,
- Consult the dealer or an experienced radio/TV technician for help.

The use of shielded I/O cables is required when connecting this equipment to any and all peripheral or host devices. Failure to do so may violate FCC rules.

Note: Changes or modifications not covered in this manual must be approved in writing by the manufacturer's Regulatory Engineering Department. Changes or modifications made without written approval may void the user's authority to operate this equipment.

Figure A-1. Required FCC Label for OEM products containing the WF-10020 802.11b Module

Contains FCC ID: URZ-WF10020
The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (*i.*) this device may not cause harmful interference and (*ii.*) this device must accept any interference received, including interference that may cause undesired operation.

Icon User Manual

Table of Contents

Introduction

Congratulations! You now have in your hands the most powerful, flexible, and easy-to-use personal data assistant (PDA) available today. The fact that it has no screen and is designed specifically for use by blind students and professionals makes the unit even more compelling. The device's developers have vast experience in the field of blindness and technology and many are users of such devices themselves.

Let's take a moment to go over the organization of this manual: Conventions used in this Document.

This documentation represents multiple key sequences, or rather, keys that are to be pressed simultaneously, by separating the individual keys with a plus sign. So, if you were asked to press and hold the pound key while you press the number 1, the key would look like this: # + 1. Keys that are to be pressed in succession, or one after another, are separated by a comma. For example, the keypad shortcut used to get to the RSS application from the Applications Menu is to press 4 followed by 3 and will appear as 4, 3.

Orientation

Input and Output Connections
The following connections come standard on the Icon:
- 802.11b wireless internet connectivity

- Bluetooth connectivity
- Stereo speakers
- Internal mono microphone
- Stereo microphone jack
- 3.5 MM headphone jack
- Mini headset jack
- Mini-SD card slot
- Power connector
- Record button
- Speaker switch button
- Volume control
- Telephone keypad with additional navigation and function keys.
- USB connection Docking Station

You may also elect to purchase an optional docking station with either a braille or QWERTY keyboard. This docking station provides the small hand-held unit with a full keyboard, phone modem, Ethernet connector, USB connectivity, better stereo speakers, and 4 times the normal battery life. This accessory will prove especially useful to those students and professionals who prefer a full sized keyboard with the convenience and power of the PDA.

Location and Definition of Buttons

The Icon is designed for easy, intuitive one-handed operation when it's not being used in a docking station. You might hold it in the palm of one hand, and enter commands with the other; or you can easily operate it with one hand while it's on a desk or clipped to a pocket or belt in the included carrying case. For this orientation, place your Icon so that the keypad faces up and the earpiece (an oval-shaped bump with vertical ridges) is furthest away from you. We will be reviewing the Icon's buttons and features by surface in the following order:
- The Front Face
- The Left Edge
- The Top Edge
- The Bottom Edge
- The Power Connector
- The Back Face

 (There are no input elements on the right edge of the Icon)

Front Face

The way you navigate through the Icon's suite of programs will be familiar to you if you've ever used a cell phone; except that every feature is accessible without a screen, and the buttons have been designed to be prominent and easy to tell apart.

On the lower half of the front face, you'll find twelve equally sized keys grouped together. These make up the telephone keypad. The telephone keypad will allow you to use numeric shortcuts to get to any program from the applications menu; enter contact numbers; and write text.

The Icon phone pad is laid out like a standard telephone keypad, and like a standard telephone keypad, allows for entering either numbers or letters depending on context. When you're in the Icon menu system, all key presses on the phone pad will be treated as digits; however, when you're in an application that requires text input, such as the word processor or your list of songs in the music player, you will press one of the 9 main number keys to get the letter or punctuation symbol you want. By default, you have one second between presses before the system inputs the letter you have selected. You may change the time Icon waits to input the character in the general settings section of the Utilities Menu described later in this manual.

On the upper half of the face, just above the telephone keypad, there are several more buttons. Directly above the telephone keypad is a row of 3 keys. The corner-shaped key on the left is the OK button: this button agrees to any action the Icon's operating system needs confirmation to perform, can open a highlighted file or program, saves changes in a dialog, and answers yes to Icon questions. The central button, which is rectangular, is called the Program Menu button: when you press it within an application, you'll get a list of options relevant to the task you're working on. For example, in the music player application, you'll be able to access options such as Shuffle and What's Playing? To the right of the Program Menu button, you'll notice another corner-shaped key; this one is the Cancel button, and pressing it briefly will allow you to abort, or call off, any operation you've chosen by mistake. In addition, cancel will exit a program or menu, and answers no to Icon questions. A long press of about a second will turn the Icon on and off. A short tone and a vibration mean the unit is on; a double tone and double vibration mean it is off.

The central group of buttons is shaped like a diamond and is made up of five parts. The corners of the diamond are the up, down, left and right arrow keys; the round button in the center is the select key. You'll use the arrow keys for navigating through menus and lists of options, as well as for navigating text in documents.

In text environments, the left and right arrows move backward and forward by character; the up and down arrows move backward and forward by line. Holding down the up and down arrows will move you to the top and bottom of a document respectively. Holding down the left and right arrow keys will take you to the beginning or end of the current line. Holding down the 0 key while using the arrow keys moves in larger steps: doing so with the left and right will move by word; doing so with the up and down arrows will move by paragraph. Finally, holding down pound while pressing the up and down arrows will move you by page.

In menus, the up and down arrows move through your choices. The right arrow key will open a submenu any time one is available: otherwise it will open the highlighted application. The left arrow key will return you to the previous level in a menu system.

The select key will allow you to select and confirm actions such as choosing a program or playing a song. The Select key also stops and starts continuous reading in a text environment, stops and starts media playback, and toggles between pause and recording in the voice recorder.

Now, direct your attention to the top part of the arrow diamond. Flanking the up arrow key are two more buttons. The one on the right is the Help key - valuable for new and seasoned users alike, a brief press of the Help key will provide a message relevant to your current place in the system. For example, if you're setting the date and time, the Help key will place you in the section of the user's manual that lists the steps necessary to set date and time correctly. Once you're done reviewing the information brought up by the help key, simply press Cancel to return to what you were working on when you first pressed Help. A longer press, of about a second, will turn on KeyLearn Mode. Once you're in KeyLearn Mode, press any key to find out what it does; press the Help key again, for one second, to turn KeyLearn mode off.

The key on the left is the Status key. Pressing it briefly will repeat the last message spoken by the Icon. Pressing it twice in rapid succession will yield program specific status. For example, if you are downloading e-mail, press status twice quickly, and Icon will tell you where it is in the receiving process and how far it has to go. Pressing and holding it for about a second will bring up the status application, where you can arrow up and down to check your battery level, the time, pending appointments, whether your wireless connection is on or off, and the software version the Icon is running. If you would like the last phrase spoken by the Icon to be spelled, press the status key followed by the help key.

Finally, move your hands above the Status and Help keys. The last three keys on the unit are two dot-like keys with a bar in the middle. Whenever you find these keys at the top of the Icon, you'll know you're oriented in the right position. The left and right round keys are named Program Key 1

and Program Key 2. Later, you'll learn how to set each of these to a favorite application or function. For example, one could start the media player, and the other could open the calendar. By default, a long press of Program Key 2 turns your wireless connection on and off. The central key on this row, a rectangular bar, is the Applications key. A quick press of this key brings up the Icon's main menu, from which you can access every application. A longer press will bring up the Icon's task manager, where you can review and manage your currently open applications.

The Left Edge

On the left edge of the Icon, you'll find several buttons relevant to sound input and output. Starting at the top, just below the left-hand speaker, you'll notice a long rocker switch. This is the Icon's volume control. A press of the upper part of the control will raise the Icon's volume, and a downward press will lower it. Unless the Icon is reading text, you will also hear an announcement of "louder" or "softer" as you increase or decrease the unit's volume, as well as an announcement of "loudest" or "softest" when you have changed the volume to the loudest or softest setting.

Sometimes, you may want to control the volume of media content on the Icon without altering the volume of the speech output; or you may want to raise or lower the volume of speech but keep the media volume the same. Hold down the star key while raising or lowering the volume to control only the volume of the speech output. When you do this, you will still get the audible announcement of "softer" or "louder" as long as the Icon is speaking text. Hold down the 0 key while raising and lowering the volume to control only the volume of media content. When you do this while media is playing, you will get no announcement by way of confirmation, but you will be able to hear the media getting louder or quieter. If you change the media volume while no media is playing, you will hear a set of beeps, low to high while the volume is being increased and high to low when it is being decreased.

Directly underneath the volume control, there is a round button that toggles the Icon's audio between the external speakers and the earpiece mounted above the keypad. When you have headphones plugged into the Icon, this button will have no effect. Toggling between the speakers and the mounted earpiece allows you to choose between a robust stereo sound and a private listening experience. The earpiece is especially handy if you need to jot down a quick note or look up a phone number while you're in public and headphones are inconvenient.

You'll find one more button below the speaker/earpiece toggle, separated by a small ridge. This lowest button is called the Quick Record button. Later, you'll learn how to manage the file names, quality and storage locations of your recordings, but the Quick Record button allows rapid audio capture without any prior setup. Just press it for about two seconds to start recording, and then press Cancel to stop. All files recorded this way are saved in a mono, low-bitrate format suitable for up-close voice recording. They are automatically tagged with the time and date they were taken, and saved to the Recordings folder of the Icon's internal flash disk.

The Top Edge

The top edge of the unit contains three audio jacks and a Mini-SD slot. The left-most jack accepts cables from external microphones. The Mini-SD slot is located at the center of the top edge just to the right of the microphone jack. You can buy Mini-SD cards for this slot that will expand the Icon's onboard storage and allow you to swap data with the owners of other SD-compatible devices. The headphone jack is located just to the right of the Mini-SD slot. It accepts standard 3.5MM headphone jacks, so you can continue to use your favorite pair of headphones with the Icon. The third jack on the top edge of the unit is a sub-mini headset jack and accepts combination microphone/headphone headsets typically used as accessories with mainstream cell phones. This type of headset is ideal for making verbal notes while you're using the Icon

The Bottom Edge

On the bottom edge of the unit and toward the left side, there is a textured slide switch. This is your Keypad Lock. Normally, it should be in the left position, so that you can use the keypad to type. If you want to lock your keypad to avoid accidental key presses, slide this switch to the right, and the unit, if it is on, will announce "keypad locked". Sliding this switch back to the left will cause the unit to announce, "Keypad unlocked". If you find that your Icon doesn't seem to be receiving key presses, it's a good idea to check the Keypad Lock switch to make sure it's in the left side position.

Interface Connector

The center portion of the bottom edge contains the connector into which you plug your power/sync cable. This cable is used for three purposes:
- charging the battery,
- connecting the unit to your PC,
- and connecting other USB devices to the unit.

The cable contains a flat connector with releases on the left and right to help keep the connecter attached. One side of the connector is completely smooth, and the other side has an inlaid rectangle that contains some embossed text. The side with this textured rectangle should be facing up when you plug the connector into the Icon. Since the connector to the cable contains several fairly delicate pins, it is important to check that the connector is being inserted properly, and it should connect without the need for much force. Press in on both releases when you want to disconnect this cable from your Icon.

A short cable runs from the bottom of the connecter and ends in a box that contains three ports. On the bottom edge are a USB client and a USB host; on the top edge, to the left of where the cable exits the box, is the alternating current (AC) connecter into which you plug the wall unit to charge the device's battery. Remember that the Icon can charge itself through your PC'S USB port, so the AC charger is necessary only when you don't have a PC connection available or when it is more convenient to use the Icon for long periods of time away from your PC (for example, if you've integrated it into your home stereo system).

Battery Care and Use

Your Icon uses a lithium-ion battery with a rating of 1700 milliamp hours. Given this power level and the typical usage patterns and the power consumption of the unit, you may expect to get about six to eight hours of steady use from the device when the wireless radio is off and about three to four hours of usage with the radio on. Expect about four times this battery performance when using the batteries in either of the docking stations. If you need more time away from AC power, you may consider purchasing an additional battery and use it to supply another charge when the first battery's charge fades. To change batteries, power the unit off, change the battery, and turn the power back on. It's a good idea to have the replacement battery ready to insert before removing the current battery, as you have only about 45 seconds to make the change before the clock settings are lost.

Warning

Do NOT remove the battery while the Icon is running. Removing the battery while the unit is running is strongly discouraged by the manufacturer. Removing the battery while your Icon is on may cause data loss, data corruption, and loss of the clock settings.

Resetting Your Icon

In the rare instance that your unit locks up or begins to act strangely, you may need to reset. To access the reset button, you need to remove the battery compartment door, locate the deep round recess that contains the reset button, and press it with a small object such as a stylus or

the jack end of your ear buds. The hole containing the recessed reset button is located at the top left side of the battery compartment on the wall between the battery and the left side of the case. You will know that your reset has succeeded when you feel the Icon emit a short vibration. Wait between 20 and 30 seconds, and you should hear the message, "Welcome to the Levelstar Icon", followed by the announcement "Applications Menu". Once you hear this announcement, the Icon is ready for you to resume working.

The Icon Application Environment

Your Icon provides several generalized utilities for manipulating the overall environment. These include
- The Applications Menu
- The Task Manager
- The Information and Status Center

Applications Menu

The first time you turn on your Icon, and any time thereafter when power has been lost or the unit has been reset, you'll know the Icon is ready to work when you hear the words "Applications Menu". You may access the Applications Menu at any time from anywhere on the unit by briefly pressing the Applications key on the top center of the keypad.

The applications menu provides easy access to any of the unit's applications. Use the Up Arrow and Down Arrow to browse through the list of applications the menu has to offer. Pressing select on some of these options, such as the music player, will take you directly into the application. However, when an option is followed by the word "menu", you'll know that pressing select will bring up a list of options in that category. For example, the fifth option, "tools menu", contains both the word processor and the planner, among other tools. You can explore these menus without opening any applications; when you're ready to back out to the previous menu, press your left arrow key. If you wish to open a program, press Select or OK.

The Icon is designed with some very efficient numeric shortcuts that will let you jump straight to a particular application. As you arrow through the Applications Menu, you'll notice that each item is associated with a number: you'll hear "1 - address book", "2 - music player", and so on. Pressing the number associated with any of these items will open the application or menu immediately, with no need to arrow directly to it. For example, from the Applications menu, you can press 5 for Tools, then 1 for Word Processor, and the word processor will open immediately. Similar shortcuts are also available in program specific menus. continuing with the example of the word processor, if you would like to navigate to the top of the document, you may press the program menu key followed by 93 in quick succession; 9 takes you to the navigation menu, and 3 will get you to the start of the document.

Task Manager

Sometimes you may be performing more than one task on the Icon: for example, you might be writing E-mail while music plays at a low level in the background. To switch among the Icon's currently open applications, you should use the task manager.

You can access the task manager by holding down the Applications Menu key for about a second. When the Task Manager is loaded, the Icon emits a beep similar to the one you hear when turning on the unit, and then announces "Running programs" followed by the first running program in the list. The up and down arrow keys can be used to navigate among all running programs. If you'd like to switch to one of the programs in the task manager, simply navigate to that program and then press select.

Pressing the Program Menu button when a running program is highlighted brings up a list of three options. Option 1, Switch To ..., performs the same function is pressing select on a program. Option 2, Stop ..., will halt the application you have highlighted. Option 3, Refresh, will update the list of programs running in the task manager to reflect any recent changes.

Caution: Stop Programs with Care

Although you can stop any application from the task manager, stopping a program is different from closing it. When you close the word processor, for example, you are given an opportunity to save your document. When you stop the music player, the Icon will allow you to resume playing right where you stopped. When you stop a program from the task manager, the application is unloaded immediately, and information accumulated since the last time you ran the program may be lost.

In practice, it's best to stop an application from the task manager only when you find that that application is behaving in an unstable manner, or when you're running too many concurrent applications and your Icon becomes too sluggish. To avoid the potential data loss inherent in stopping programs, try to avoid running more than three programs concurrently.

Information and Status Center

Once you learn the layout of the keys, one of the first things you may wish to do is access the time, date and battery level of your Icon. You will do this from the Information and Status Center, which you can access by holding the Status key down in a long press of about a second. When you release the button, the unit will place you in the Information and Status center, where you can review information about battery status, network connections, appointments, and the date and time. Each of the options pertains to specific information about your Icon. As with any menu in the system, you may use the Up Arrow and Down Arrow keys to move from option to option in the menu. The order of items in the status center, by default, is the same as the order in this manual:

- Time and Date
- Battery Status
- Appointments
- Wireless Status
- Icon Software Version

You can press the Program Menu key while positioned on any of the items in the Status Center to bring up a list of options relevant to that item, and although some of these options differ, every item has the options "move up" and "move down". Selecting "move up" positions the current item above the one that comes before it; and selecting "move down" moves the current item past the item below it. If an item is at the beginning of the list, "Move up" will not be available; and if an item is at the bottom of the list, "move down" will not be available. You may also press select on the time and date, the appointment notification, and the wireless status to access the clock settings, the planner, and the wireless control panel respectively.

Time and Date

By default, the first item in the Information and Status Center is the date and time. You may use this information to check the current date and time from any place in the unit. To set the date and time, you should first bring up the Information and Status Center by pressing the Status button for about a second. The unit will announce "status", and then read whichever item within the Information and Status Center is currently selected.

Use the up and down arrow keys to find the line which reads the date and time. You may simply press select to bring up the clock settings or press the Program Menu key, just under the arrow diamond, to open the Clock menu. The Icon should respond "1: set time and date." This means that you're in the clock options menu and on the correct option, so just press select. You will be

prompted to select the time format you prefer. Choose between 12-hour (AM/PM) time and 24-hour (military) time with your left and right arrow keys. When you have chosen the time format you want, press down arrow, and you will be presented with the current selected time zone.

If you wish to change the time zone, press select. You will then be presented with a list of countries. Arrow down to the country you want, or press its initial letters on the phone pad (for example, press the 2 key three times in rapid succession for the C in Canada). When you have chosen the country you want, press select again, and you will be presented with a list of time zones within the selected country. Arrow down to the one you want, and press select once more to return to the Set Time and Date main screen. If, at any time, you select a country in error, use the left arrow key to back up a step.

After choosing the time zone you prefer, arrow down once more, and you will be prompted to enter the current time as a four digit number. If you are setting 24-hour time, simply enter two digits for the hour, then two for the minute. If you're entering 12-hour (AM/PM) time, enter the two digits for the hour, then two for the minute, and then use the pound key to toggle between AM and PM. When you're done, press the down arrow key again.

You are now ready to enter in the date. Enter it as an eight digit number in the format mmddyyyy. This means that you should first enter two digits for the month; then two for the day; and, finally, four for the year. For example, to enter March 3, 2007, enter "03032007". Once you have done this, press the OK button, and the unit will respond "Time and Date Set."

If you have a working connection to the Internet, either through your wireless connection or the USB cable, you can choose to bypass these manual steps and have the Icon retrieve the time and date automatically from the Internet. To do this, follow the same steps as described above to enter the Set Time and Date screen, but instead of manually filling in all the fields, choose your desired time zone as described above, then arrow down to "Retrieve time from the Internet" and press OK. The Icon will say "Synchronizing" and will attempt to synchronize with a time server on the Internet. If it is successful, it will say Okay and then read the time. If it responds that it was unable to connect, you will know that your Internet connection is not working properly, or that you are not connected at all. This feature is great for ensuring that you never run five minutes too fast or too slow, and also for checking, quickly and simply, whether your Internet connection is operational.

Battery Status

Below the display of time and date in the Information and Status Center, you will find your Icon's current battery level. Remember that your Icon should perform for between six and eight hours per charge with the wireless radio off, and three to four hours when the wireless radio is on. The battery level is expressed as a percentage, and may be erratic for the first minute or so after you turn your wireless radio on or off. Start looking for an alternate source of power when your battery level dips below 20 percent; and remember that, at 5% of full battery capacity, your Icon will automatically switch off. The Icon does this to maintain a sufficient charge to keep your clock settings and other preferences intact until you can recharge the unit.

Appointments

Below the battery level, you will find a line that displays what appointments, if any, you have scheduled on any given day. If the Icon finds no appointments for the day, it will announce "You have no more appointments for the rest of the day." If you have one ore more upcoming appointments during the day, the Icon will display the one that is chronologically coming first. By pressing Select on the appointment line, you will open your planner to the current day, and from there you can review all your other appointments.

Wireless Status

Beneath the appointment line, you'll find a status line that describes whether your wireless radio is on or off. In addition, if your wireless radio is on, the Icon will announce whether it is connected to a network and, if so, the strength of the wireless signal. Remember that you can toggle your wireless radio on and off with a long press of Program Key 2, located at the very top right of the Icon keypad. If you are connected to a network and would like details about your current wireless connection, press the program menu key while the wireless status item is highlighted, and select wireless details.

Icon Software Version

The very last item in the Information and Status Center is a line describing which version of the Icon software is running. This information will be important whenever you call technical support, and will help you to confirm whether software updates to the system have been successful.

Input Techniques

Icon offers a variety of ways to enter text and numbers. You may use the telephone keypad, an external QWERTY keyboard, or a docking station with a braille or QWERTY keyboard.

Telephone Keypad

The telephone keypad lets you type characters or numbers in an application. Depending on the specific application in use, the keypad may be in numbers mode, braille mode, or in letters mode. Each of these keypad layouts provides alternate ways to type text.

1	2	3
4	5	6
7	8	9
*	0	#

You may alternate among the keypad layouts by holding down Pound while pressing the Program 2 key.

Numbers Mode

When an application requests information from you that consists of numbers, it lets you type the numbers directly. So, if you wanted to enter the date as 08152006, you would type those numbers on the keypad.

Alpha Numeric Mode

Many applications expect letters rather than numbers. If you were writing an email, for example, most of the characters you type would be letters, but there would be occasional need to type a punctuation character or a number. Alpha numeric mode of the telephone keypad lets you accomplish just that. Here is how it works.

Each key has numbers and letters printed on it. To type the second or third letter on a key, press that key a second or third time within a short amount of time. If you wait too long, the PDA will accept the character and the next time you press that same key, the unit will give you the first letter in the series.

You may still type numbers even when the keypad is in alpha numeric mode. The number associated with a key is usually the fourth press of the key. There are exceptions for the numbers 7 and 9 as each of these has 4 letters associated with it.

So, when you press, for instance, the 2 key once, you get the letter A. A second press yields B, and a third produces C. A fourth press produces the number 2. You may type capital letters of A, B, or C by pressing the 2 key a fifth, sixth, or seventh time.

Pressing the 1 key will allow you to text the following punctuation marks and the number 1 in this order: dot, at, slash, colon, 1, question mark, line, and equals. . The 2 represents, in order, A, B, C and 2. The 3 represents D, E, F and 3. The 4 represents G, H, I and 4. The 5 represents J, K, L and 5. The 6 represents M, N, O and 6. The 7 represents P, Q, R, S, and 7. The 8 represents T, U, V, and 8. Finally, the 9 represents W, X, Y, Z, and 9.

The * or star key is called the Splat key. Press Splat to delete the character to the left of the cursor or, in some program specific lists, to delete the highlighted item. The 0 key works as a space bar, and if pressed repeatedly, will also yield 0 and plus; the # or pound key, to the right of the zero, brings up navigation options in text-based applications.

Modifier Keys

In addition to typing normal letters and numbers on the telephone keypad, you may also use the three keys at the bottom of the telephone keypad as modifier keys. The * keys serves as the shift key, 0 acts like Control, and # is the Alt. So, to press Alt+B, press and hold down the # key then press the 2 key twice (once for A and once for B).

Braille on the Telephone Keypad

In addition to number and alpha-numeric modes, Icon offers Braille input using the standard telephone keypad.

If you are familiar with braille, this is an effective means of entering a large amount of text in a short amount of time. If you aren't familiar with the braille code, you may wish to invest some time learning it; it will save you a lot of keystrokes in the long run.

The left row of keys on the telephone keypad represents the left row of dots of a braille cell. The digit one serves as dot one. The digit four serves as dot two. Seven is dot three. Similarly, the right most row of keys acts as the right half of the braille cell. Dot 4 is produced with the number three. The number six produces dot five, and nine produces a dot six. The pound sign (bottom right) is the Space.

To make a letter that requires more than one dot in braille, hold down the desired keys all at once. So, to make the letter l which is represented in braille with dots 1, 2, and 3, you would press the telephone numbers 1, 4, and 7, the three keys on the left side of the telephone keypad.

To make a capital letter, press Star before making the desired letter.

The bottom three keys of the telephone keypad, the Star, 0, and Pound, act as modifier keys just as they do when texting.

Thumb Braille

Once you use the telephone keypad to enter braille, you soon notice that multiple dot characters may become difficult to press, especially with two fingers or your thumbs. The primary cause of this problem is trying to press more than two non-adjacent keys on each side of the braille cell. In other words, pressing dots 1 and 2 at the same time is easy to do with one finger or thumb, but pressing dots 1 and 3 or 1, 2, and 3 all together is problematic.

It is for this reason that thumb Braille exists. Thumb Braille takes the four keys in the middle row of numbers and assigns them the four combinations of non-adjacent dot combinations. The combination of dots 1 and 3 is entered by pressing 2. The number 5 produces dots 1, 2, and 3. 8 produces dots 4 and 6. 0 produces dots 4, 5, and 6.

2	1	3	5	1	2	3	8	4	6	0	4	5	6

Now, to type the letter l, just press key digit 5. To produce p, press 5 and 3 together. The 5 gives you dots 1, 2, and 3, and the 3 gives you dot 4.

To type Space, press #.

To press Enter, use # and * together.

Press * once to indicate the following character is capitalized. Press and hold * to engage Caps Lock. Press and hold again to turn off Caps Lock.

Other Keys

To make Escape, press Star+1.

To make Tab, use Star+2.

To make Backspace, use Star+3.

The next two rows of three keys are easy to remember, because they mimic the arrangement of the six keys normally grouped together on a traditional keyboard, often referred to as the 6-pack.

Insert is Star+4.

Home is Star+5.

Page Up is Star+6

Delete is Star+7.

End is Star+8.

Page Down is Star+9.

Esc

Tab

Backspace

Function Keys

Hold down # while pressing the numbers 1 through 0 to get F1 through F10.

External Keyboards: In addition to the built-in phone pad on the unit for entering text, there are a number of external keyboards that will work well with the Icon. The most basic of these, the USB keyboard, plugs into the USB client port on the power/sync cable that comes with the Icon. You can also choose to use a Bluetooth keyboard wirelessly with the Icon. See Appendix B for a list of qwerty commands.

The Address Book

Now that you've become acquainted with the Information and Status Center and how to enter and navigate text, you'll probably want to start exploring the applications that make the Icon so versatile and powerful. The Address Book is a good place to start. As with starting any application, your first step should be to press the Applications key to bring up Icon's main menu. The unit will announce, "Applications menu". At this point you may either arrow down once, hear the announcement "1: address book", and press select; or you may simply press the number 1. Since option 1 is the Address Book and it contains no submenus, pressing 1 from the Applications Menu will always take you directly to the address book.

Adding New Contacts

When you open the address book, you will automatically be positioned on the list of contacts currently saved. If there are none, you will hear the prompt "addresses: empty list." To add an address, press the Program Menu key, and then select the first option you hear, "1: New Address". You will be prompted to enter a first name. After you have done so, down arrow to the next field, "middle name", which you may either fill in or leave blank. You may continue down the list of contact details, which include street address, street address line 2, city, state, zip code, home phone, work phone, cell phone, webpage, and comments, entering information for each field or leaving it blank according to your preference. The last item in the list of details to be filled in is "E-mail addresses" and, rather than simply typing in an E-mail address for your contact, you must first press Select on this item.

Once you press Select on the E-mail Address line, you will be presented with a list of E-mail addresses currently saved for the contact. If you are creating rather than editing the contact entry, this list will be empty. To add an E-mail address, press the Program Menu key, then select "New E-mail address". You will be prompted to give the "real name" of your contact. This means the name that is associated with the E-mail account you are adding. You may choose to fill this item in or leave it blank. When you arrow down, you will be prompted to fill in your contact's E-mail address. Arrow down once more, and you can choose whether the E-mail address you are adding will be the default for future correspondence with this contact. Press Select to toggle between "yes" (this E-mail address will be the default for your contact) and "no (this E-mail address will not be the default.) When you're finished, press OK to return to the main details for your contact, and press OK again to save your entry and return to the list of addresses in the address book.

Reviewing and Editing Your Contacts

Once you have created some contacts to browse, they will appear in the "Addresses" list in your address book. To review the information contained in a contact's entry, just press Select on the contact and the entry will open. You can navigate among the fields with your up and down arrow keys. Repeat the contents of any line by pressing Status, and use standard editing commands to change the information on any line. When you're done, press OK to save any changes and return to your list of Contacts or press Cancel to return to the list without saving any changes.

If you would like to delete an entry from your contacts, arrow to the contact you want to delete and press the star key. The Icon will ask you whether you're sure you want to delete the entry. Press OK to confirm the deletion; or press Cancel if you decide you do not want to delete the contact.

Remember that you can use the telephone keypad to type in part of a contact's name in order to find an entry more quickly. Since contacts are organized by first name, type the first few letters of

a person's first name to jump to his or her entry. For example, you might press "2, 2, 2, 6, 6, 6" to create the "CO" that would move you to someone named Constance.

Custom Contact Groups

Some users may want to avoid intermingling their personal contacts with business contacts; or they may be importing multiple sets of contacts from a PC. If you press your left arrow from the address list, you will find yourself in a folder list which, by default, only contains the folder Main. This folder may also contain contact lists you have imported; or, to add a second folder into which you can organize your contacts, press the Program Menu key and arrow down to "new folder". Pressing select will bring up a prompt for the name of your new folder, and pressing OK will save it. You should now see the newly created folder listed in alphabetical order along with "Main." You may also press the Program Menu button and arrow down to choose "delete a folder". After pressing Select, you will be asked to press OK to confirm deletion or Cancel to opt out of deletion.

The Music Player

Icon's Music Player lets you organize, manage, and play your audio content. It is not just for music! You may read audio books, listen to podcasts, as well as enjoying your favorite music even while you work on other activities.

When you select an audio file from another application; for example, an mp3 file in the file explorer or a podcast in the RSS reader; the music player will automatically launch with that file loaded. To launch the music player directly, press the Applications key from anywhere in the Icon system, and then either arrow down until you hear "2: music player", and press select, or press 2 to open the music player directly.

Importing Audio Files into the Music Player

Before using the music player, you need to load audio content onto your Icon. The simplest way to do this is to connect your Icon to your PC with the included USB cable and your Icon power/sync cable. Once you have connected your Icon to your computer, press 6 and then 3 from the Applications menu. This will launch Disk Drive Mode. If your Icon is properly connected to your PC, your PC should emit two ascending tones, and your Icon will show up as a removable drive from the My Computer screen in Windows. Open this drive and then open the Music folder within it. Then, paste any audio content you want to transfer into the Music folder. On average, most songs take 5 to 10 seconds to transfer, depending on their file size. Your PC should display the name of each song while it is being transferred, as well as an overall estimate of how long your file transfers will take. If you have a lot of music you want to transfer, you may start the transfer overnight and your transferred files should await you in the morning.

When you're finished transferring content, press the Cancel key on your Icon to exit disk drive mode. You are now ready to play your audio content. You may also use the Icon Sync program located on Icon's companion CD to synchronize Icon's music folder with the My Music folder on your Pc. For more details, see the appendix on the Icon Sync program.

Updating the Music Catalog

The first time you launch the music player, or anytime thereafter when you have added or removed audio files, the system will take a few minutes to update the music catalog. When this process is complete, the Icon will announce, "music catalog updated". If this process is interrupted or needs to be restarted, you should press the Program Menu key from within the music player, navigate down to the "rebuild catalog" option and press select.

Disabling automatic update of the music catalog may cause the Icon to perform more responsively if your loaded collection of music is very large (5 GB or more). This is because, when the option to auto-update is enabled, the Icon checks for updates to your media content every time you load the music player. If you wish to disable this option, you must remember to manually select the Rebuild Catalog option every time you add music to or remove music from the collection in your Music folder.

Program Menu Options within the Music player

There are three other options in the program menu that are available in any part of the music player. The first, Shuffle, announces whether Shuffle is currently on or off. Pressing select toggles this option from "on" to "off" and back again. When Shuffle is off, files will be played in alpha numeric order or, if you are playing a playlist, in whatever track order the playlist specifies. When Shuffle is on, the files you have chosen to play will be randomized. The Resume item, just below Shuffle, allows you to return to the exact track and position where you last stopped listening. This option works even if the music player has been closed and then reopened, although it will not work if you have updated your software version or allowed your battery to run down completely since the last time you listened to music. Underneath the Resume item you'll find Rebuild Music Catalog, described above; and finally, below that, you'll be presented with the option of disabling automatic updates of the music catalog.

Accessing your Audio Content

When you load the music player, you will be placed in a list of ways to choose what audio content you would like to manage or play. These music management options are numbered, so that you can jump quickly to any of them with just one press of a number key. Option 1, Songs, will bring up a list of every audio track available in your Media folder. At the top of this list you will find an option to Play All. Press select on this option to start playing your tracks in sequence, and use the Program Menu while audio is playing to toggle whether shuffle is on or off. If you want to play just one track, you can arrow down past Play All to review all your other songs. A long press of the up arrow will take you to the very top of the list, and a long press of the down arrow will take you to the very bottom of the list. As with any other list in the Icon, you may input the first few letters of the song you're looking for to jump straight to that song. For example, you might press "66, 2, 7" to input the "nap" that would jump you directly to a song called Napoleon's Hat. This process is not case-sensitive, which means that it will find songs by title regardless of their capitalization.

If you wish to back out of your list of songs and return to the list of music management options, press your left arrow key. You may then arrow down and explore the other options. Option 2 is Artists. It works the same way as the Songs option, except that there is no Play All option at the top of the list. Once you navigate to a particular artist and press Select, you will be presented with a list of all the songs you have available by the artist you've selected, with a Play All option at the top and the individual songs below it. One press of the left arrow key returns you to the list of artists; a second press returns you to the list of music management options.

Option 3 in the list of music management options is Albums, and it groups songs by album name. Option 4, which works the same way, is Genre, and finds songs based on the genre specified in their file information.

A Word to the Wise: Organize your Tunes

When your manual writer loaded her music collection onto the Icon and began to browse by genre, she was dismayed to discover that her music collection had been segmented into redundant, tiny and unhelpful genre categorizations. There was "Alternativerock" (4 songs), "Alternative, rock" (1 song), "Andrew Lloyd Webber" (1 song), and on and on. How could this be?

Although the Icon does a great job of helping you manage your music by title, artist, album or genre, it's only as good as the file information with which your music files are tagged. From your PC, you may bring up the properties associated with each file. In Windows, the Summary tab of a music file's properties will allow you to edit the title, artist, and genre for a song. The most common problems with song classification that can be fixed in the Summary tab include inconvenient or nonexistent genre classifications; and song titles that actually begin with the name of an artist, making songs more tedious to find. Although getting your music collection properly labeled is a somewhat time-consuming project, it may pay off the next time you forget whether "Walk Like an Egyptian" is by the Bangles or the Buggles; and if you plan to share your MP3s, your friends will thank you for taking the time to label them right.

Creating and Using Playlists

You may wish to organize your music according to your own preferences. Icon, like many media players, allows you to create your own playlists. To do this, select option 5, Playlists, from the music management options in your music player. If you already have playlist files in your media folder, these will show up in a list; otherwise, the list will start out empty. To create a new playlist to which you can add tracks, simply press the Program Menu key and select option 2, New Playlist. You will be prompted to give your playlist a name, which can be just one character or several words long. When you're done entering the name press the OK button. Your newly created and (for now) empty playlist will now show up in the Playlist list. (As in any list that offers file management options, you will find a delete Playlist option in the Program Menu, which you can select and then either confirm or abort by pressing cancel or OK.)

Once you've created a new playlist to which you'd like to add audio tracks, left arrow to return to the music management options. You can highlight any song, artist, album or genre to add to a playlist. For example, to add all your blues songs to a playlist, you can arrow down to Genres (or press 4), press select or right arrow to bring up a list of available genres, and then navigate down to Blues. The next step will be the same whether you have chosen an individual song, an artist, an album or a genre: press the Program Menu button, then navigate to and select the option "Add ... to playlist", The prompt will be somewhat different depending on what you're adding: you'll hear "Add this song to playlist" if you're selecting an individual song, for example, and "Add all songs in this genre to this playlist" if you are selecting a genre.

After you have chosen a song, artist, album or genre to add, and selected the "Add to playlist" option, you'll be prompted to choose from a list of currently saved playlists to add the selected music to. Navigate to the one you want either by using your up and down arrow keys or by inputting the first one or two letters of the playlist's name. When you've highlighted the playlist to which you want to add music, press either the Select or the OK key. The Icon will respond "OK", and your music will be added to the playlist.

When you return to your music management options, either by using the left arrow or by reopening the music player at a later time, Playlists will be Option 5. Select the playlist you wish to play, and you will be presented with a list of all tracks in the playlist, with a Play All option at the top. Remember that you can toggle whether tracks are played in alphanumeric order or randomized by selecting Shuffle from the Program Menu.

Controlling Playback in the Music player

Pressing Select on an individual song or a Play All option within the music player menus will launch the music player, and the music you have chosen will start playing. While music is playing, you may press the Select key to pause and resume the audio. A brief press of the left arrow will return you to the beginning of the current track; pressing it twice briefly will skip you to the previous track. Conversely, a quick press of the right arrow will advance you to the next track in the sequence you have chosen. Holding down the left and right arrows causes the Icon to rewind or fast forward through your audio selection.

The Icon's keypad offers several other options for navigating through longer audio tracks. You can use the 1 and 3 keys to move back and forward by ten second intervals; the 4 and 6 keys to move back and forward by one- minute intervals; and the 7 and 9 keys to move back and forward by 10-minute intervals. A press of the star key will bring up a multi-line display called What's Playing which you can navigate with the up and down arrow keys and which includes the name, file path, and duration of the currently playing track. Pressing the Cancel button will return you from this dialog to the main music player.

From within the music player itself, four options are available in the Program Menu. The first, discussed earlier in this documentation, is the Shuffle option, which toggles between On and Off each time you select it. The second option is What's Playing, which brings up the same file information as the star key and can be exited with the Cancel button. The third option is Current Position which, when selected, informs you of how much time has elapsed in the current track. After you hear this information, you are automatically returned to the main music player with no further action necessary. The fourth and final option available in the main music player's Program Menu is Rebuild Catalog, which starts the process of updating the music available on your hard drive without the need to interrupt the music that is currently playing.

Supported File Types in the Music player

The current release of the Icon software supports mp3, OGVorbis, and Wav files.

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The Library Menu

The Icon provides a host of tools that let you conveniently download, manage and read electronic books and periodicals in a range of formats. All of these options are classified under the Library Menu, option 3 from the Applications Menu. The three options within the library menu are:
- 1, bookshelf
- 2, newsstand
- 3, Internet book search.

From the applications Menu, pressing 3 for the library menu followed by 1, 2 or 3 for the specific library application you'd like to use will bring you directly to the application of your choice.

Bookshelf

Selecting Bookshelf from the Library menu will bring up two different ways to browse your book collection: you may choose from Authors or All Books. Selecting Authors will bring up a list of authors, and you can select a particular author to explore all the books classified under the author's name. Selecting All Books will bring up an alphabetized list of all books available on your hard drive. From the authors list, you can press the program menu key and get the option to delete the author; selecting this option will delete all books by the highlighted author. From the alphabetized list of all books or a list of books by a particular author, pressing the menu key will give the option to edit book information (discussed below) or to delete the book.

Importing Books to Your Bookshelf

Just as you need to transfer media content before you can use the music player, you should transfer some books to the Icon or download some directly (see the section on Internet Book Search.) To do this, connect your Icon to your computer with the included USB cable. Then, press "6, 3" from the applications menu to enter disk drive mode. Your Icon should show up as a removable drive on your PC, and you can open first the removable drive, then the Library folder, and finally the Books folder. Paste the books you'd like to read into this folder, and then press Cancel on your Icon to exit disk drive mode. It may be most helpful to organize books by author,

with the books by each author being contained in a folder with the author's name as the title as this is how Icon naturally organizes books that are downloaded.

Icon's current software release supports a range of file types including DAISY2, BRF, Microsoft Word (.doc), RTF and TXT (text), and HTML. However, only DAISY books come encoded with author information, so all books with other file types will be classified under the author "Unknown" until you re-label them manually.

Editing Book Information

To edit the label information for a particular book, you must first find the book either through choosing the author and then highlighting the book, or by navigating to it directly in the All Books list. Once you have highlighted the right book, press the Program Menu key. Option 1, Edit Book Information, is the first available option, so just press select to choose it. You can now use standard editing commands to read and edit the selected book's title. Pressing the down arrow key results in the prompt "Authors: press select to change." If you would like to alter author information for your book, press Select here. You will be placed in the field containing the book's first or only listed author. If there is more than one, the up and down arrows will move among them; and you can edit the information in each field. You may also highlight an author, press Program Menu, and choose to delete that author. To add another author to the one or more already listed, press Program Menu, down arrow to Add Author, and press select. You may then enter the name of the author you are adding, and then press OK to save the change.

Press OK from within the book information dialog whenever you're done editing your book's information, and you will be returned to the list of titles where you started.

Opening and Navigating through a Book

To open a book, simply highlight your choice and press Select. The Icon will respond "opening book" and, depending on the file size of the book you're loading, will start reading after between one and five seconds. If you are opening a book for the first time, the Icon will start reading from the top. Otherwise, you will begin reading wherever you were positioned when you last closed the book. You may stop and start continuous reading at any time by pressing the Select key. The up and down arrow keys will move you through the book line by line, and the left and right keys will move you character by character. To move forward by word, use the right arrow key while the 0 is held down; use 0 with the left arrow key to move backward by word. To move to the end of the current line, hold down right arrow; to move to the beginning of the current line, hold down the left arrow. To move forward by paragraph, use 0 with down arrow; to move upward by paragraph, use 0 with the up arrow. To move to the previous page, hold down pound while pressing the up arrow: to go to the next page, hold down pound and press the down arrow. And finally, to move to the top of the document, press and hold up arrow; to move to the end of the document, press and hold down arrow.

Navigational Options for DAISY

DAISY books offer additional options for navigation. Depending on how a DAISY book is constructed, the navigation markers may represent print pages, chapters, sections, or a combination of all three. To bring up the navigation options available in a DAISY book, press the pound key from within the book. You may then arrow up and down through the first layer of navigation options. Sometimes there is a second layer: for example, you might find that there are navigational markers for every section within a chapter. If a navigational marker contains other markers within it, the Icon will tell you how many subsections it contains, and you can press the right arrow key to move into the list of those subsections. Pressing the left arrow after you do this will return you to the first layer of navigational markers.

Once you have found the navigation marker to which you wish to jump, press the OK or Select key and the Icon will position the cursor at the location of the marker you have chosen. If you

have been browsing through the navigational markers but wish to go on reading where you left off before, press Cancel and you will be returned to your previous location.

Using and Modifying Navigational Markers

When you press the Program Menu key from within the Bookshelf application, you may arrow between two menu choices: Edit and Navigation. The options under the Edit menu include Set Selection Mark, Copy Selection, Select All, Find, and Read from Cursor. You may read more about these options in the section of the manual dealing with the Edit menu of the word processor, since commands in both applications work the same way.

The Bookshelf's Navigation menu includes four options. The first, Document Navigation, brings up the same dialog of DAISY navigational markers as you can access by pressing the pound key. Selecting the second menu option, Go to Page, will prompt you to enter a page number to which you want to navigate. Enter the number on the phone keypad, and then press OK. As long as the page you specified is within the range of pages available in the document, you will be jumped immediately to the page number you entered.

The third and fourth options in the Navigation menu allow you to jump directly to the beginning or end of the currently open book. Remember that if you wish to browse through the menus and then return to your book without selecting a menu choice, you can press Cancel and you will be returned to the position where you stopped reading.

When you wish to close the book you have open, simply press Cancel and you will be returned to the Applications Menu. Remember that pressing the Applications Menu instead of pressing Cancel will allow you to open another application while still keeping the Bookshelf open in the background. You can navigate back to the Bookshelf at any time, while it is running, by holding down the Applications key to bring up the task manager.

A primary difference between the Bookshelf and word processor is that you cannot edit books in the Bookshelf. Any attempt to press alphanumeric keys will result in the prompt "Document is read only". However, you may still copy passages from a book into the word processor to be edited or added to a document you are working on. You'll find details in how to copy and paste text in the section of the manual dealing with the word processor.

The Icon with Bookshare

The second and third options in the Icon's Library menu, Newsstand and Internet Book Search, require a subscription to Bookshare.org to work. Bookshare is an online repository of books and periodicals that had over 30,000 books and 80 newspapers and magazines at the beginning of 2007. Memberships can be purchased by any person with a print-reading disability, or can be earned through "sweat equity": in other words, by volunteering to help build the website's book collection. Visit the website, www.bookshare.org, for information about how to become a member.

Newsstand

Subscribing to Newsstand Periodicals

The second option in Icon's Library menu is the newsstand. From the applications menu, it can be accessed by pressing 3 and then 2. When you open the Newsstand for the first time, you will hear the announcement "Periodicals: empty list" because the Icon does not come preloaded with any periodicals. After ensuring that your internet connection is on -- either through the USB cable connected to your PC, the wireless radio, or the Icon's docking station -- you may press the Program Menu key and select option 6, Add a Periodical.

If you have not elected to save your Bookshare information previously, you will be prompted for your Bookshare.org user name, which is the E-mail address you used to sign up. Enter it using the keypad, and then arrow down once to enter your password. (Remember: capital letters come after digits in the rotation when you enter alphanumeric characters on the keypad. The @ (at) symbol is second in the punctuation sequence offered by the 1 key, and the . (dot) is the first.) Arrow down once more and you will be prompted to decide whether you'd like to save your password. A saved password stays active until the Icon is reflashed. If you are the sole user of your Icon, you will probably want to save your password to avoid the need to type it in the future. Press the Select key to toggle between "yes" and "no" in response to this prompt. If you have previously performed an Internet Book Search, you may have already saved this information, and Icon will simply say "Logging in to Bookshare.org."

When you have entered your user name, password, and preference in regard to saving the password, press the OK key and your Icon will attempt to log you in to Bookshare. If your user information is invalid or your internet connection is not functioning, you will receive a message that the log-in has failed and you will be returned to the user name and password prompts. Otherwise, you will be placed at the beginning of a list of all the periodicals Bookshare has to offer.

Move through the list with the up and down arrow keys, or type the first couple of letters of the periodical to which you would like to subscribe. The list is alphabetized with the exception of the economist which appears at the bottom of the list, and can be quickly reached with a sustained press of the down arrow. When you come to a periodical that interests you, press the select key. You will be prompted to specify how long you would like the Icon to keep old issues of the periodical you have chosen. Simply press the OK key if you want old issues kept until you manually delete them; enter the number of days you would like to keep issues if you would like them eventually to be erased, and then press OK. Down arrow once more to choose whether you would like to subscribe to the periodical you have selected. By default this item is set to yes, but you may set it to no if you do not want the periodical in question automatically downloaded, but want to access it at will.

Once you have chosen the settings you want for the periodical you've selected, press OK. The Icon should announce "periodical added" and return you to the list of periodicals. From here, you can choose to subscribe to as many additional periodicals as you wish. To leave the subscription screen when you're done, press the Cancel key.

Downloading Your Periodical Subscriptions

When you are ready to download the periodicals you've subscribed to, press the Program Menu key from the main screen of the Newsstand and select option 1, Get All New Issues. If your Internet connection is working the Icon will download all the newspapers to which you have subscriptions and will announce when it has finished with an ascending set of clicks. During the download, you will hear a swishing sound every few seconds to let you know that the download is progressing. You may press status twice in quick succession to hear information about how many issues have been downloaded and how many are left. Remember, if you have added a periodical, but have chosen not to subscribe to it, it will not be included in the Get All New Issues operation.

If you would like to update a particular periodical rather than downloading new issues of all your subscribed periodicals, arrow to the periodical you would like to update and select option 2 from the program menu, Get New Issues For This Periodical. If you would like to modify the settings you selected when you added a periodical, highlight the desired periodical and choose the third option in the program menu, Periodical Settings. If you no longer want the periodical on your Icon, highlight it in the list of periodicals and delete it using the 4th option in the program menu. If you want to delete a particular issue of a periodical, arrow to the desired periodical and use the right arrow to get to the list of issues. Highlight the particular issue you wish to delete and choose option 3 under the program menu, Delete Issue.

Opening a Periodical

From your list of subscribed periodicals, right arrow to open the list of all issues for the one you have highlighted. Right arrowing again, or pressing select, will open the specific issue you have highlighted.

Bookshare periodicals come in the DAISY format, which means that navigation within them is similar to navigation using the Bookshelf. There is one notable difference: when you open a periodical in the Newsstand, you will start out in the first layer of navigational markers. Generally, these markers refer to main sections of the paper, e.g. National, Foreign and Editorial. You may use the up and down arrows to navigate among these main sections, and the Icon will announce how many subsections are contained in each one. Right arrow once to bring up the list of articles within a particular section, and press Select at any time to jump to the relevant part of the periodical.

Once you have opened an article, you may press Cancel to return to the navigation screen. You may read continuously for as long as you like across articles and sections, but when you press Cancel you will still be in the navigational position from which you opened the first article you chose.

Using and Modifying Navigational Markers in Newsstand

The Newsstand offers exactly the same Edit menu as the Bookshelf. For details on copying and pasting text, and performing a find, see the information about the Edit menu in the manual's section on the Word Processor.

The Newsstand's Navigation menu is also equivalent to the one available in the Bookshelf. You may use it at any time to bring up the open periodical's navigational markers; to jump to a page; or to go to the very beginning or very end of the periodical. The Newsstand's Program Menu also offers the Subscribe to a Periodical and Check for New Issues options from within a periodical.

Internet Book Search

The third option within the Library menu is the Internet Book Search, which interfaces with bookshare.org to allow you to quickly and easily download books for offline reading. You may select it from the Library menu, or press 3, 3 from the Applications menu.

Searching by Title or Author

When the Internet Book Search opens, you will be presented with a menu of three choices. The first two, Search for Author and Search for Title, operate in the same way: press select on one of these two options, and you will be prompted to enter a title or author to search for (It is acceptable to enter partial titles and authors). When you have finished entering your search query, press the OK key and the Icon will respond, "Searching". After a few seconds, you will be presented with a list of titles or authors that match your search. (If nothing matched your search, the list will be empty.) Navigate using the arrow keys to the title or author that interests you.

To download a highlighted title, simply press Select on the title you would like to download, and the downloading process will commence. If you have not elected to save your login information for Bookshare, you will be prompted to enter this before your first selection begins downloading. If you have saved your information, Icon will announce "Logging in to Bookshare.org: and will then begin downloading the book. The Icon will let you know when it has finished downloading by saying "done". You may then select another book in the list to download, press left arrow to return to the search menu, or press cancel to exit the internet book search program. Pressing Select on an author will bring up a list of all titles by that author, and you may then select one or more to be downloaded.

Accessing Additional Book Information

Sometimes, you may want more information, such as the copyright date, number of pages, or synopsis of a book, before you decide whether to download it. If you would like to review this information, highlight the title that interests you, press the Program Menu key, and choose option 1, Book Information. You may arrow down through fields describing the book, including synopsis; title; date added to the Bookshare collection; the quality of the electronic book (ranging from excellent to fair); the number of pages; the ISBN; copyright date; and the name of the copyright holder. Some of these fields may be blank. When you are finished reviewing a book's information, press the Cancel key to return to the list of your search results.

Searching by Category

When you choose the third menu option within the Internet Book Search, Browse Categories, the Icon will retrieve a list of the categories of books available on Bookshare: for example, there are categories for Art and Architecture, Teens, and Cooking, Food and Wine. Press Select on any of these categories to bring up a list of the books contained in that category. Press select on any book to download it, or press left arrow to return to the previous menu.

The Internet Menu

You can use your Icon while connected to the Internet to browse the web, check your E-mail, keep up to date with your favorite RSS feeds, and download podcasts. There are four possible ways to connect to the Internet:

- Use the included wireless radio to connect to your home wireless network or a "hot spot" (an open network at a business such as a restaurant or hotel
- Connect the Icon with the included USB cable to your PC, and the Icon can use your PC's Internet connection.
- Use the Ethernet connector on the docking station for a wired, high-speed connection
- Use the phone modem on the docking station to access a dial-up connection.

A Few Words on Getting Connected

You may use your home Internet connection with the Icon, either through your home wireless network or USB connection or, with the optional docking station, with the Ethernet or dial-up modem. It is often possible, however, to find free wireless networks away from home. Your friends or office may have a wireless network; or you may find free, open networks at commercial locations such as coffee shops, hotel lobbies and airport waiting areas. In densely populated urban areas, it is increasingly common to find at least one wireless network almost wherever you go.

The Wireless Control Panel

Since the wireless radio included in the Icon system drains the battery life of the unit about twice as quickly as normal, the wireless radio is turned off by default. There are two ways to turn it on. You may either hold down Program Key 2, at the extreme upper right corner of the keypad, for about two seconds; or you may select Wireless Control Panel from the Internet menu. Either action will activate the wireless radio and cause the Wireless Control Panel to appear.

Once you turn on the wireless radio and start the Wireless Control Panel, Icon shows a list of all the wireless connections in range. You may attempt to connect to any of the listed networks by highlighting it and then pressing select. Each item in the list contains the network SSID (or name), whether the network is open or secure, and the signal strength of the network. Ideally, you should

try to connect to a network with a listed signal strength of a higher number: you'll probably get a more stable connection from a network listed at -40DB than one listed at -80DB; remember the higher a negative number, the smaller its absolute value. Once you press select on a non-secure network, a connection attempt will be made right away. If the network to which you want to connect is listed as secure, this means that it requires a security key. If you press select on a secure network, you will be prompted to enter the security key, and you should then press the OK key to proceed with the connection. When the Icon announces "connected to" followed by the name of the network you have chosen, you'll know you have a working Internet connection. The message "Connection attempt failed" will be spoken if the wireless signal for the network you're connecting to is too weak or if you enter an invalid security key for a secure network.

Your Icon will remember the connection settings for networks you have connected to successfully. You may delete these in the Network Manager, discussed later in the manual, but by default your Icon will automatically connect to any network to which you have connected to previously. Remember, turning your wireless radio off when you are not engaged in tasks that require an Internet connection will maximize your battery life. You may toggle the wireless radio on and off with Program Key 2, or turn it on and off through the program menu in the Wireless Control Panel; or you may end the Wireless Control Panel process, if necessary, from the Task Manager.

Setting Up a USB Network Connection through Your PC

When your Icon is connected to your PC with the USB cable, you may use your PC's internet connection from the Icon. To do so, select the USB connection from the Network Manager option of the Internet menu.

Set up USB Networking before using the internet through the USB connection for the first time, you must create a network profile on Icon and install the USB network drivers and bridge your internet connection to Icon's network connection.

Install Network Drivers

Installing the network drivers is a two step process. You first install the handler, then once the Icon tries to connect to the PC, the handler finishes the network driver installation.

1. Insert the program CD into your Windows XP or Vista machine. 2. Select USB Network Drivers from the menu. The network driver installation wizard starts. 3. Use the wizard to complete the installation. 4. Connect your PC to the Icon with the USB cable. 5. Open Icon's Network Manager from the Internet Menu. Icon responds, "Network Connections Menu." 6. Press the menu key to show the options available from the Network Manager. 7. Select Add Connection from the program menu. Icon responds with a list of connection types. 8. Select USB from the Connection Types menu. Icon responds with another menu where you name and configure the connection. 9. Type a name for the new connection. 10. Press OK to accept the name of the new connection. Icon creates the profile for the new connection and returns to the Connections menu. 11. Select your new connection from the list. Icon responds, "Connecting," and Windows responds with the New Hardware wizard. 12. Complete the steps in the New Hardware Wizard. When the New Hardware Wizard completes, your Windows machine has a new network connection named Levelstar LAN Link." 13. Select Network Connections from the Control Panel on your PC. 14. Highlight the connection named Levelstar LAN Link and press Space to select it. 15. Use Ctrl+Up or Ctrl+Down to find and highlight your internet connection. 16. Press the Application key on your PC. Windows responds with a context menu. 17. Select Bridge Connection from the context menu to bridge the Icon's network connection with your internet connection.

The Network Manager

The fourth item in the Internet Menu is the Network Manager. The Network Manager allows you to set up and manage connection profiles for the various types of networks Icon supports. You can open the Network Manager by selecting it from the Internet Menu, or by typing 4, 4 from the Applications Menu. Each time you connect to a wireless network successfully, Icon automatically creates a profile in the Network Manager. However, if you are using another connection type, i.e., USB, Ethernet, or dial-up, you'll need to set it up manually through the Add Connection option in the Network Manager's program menu.

When Network Manager opens, you are presented with a numbered list of the profiles currently saved in your Icon. You can move among them using the up and down arrows. As you arrow up and down the list, Icon will say the name of the profile and whether or not the Icon is connected to it. If you have not yet connected to a wireless network or set up a profile manually, Icon will announce "Network Connections Menu, empty".

As has already been described, Icon will automatically connect to saved wireless network profiles when wireless is turned on through the Wireless Control Panel or by pressing and holding Program Key 2. You may also connect to a profile, wireless or otherwise, by highlighting it in the Network Connections list, and selecting option 2 from the Program Menu, Connect to Profile. Icon will say "Connecting to profile, please wait." When connection has been successful, you are placed back in the Network Connections list, and now when you arrow past the network to which you are connected, Icon will announce the status as connected and will give details about the connection such as connection type, IP address, subnet mask, etc.

Adding a Connection

While it is preferable to create a profile for a wireless network using the Wireless Control Panel, you will need to, for all of the other network types, at least specify whether or not to use DHCP, or rather, whether Icon should obtain an IP address automatically or use a static IP address. This will depend on the configuration of the network to which you are connecting, and this information can be obtained through your network administrator. To specify this information, you will need to create a profile through the Network Manager's menu. To create a new profile, press the Program Menu key from within the Network Manager and choose the first option, Add Connection. You are then presented with another menu which lists the network types available: these are 1, Ethernet; 2, wireless; 3, dial-up; and 4, USB. Press select on your desired connection type. You are then presented with a list of fields specific to your connection type. The first field for all types asks for a name for your profile. When you have entered a name, arrow down to the next field which is, in all profile types, "Use DHCP?". Use the select key to toggle between yes and no. If you are setting up a USB or an Ethernet network profile, these are the only 2 fields presented, so, if you choose yes to DHCP, in which case you want Icon to obtain an IP address automatically, after filling these in, you may press OK to save the profile. However, if your network requires you to use a static IP address, you'll want to say no to the DHCP option, and will need to fill out the fields that will then appear below it. These are Static IP Address, Net Mask, Default Gateway, DNS Search Path, Primary DNS, and Secondary DNS. All of these items consist of groups of numbers separated by periods and should be available through your network administrator should your network require them.

Wireless Profiles

When adding or editing a profile for a wireless network, there are several more fields specific to wireless connectivity. The SSID field requests the name given to the router. The next field in the list asks for the channel on which the router is operating. Arrow down once more, and you'll find the Security field. You can move among the options using the left and right arrows. If the network is open, the security option should be set to none. Icon supports 64 and 128 bit WEP encryption. If your wireless network uses WEP, you will arrow down to a final field in which you are asked for

the security key. When you have entered all of the relevant information, press OK to save the profile.

Setting up a Dial-up Profile

In addition to the Profile Name and DHCP fields, the dial-up profile contains several other items. Below the DHCP field you will find Phone Number, Username, and Password, in to each of which you must type the relevant information. The final field asks for the type of authentication used, and gives a list of choices you may navigate using the left and right arrows. As with all profiles, once all of the information has been filled in or selected, press the OK key to save the profile.

In addition to the options previously described, the Network Manager's program menu contains 2 other options: option 3, Edit Profile; and option 4, Delete Profile. The Edit Profile option will open a field list according to the network type that matches exactly what you would see if you were creating a profile. If you choose to delete a profile, you will be asked to confirm whether you would like to perform this action. Press OK to say yes, and cancel if you change your mind and wish not to delete the profile.

As with most other Icon programs, all of the menu options with the exception of Add Connection, act on the highlighted item in the Network Connections list. As you navigate through the menu options, both the action and the profile to be acted upon are announced. For example, if you navigate to the Delete Profile option while a network called Linksys is highlighted, Icon will announce "Delete Profile, Linksys".

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Browsing the Web

Icon's state-of-the-art web browser lets you browse the World Wide Web, interact with forms, and listen to media streams. The developers have combined the power of Fire Fox, a mainstream application, with custom speech prompts to create a browser unparalleled among mobile devices.

You may reach the Web Browser by selecting it from the Internet menu, or you may press 4, 1 from the Applications menu. When the Web Browser launches, the first page it displays is Google's web search. To open a different webpage, press the Program Menu key. Select option 7, File, and then option 1, Go to URL, or type Control + O from anywhere in the browser. You may then type in the web address you wish to visit and press OK. The Icon will announce "loading", and begin reading the webpage you have chosen as soon as enough information is loaded for reading to begin. The Icon will inform you that loading is still in progress by making a swishing sound. When loading is complete, you will hear a series of ascending clicks. You may stop and start continuous reading at any time with the Select key, just as you can in Icon's other text-based applications.

You may use the Icon's standard navigation commands to move through a webpage (left and right arrows to move by character, up and down arrows to move by line, 0 with left and right arrows to move by word, 0 with up and down arrows to move by paragraph, and all other commands for document navigation.) The Icon will identify any links, edit fields and graphics as they occur on the page through the use of various voices and sounds. (See the section in the manual on Browser Settings for details on how to change the individual voices that announce browser elements.) A blip will indicate that you are navigating across a link. To activate a link when your cursor is positioned on one, press the OK key.

When the Icon encounters an input control on a webpage, it will let you know by announcing the type of control, such as a button or edit box, and switching to whatever voice you have selected in the Browser Settings for reading forms. In an edit field, simply enter alphanumeric characters as

you would in any text-based application. If the Icon announces that you are dealing with a multi-line edit box, you may use the OK key to insert new lines. If you are on a radio button or check box, use the Select key to toggle between the yes/no or on/off options. If you are in a list box, you should use the left and right arrow keys to navigate among list items, and exit the list choice with your up or down arrow key.

In addition to standard navigation keys, there are some special shortcuts that will enable you to move through webpages with ease. The 1 and 3 keys navigate backward and forward by heading. The 4 and 6 keys move backward and forward by link. The 7 and 9 keys move backward and forward by edit fields and other form controls.   To return to the top of a page at any time, press the 2 key. To skip past links and graphics to the next chunk of plain text, press the 0 key. This shortcut comes in handy when you're reading something like a movie review or newspaper article and want to skip past a pack of tedious links to other parts of the page. Keep in mind that, if you are in continuous reading mode, reading will not stop when you use these navigation keys. Your position will be changed every time you press one, and the Icon will continue reading down the page from that point. This is great if you're trying to quickly browse a page, but if you want to start moving in a controlled fashion from item to item, you should press Select to stop continuous reading before attempting to move through the page.

You can use the 5 key to initiate a search of the page you're viewing. Type in your search string, arrow down to toggle case sensitivity on and off, and press OK. Every time you use the 5 key, a find will begin at the top of the page. If you'd like to continue to the next Occurrence of the same search term, use the 8 key instead, and you'll be jumped directly to the next found instance of your search string.

A cautionary note: When you have navigated onto an input control, you should arrow past it before pressing 9 to go to the next form, since the Icon attempts to input text when you press alphanumeric keys while inside an input control.

Web Browser's Program Menu

In the Web Browser's Program Menu, you'll find all the other options you need to manage web content.

Adding Bookmarks

Option 1 from the Program Menu allows you to bookmark a page so that you can quickly navigate to it later. Pressing Select on this option presents you with a form, beginning with the title of the page you are bookmarking. If you wish, you can edit this title, or you may leave it unaltered. Arrow down and you will hear the address of the page you are bookmarking. Editing this field is not recommended, since this is the part of the bookmark that points to the exact location of your page, but if you are familiar with the structure of the website you are visiting you may change the target address. When you're done editing your bookmark, press the OK key, and the bookmark will be added to the bookmark list.

Bookmarks

Selecting option 2 from the Program Menu, Bookmarks, brings up a list of pages you have previously bookmarked. Move through the list with the up and down arrow keys, or type in the first few letters of the bookmarked title of the page you would like to visit. Press the OK key to navigate to the highlighted bookmarked page.

Managing Multiple Web Pages

Navigate to option 3 in the Program Menu to manage tabs. By using Tabs, you can have more than one webpage open at a time. For example, you might like to keep an audio site like Shoutcast in the background while you check your E-mail, or you might want to bounce between

Amazon and Powell's Books to do some comparison shopping. The first time you open Tabs, option 1 will be New Tab, and option 2 will be the webpage you already have open. Selecting option 1 will launch a blank page, with the accompaniment of a horn sound. When you hear "new page", you'll know you're in the blank page. If you try to read it at this point, the Icon will instruct you to "Open a URL in this tab." You may do this by choosing Program Menu item 7, File, and then item 1, Go to URL or pressing Control + O, just as you would in your first tab. Once you have multiple tabs open, you will see them all listed under the Tabs item, and may switch to any one of them by pressing Select. When you have multiple tabs open, option 2, Close Tab, will bring up a list of all currently open tabs when you select it. Navigate to the tab you'd like to close, press select, and you will hear "Tab closed" when the action is completed. This will allow you to close the tab of your choice without exiting the web browser as a whole.

It's a good idea to monitor how many tabs you have open, and take notice if you have several open at once and the system seems to lag or slow down. Generally speaking, it's not a very good idea to keep more than three tabs open, and you should drop that number to two if you have another memory-intensive application, like streaming media, open at the same time.

Web Tools

Option 4 in the browser's Program Menu is called Tools and can be reached from anywhere in the browser using the shortcut Alt + T. The first option in this menu is called Google Web Search. When you select this item, you will be prompted to enter a search string, which will be sent directly to the Google search application. Enter your search terms and press OK, and you will be directed to a webpage of Google search results. Your cursor will automatically be placed on the first search result, but from here you can navigate just as you would in any web page.

Tips for using Google: With or without the Icon's special search feature, many Google services work very well with speech access. To get the most out of Google searches and other services, we recommend downloading Google Hacks, by OReilly Publishers, from Bookshare. This book is divided into easy-to-understand chapters which you may navigate to through preset navigation markers if you read it in the Icon's Bookshelf. This book is updated periodically and older versions remain on Bookshare, so make sure to check all the title results and get the most up-to-date edition.

Icon users may also benefit from bookmarking the following page: labs.google.com/accessible

This page combines regular Google search functionality with some special heuristics that attempt to rank pages based on their accessibility. For example, if you search for "books" the Barnes and Noble website makes it into the top ten search results, but Amazon does not. The heuristics aren't perfect, but they may help steer you toward accessible content that works well with the Icon.

Mouse Over Support

The next three items in the tools Menu have to do with internet pop-up menus. Often times on a webpage such as levelstar.com, you'll navigate to an item with a screen reader and hear the words "on mouse over" spoken. This means that one can hover their mouse over this item, and a menu of clickable options will pop up. For instance, if you hover your mouse over the Products item on the Levelstar webpage, you'll get a menu with the clickable items Icon, Docking Station, and accessories. To get that menu to pop up in Icon's browser, you would navigate to the Products item and press and hold the select key or choose option 2 in the tools Menu. To left click an option in the pop-up menu, press and hold okay or choose option 3 in the Tools Menu. To right click an item, choose option 4 in the tools Menu.

Links and Headers Only

Options 5 and 7 in the Tools Menu let you choose to view a webpage in 2 alternative formats. Option 5, Links Only Mode, can be activated by pressing Control + L from anywhere in the browser, and will display only the links on a webpage; leaving out all text, form fields, headers, etc. Option 7, Headers Only Mode, can be activated with Control _ H, and will display only the headers. You can exit either of these modes by pressing the shortcut key a second time, or going back to the item in the Tools Menu which will then read Exit Links or Headers Only Mode.

Focused Link and URL

Last Focused Link and URL is the fifth option in the Program Menu. When you select this option, the Icon will read whichever link on the page currently has focus, and then read its URL, or web address. Pressing Status and then Help will spell the URL.

Download Manager

The Download Manager is the 6th option in the Program menu. You'll only need to visit it if you have a download in progress. When you navigate to downloadable content, such as a word document or an MP3 file, you should press select, and you'll be given the choice to (1) open or (2) save the download. If you choose option 2, the file will be downloaded in the background and you can keep surfing the web. Go to the Download Manager to check on the progress of your downloads. A list will appear. It will be empty if no downloads are in progress. Otherwise, use your up and down arrow keys to navigate through the currently downloading items, and press Select to update the progress reports in the list. From the Program Menu at this point, you may choose option 1 to cancel the highlighted download.

File Menu

Option 7 in the main Program menu of the web Browser is called File, and contains two options.

Go to URL

Option 1 is Go to URL. Select this option, type in the web address you'd like to visit, and press OK to launch that webpage.

Settings

Option 2 within the File submenu is Settings. Select it and a dialog will appear. This dialog contains settings specific to the web browser. The first setting is "Play link sound?" and refers to the blip that you hear, by default, when you navigate across a link. The Select key toggles this option from Yes to No. Arrow down, and you may choose, again with the Select key, whether you want to hear the Icon announce the word "graphic" before it reads graphic text. The third option as you arrow down is "Start reading after a find operation", and is set, by default, to no. Press Select to toggle this option to Yes if you want the Icon to commence continuous reading after a find operation. Arrow down again to choose whether the Icon should remind you to use your left and right arrows to navigate through lists. You may want to toggle this option off once you're used to remembering what to do in a list box. Arrow down once more to choose whether you want continuous reading to stop when you use the up or down arrow keys. By default this option is set to No, so your up and down arrow keys will not stop continuous speech and will essentially let you rewind and fast forward through your current document. As you continue to navigate down the settings dialog, you'll come to Start Page. By default, Google launches when your web browser starts, but you may change this to any page you like by entering the page's address on this prompt. When you're done, press the down arrow key again.

The next option in the Settings dialog sets the minimum length of text chunks. Remember, you can use the 0 key to navigate to a text chunk of whatever length you set. This will help you navigate past links to the main content of any page. Enter a number of Characters here. It can

be smaller or larger than 50, but very small numbers may catch titles and other small text bits, and very large numbers may cause you to skip text chunks you might like to read.

Moving on down, you can toggle, with the select key, whether the Icon starts continuous reading when a new page loads. The default is set to no.

The final four options in the dialog let you control, in order, the browser text voice, link voice, graphic voice and form voice. Treat these items just as you would the other voice items in the main Speech Settings dialog in the Utilities Menu. To summarize, the 1 and 3 keys lower and raise pitch; the 4 and 6 keys control speed; and the 7 and 9 keys cycle through available voices.

When you're done customizing your browser settings, press OK to save them. If you think you might have made changes you don't want to keep, press Cancel to exit the settings dialog without changing anything.

Edit

Option 8 on the browser's Program menu is the Edit Menu and contains items similar to those found in the Bookshelf, Word Processor, and other text environments. All of these items contain shortcut keys that can be activated anywhere in the browser. The options are Copy Selection, Control + C; Set selection Mark, Alt + M; Clear Selection Mark, Control + M; and Find, Control + F. Use the selection options to copy a section of a webpage to an e-mail or document in the Word Processor. Select Find to launch a Find dialog where you may enter a search string and, by arrowing down, determine whether your search will be case-sensitive. Press OK to proceed with the find operation, or Cancel to abort it.

Navigation

The 9th and final option in the browser's program Menu is the Navigation submenu. It contains five options. The first, Stop Loading, allows you to abort the loading of a page that is taking too long to access. Sometimes, reloading can clear up a problem with accessing a page. Option 2, Backward, will let you navigate to the previous page in your browser history. Option 3, Forward, will allow you to navigate forward to access the next page in your history once you've gone backward. Option 4, Reload, will load a new instance of the page you're on. This can be useful if you're accessing a page, like a Facebook news feed or a stock ticker, which frequently updates with new information. Finally, use option 5 to get the title and URL of the page you're currently viewing. Once you've selected this option, tap Status and then Help to have the URL spelled out. Arrow down to hear the title of the page: again, use Status followed by Help to spell it. Press OK when you're done.

Tips for streaming audio: The Icon lets you stream or download audio files that have an MP3, M3U, or PLS file extension. Streaming means that the audio is being played on the server you're accessing: internet radio is generally something you stream, and you can often stream files that have been saved on the website you're visiting. Downloading will save the audio content to your Icon.

The Icon works like a dream with Shoutcast, a popular website for finding Internet radio. When you've searched for a station or selected a genre to display from one of the lists on the page, every result will have a graphic above it that says TuneIn. Press OK on this graphic to choose whether to open or download the stream. If you choose Open, the audio player will launch, playing your chosen stream. Remember: this is Internet radio, so fast forward and rewind will not work while you're playing it. They will, in fact, send you straight out of the audio player and back to your webpage.

You may choose to save a stream instead of opening it. You will be saving the location of the stream, not the music itself. You will be prompted to choose a drive and directory, just as you would in a text-based application. Make sure not to change the file extension while you're

saving. The default filename you're given will always be "ShoutcastPlaylist.pls", regardless of the title of the station, so it's best to erase everything but the ".pls" at the end and write in a name that will make sense to you when you access it later. We recommend setting up a folder called Streams for all of your favorite radio stations. Once you've saved your streams, you may find and launch them from within the file explorer, even if the web browser isn't open.

Email

Your Icon's Email application, combined with the increasing availability of free wireless internet access, and free POP3 e-mail accounts such as gmail and yahoo, gives you access to email virtually anywhere. Icon's email application works with any POP3 enabled internet service, and it provides functionality to read and organize your mail and to create and send messages.

Navigating the Folder List

When you enter the Email application, Icon will place you in the Inbox; this is one of the standard folders in the email application's Folder List. To access other folders, first arrow left to move out of the Inbox. The Icon will announce that you are now in the Folder List. >From here, you can arrow up and down to navigate the list as you would in any other Icon menu. Arrowing right will place you in the selected folder and, if the folder contains messages, at the top of that folder's Message List. The other built-in folders in the Email application are Outbox - for outgoing messages waiting to be sent, Sent Mail - for outgoing messages that have already been sent out, and Trash - for messages that have been marked for deletion. You will learn how to customize your Folder List in the Additional Features section.

Setting up Email

When you first open the Email Application, the Icon will place you in the Inbox, and announce Inbox - Empty Folder. In order to be greeted with the thrilling announcement of a non-empty folder, you will need to set up the Icon to access one of your existing email accounts! If you do not have an email account, you can sign up for a free one at any number of popular sites, and with the Icon's web browser, you don't even need to go to a computer to do so.

In order to set up the Icon to retrieve messages from your POP3 email account, you will need to have the following information: your email address, your password, the POP3 incoming mail server for your email provider, and the POP3 outgoing mail server for your provider. You can usually find this information on your mail server's help or FAQ pages by searching them for POP. Once you have this information ready, enter the program menu and navigate to or select option 11, Accounts. Option 1 in the Accounts menu is New Account. Once you have your accounts set up, they will be listed below this option in the menu and selecting an account name will place you in the account management menu where you can edit or remove the selected account. For now, though, select New Account. The Icon will ask you for each of the pieces of account information mentioned above. Once you have entered it, confirm the account information by pressing the Select/OK button.

Message Navigation

To download new mail messages after setting up your account, press the Program Menu key and select the first option Send/Receive. The Icon will say "connecting to…" the name of your account, and you will hear a swishing sound every few seconds to let you know that the process is progressing. You may use the Program Specific Status command as in the Newsstand to check the progress. If you have 30 messages to download and Icon is currently downloading message 14, pressing Status twice quickly will yield "Receiving message 14 of 30". When downloading is complete, you will hear a series of ascending clicks.

New messages downloaded from your email service will be added to the Message List in your Inbox. While in the message list, the Icon will read off the header information of the currently selected message. Header information includes such details as the subject, sender, and date and time of message. Pressing the Select key will open the current message to be read; pressing the asterisk key will delete the message.

When you open a message, you can read and navigate it as you can any other document on Icon. The Icon will begin reading the body of the message automatically. Pressing the Select key will stop the reading and allow you to navigate through the text. Arrowing up and down will move through the message by line; arrowing left and right by character. Pressing select again will restart continuous reading. While reading or writing a message, the Email program menu will contain an additional Edit sub-menu along with the standard Email options. This gives you access to the select, copy and search actions.

Press Cancel to close the message and return to the message list.

Press asterisk to delete the message and open the next one and begin reading.

Attachments

When a message contains one or more attachments, this option appears in the menu and provides a list of the message's attachments. Navigating to and then selecting an attachment will open yet another menu with the options to open or save it. If you choose to save the attachment, you will be prompted for the drive, directory, and desired file name. If you choose to open it, Icon will launch the application associated with the file type and load the file.

You can reply to a message using the Reply option in the program menu, which brings us to the Email Management section and a detailed look at the Email Application's program menu.

Email Management & Menu Options

Like the program menus of other Icon applications, the Email program menu varies slightly by context, as we have already seen with the addition of the Edit submenu when reading a message. Other options depend not on context for display but on the ability of the action to be performed; for instance, the New Message feature is available from anywhere, but it will not appear as an option until you have set up an email account.

Send and Receive

When you have set up your email accounts, this option checks your email provider's server and downloads new messages. It also sends out any mail messages you've placed in the Outbox.

Empty Trash

When you delete a message from a folder, it is not immediately deleted but moved to the Trash folder, accessible from the Folder List. To permanently delete these messages you use this option, Empty Trash.

New Message

The New Message option will first step you through the header information, asking you to fill in the To: and CC: recipients, the subject line, and to select any attachments you'd like to send with the message. Once you confirm these pieces of information by pressing the OK key, it opens a composition environment where you can write the body of your message.

You can go back and modify your header information by going back to the menu and selecting the Headers option.

Reply

When a message is open or selected, the Reply option in the menu will take you to the same composition environment provided when creating a new mail message with one exception. Because the Icon can determine the necessary header information from that of the message you are responding to, it skips over the headers form and takes you directly to the composition section. You can still modify any of these headers by selecting the Headers option in the menu.

Headers

Choosing the Headers option in the menu, will provide you with access to change the From, To, Cc, and Attachment information on the active message. The From field will provide a selection list of the email accounts you have set up in the Email application which you may navigate by first pressing select, and then moving through the list using the up and down arrows. Press OK when you have made your selection, and continue through the fields using the up and down arrows, typing the relevant text. Note that if you are using Braille entry that computer Braille is required in all of the header fields containing e-mail addresses.

Move Message to Outbox

When you have finished creating a new or reply message, you will need to press Cancel to reach the message menu. Here you are presented with 2 options: 1, move message to the Outbox; and 2, discard message. The Outbox folder, stores it so it can be sent the next time you select Send and Receive. If, after thinking on it, you do not want to send the message, choose option 2 and the message will be discarded.

New Folder

This option allows you to create your own folders for storing messages.

Edit

As mentioned above, the Edit menu becomes available when reading or creating a message. It provides you with the common Edit options: select, copy, search, etc. When creating a message, you also have spellchecking available as is available in the word processor.

Navigation

The navigation option does not pertain to the general Email environment; it provides options for navigating the current email message. You can return to the beginning or skip to the end, or if the message supports them, go to specific sections or pages.

Filters

The filters option provides a sub-menu of tools to help organize your messages. You can create filters to move messages satisfying certain criteria, such as sender or subject, to a specific folder, or you can make use of built in filters to find more messages related to the message currently open, as with the first filter option, Filter Messages From this Sender, which uses the address currently in the From field and finds all other messages from that person. You can also modify this address before using the rule. Another built-in rule is Create Filter from Mailing List which looks for messages going to the same group of people as the current one, then moves the messages it finds to a folder of your choice. This filter pertains to outgoing messages and is available only when the messages are being sent to one of your pre-defined mailing lists.

Creating a Custom Filter Rule

You can create your own rules for managing messages using the next option down in the Filters sub-menu: New Filter. This enters you into a form where you first specify what criteria to match in which header fields. Filter On is the field you wish to search in. Filter Text is the content you want to search for, for instance if Filter On were set to From, this would be the sender's email address. Filter Action selects the action to perform on messages matching the criteria. Currently Icon only supports the Move to Folder action. Selecting this will provide you with a selection list of folders.

Preferences

The Preferences menu option allows you to modify which headers are listed in your message list and by which headers messages get sorted.

Accounts

You've already encountered the basic features of this option when you set up your first email account. In addition to the top most menu item, New Account, the Accounts option will list any email accounts you have already set up. Selecting any existing account will present you with two options: edit account or remove account. When you edit an account you will be able to modify any of the fields you originally set up as well as some advanced configuration options. The fields are:

Account Name - the label you assign to differentiate the account from your others, for instance personal vs. work.

Account is Default - this sets whether or not this account is automatically set as the sender when creating new messages

Real Name - the name you want displayed with the email address to recipients of your emails

Email Address - the actual email address for your account

Incoming Mail Server and Incoming Mail Server Type - the server address and server type for your email service provider. Some servers require that you additionally supply the port number for the server. You would do this by adding a colon and then the port number after the domain address, for instance the incoming server for gmail is pop.gmail.com and uses port 995; so this is entered as pop.gmail.com:995.

Leave Messages on Server - this sets whether or not new messages are removed from the server when you download them to your Icon. If you have a computer at home or work where you also want to have access to the messages, make sure this is set to no.

Incoming Username and Password - these are the username and password you use to log into your account

Outgoing Server and Outgoing Server Type - Like the incoming server information, you need to get this from your service provider. Also it too may require a port number after the address using the same form, colon then port number. For example, the outgoing server for gmail would be entered as smtp.gmail.com:587. For server type, Icon supports Simple Mail Transport Protocol (SMTP) and SMTP with Transport Layer Security (TLS) extension to prevent eavesdropping on your email sessions. Gmail accounts require the SMTP with TLS option.

Outgoing Server Authentication - some services, such as gmail, and Yahoo use secure POP3 which means they require authentication in order to send mail so that spammers are not able to highjack your e-mail address. When you set this to Yes, Icon uses the same username and password to send your mail as it does to retrieve it from your email service.

RSS Reader

The acronym RSS stands for Really Simple Syndication. The Icon's RSS reader interfaces with any website that has an RSS feed to automatically download new content from the website. In this way, you can keep up with a variety of online periodicals and blogs without having to visit their websites every time you wonder if they've been updated. Since any new content is saved to your Icon, you can browse much of the news (and content from websites offering RSS feeds) while you're offline. This means more productivity on the road and less of a drain on the battery, since you can review RSS content while the wireless radio is off.

You may enter the RSS Reader application either by selecting it from the Internet menu or by pressing 43 from the Applications menu. When the application loads, you will hear the word "Feeds". Icon's developers have preset the RSS reader with a variety of interesting feeds; so although you will almost certainly want to add your own, you may want to start by exploring the presets. Press the right arrow key to enter the list of feed categories. By default there are four: news, podcasts, Fun Stuff, and Icon and Braille Plus User Site; and you can use the up and down arrow keys to navigate among them. Pressing the right arrow on any of the choices will bring up a list of the preset feeds, with the exception of News which is divided in to several subcategories. Here, you'll need to choose one and right arrow once more before you will reach the list of feeds.

To update a feed (that is, to download the new content from the listed website), highlight the feed you're interested in, press the Program Menu key, and select option 5, Update Feed. You'll receive the message "Updating feed" and, within a minute or so, all the updates to the feed will be downloaded. Alternatively, you may press option 2, Update All Feeds, from the Program Menu, to update all of your RSS feeds in one action. However, it should be noted since this option downloads every feed to which you are subscribed, it may take a long time. You may also choose to update all the feeds in a particular folder. To do this, highlight the desired folder, and choose option 5 in the Program Menu, Update Folder. While feeds are downloading, you may review the ones that have already downloaded, or you may work in another application. You may press the status key twice in rapid succession from within the RSS application to check the progress of the updating and caching process. Also, as you arrow past each feed, you will hear its status: "updating feed" if the download is still in progress, the number of new articles downloaded if it is finished, or an error message if the download was not successful.

You may select Stop Feed Download from the Program Menu at any time to halt the download process. When the update is complete, you will hear a series of ascending clicks like those in the e-mail program to let you know the process is complete.

To review the information contained within a feed, just highlight it and press the right arrow key. Then, you may use your up and down arrow keys to navigate through the list of articles, or sections of the website, that have been downloaded. To open one and start reading, press select, and then use your standard reading keys to read the article. To return to the list of articles, press the Cancel key.

Managing Feeds

To add a new RSS feed, position yourself in the folder list and highlight the folder where you'd like to include it: for example, the Slate.com feed would belong in News, General. Choose option 6 from the Program Menu to reach the Folders menu, and, in that menu, option 1, Add Feed,, and you will be prompted to enter either the exact URL of the feed to which you want to subscribe, or the URL of the website where the feed is located.

If you know the exact URL of your feed, simply enter it and press OK. If not, enter the name of the website; for example, slate.com; and press OK. The Icon will present you with a list of feeds offered by the website you entered, and you may use your up and down arrow keys to browse them, and the Select key to choose one. The Icon will say "feed added" when you have successfully subscribed to a feed.

You may edit the name and URL of a feed by highlighting it and selecting the Feeds Menu, option 6 from the Program Menu, then selecting Edit Feed. Arrow down to move from the feed's name to it's URL, use your standard editing commands, and press OK when you're done. You may also choose to delete a feed by selecting Delete Feed, option 2 from the Feeds Menu when the feed targeted for deletion is highlighted. Finally, option 3 in the Feeds Menu allows you to move a feed to a different location.

When you are in the RSS application's folder list, you can perform several actions pertaining to folder management using the folders menu. Option 2 allows you to add a new folder. Remember that a folder can be created from the Feeds line when the RSS application is first opened, in which case it will appear at the same level as Fun Stuff, News, etc. You may also create a folder within a folder in order to create a subcategory such as is present under the News category. Adding your own folders will help you stay organized if you plan to subscribe to a large number of feeds. You might want to create your own folders to keep track of friends' blogs or financial news, for example.

Choose option 3 in the Folders Menu to edit the name of the highlighted folder. Choose option 4 to delete the highlighted folder; and option 5 to move the highlighted folder to a different location. Options 6 and 7 in the Folders Menu allow you to import feeds in to RSS folders, from other RSS applications such as Juice and to export feeds from Icon to other RSS applications or pod catchers. To import feeds from another application to Icon, place the Icon in Disk Drive Mode and connect it to your PC. Open the pod catcher on your PC and choose the Export option from among its menus. Choose to export the OPML file to the removable drive under which your Icon is listed. After exiting Disk Drive Mode, open Icon's RSS application and choose the Import to Folder option. Navigate to where you have saved the OPML file on your hard drive and select it.

To export feeds from Icon's RSS program to a pod catcher on your computer, reverse the process. Choose the Export option in the folders menu, and choose a place to store the OPML file on your hard drive. Connect your Icon to your computer and place it in Disk Drive Mode. Open your pod catcher and choose Import from among its menus. Find the file on the removable drive under which the Icon is listed and select it.

Downloading Podcasts

A podcast is an audio or video file attached to an RSS feed. To download a podcast, update the feed that contains it, and then right arrow into the list of downloaded articles. If a podcast is attached to one, you will hear either "Marked for download" or "Not marked for download" after the name of the article. Use the select key to toggle marking on or off. Then, select option 4, Download Podcasts, from the Program Menu, and the podcasts you have marked will be downloaded.

While podcasts are being downloaded, highlighting them will speak, in addition to the title of the article to which they are attached, the percentage of the download that has been completed. When a podcast finishes downloading, you may press the Select key to begin listening to it. The Music player will launch with the podcast loaded, and you can use your standard music player commands to navigate through it.

RSS Settings

From the RSS application, option 8 in the Program Menu allows you to set your preferences for how the Icon handles feeds. The first prompt on the settings screen asks you to decide, with the left and right arrow, whether you would like articles downloaded for offline reading. If you select No, you'll save space on the hard drive, but you won't be able to browse articles when you aren't connected to the Internet.

The next option asks the maximum number of articles you'd like to store in each feed. By default, this number is 50, but you can enter a higher or lower number. When your maximum is reached, older articles will be automatically deleted.

Next, you'll be asked the number of days you'd like to keep articles. By default, the number is ten days, but you may raise or lower it.

The next option reads, "Mark new podcast for download automatically?" By default, this option is set to yes, but you may press the right arrow key to change it to No. If you have a slow Internet connection or limited space on your hard drive, you may want to select No, since podcasts are audio files and are much larger in size than a typical text-based RSS feed.

The next option prompts you to enter the maximum number of new podcasts you'd like automatically marked for download. The default number is 3. When you're done customizing your settings, press the OK key and you will be returned to the place where you entered the settings screen.

The Tools Menu

Option 5 from the Applications Menu, Tools, contains a suite of powerful applications that will allow you to manage documents, recordings, appointments and notes with ease. The applications within this menu are:
- 1, word processor
- 2, planner
- 3, voice recorder
- 4, calculator
- 5, stopwatch
- 6, journal

Word Processor

Icon's word processor allows you to write, read, and format documents in a range of formats including text (.txt), rich text (.rtf), ascii Braille (.brf), Microsoft Word (.doc), and .ldf, Levelstar's own mobile document format. You may access the word processor from the Tools menu, or by pressing 5, 1 from the Applications menu. When you launch the word processor, a blank document will open. You may use the alphanumeric keys, thumb Braille, or an external keyboard to compose text. When using the telephone keypad, to delete the character to the left of the cursor, use the star key. To input a space, press the 0 key.

Use your left and right arrow keys to move backward and forward by character; use them with the 0 key held down to move by word. Use the up and down arrow keys to move by line; use them with the 0 key held down to move by paragraph. Hold down the left and right arrow to move to the beginning and the end of the current line respectively. Press and hold the down arrow to reach the bottom of the document; press and hold the up arrow to get to the top of the document. Hold

down the Pound key with the up and down arrows to move by page. You may also press the select key to start and stop continuous reading from the point where your cursor is positioned.

The word processor's Program Menu contains three submenus: File, Edit and Navigation which may be accessed using the Menu key and the number pad, or using shortcut keys. Alt+f will get you to the File menu, alt+e the Edit menu, and alt+n will open the Navigation menu.

File Management

The first option within the File menu is Save File and can be accessed by pressing control+s. When you select this option, if the file has not been previously saved, the Icon will prompt you to select a target directory; that is, where you want your file to go. Use your up and down arrows to choose between the hard drive and the internal flash disk, then press the right arrow key to enter the list of available folders. Arrow up or down to the folder where you would like to save your file, and then press Select. You will be prompted to enter a file name. When you have finished, press the OK key, and you will be prompted to select a file format. Move among the available file formats with your left and right arrow keys, and then press OK to confirm your choice. At this point, your file will be saved, and you will hear the announcement "saving .. file saved", followed by the full path and name of the file you have saved. If you have previously saved the file, you will simply hear the Icon say "saving" and then "file saved" and the file path. Note: Icon remembers the location in which you last saved a word processor file, and will present you with that as the default location next time you save a file.

The second option in the File menu, Save As, works exactly the same way as the Save option, except that it allows you to create a new version of a file that you have already saved without altering the original version.

The third option in the File menu is New Document, and can be accessed from anywhere in the word processor by pressing control+n. It will create a new, untitled document, and you'll be able to keep other documents open in the background. Option 4 in the File Menu is Open Document, and can be accessed with control+o. You will be prompted to choose a drive, folder, and finally a file to open. Highlight the desired file and press OK. Select option 5 from the File Menu, Close document, or press alt+f4, to close your active document and end the word processing session unless you have another document open. Before closing a document, you will be prompted to decide whether to save any changes you have made since the last time you saved it.

If you have more than one document open during a word processing session, you will see option 6, Switch to Open, within the file menu. Pressing Select on this option will present you with a list of currently open documents. Highlight one of them and press Select again to bring that document into focus.

Editing

Editing: Cut, Copy, Paste

The Edit menu, a submenu of the Program Menu, will allow you to manage the text you have written. To mark a block of text to copy, cut or delete, move your cursor to the beginning of the block. Then press the Program Menu key, choose Edit, and then select Set Mark, or press alt+m at the location where you would like the mark set. This marks the beginning of the block of text you want to manage. Move to the end of the text you wish to manage, and then return to the Edit menu. If you have correctly set a mark, you can perform the following actions: Cut Selection (to move your selection to the clipboard), Copy Selection (to copy your selection to the clipboard without altering its place in the current document) and Delete Selection (to completely remove the selection you have marked). If you decide you no longer want the mark placed where you have set it, you can also clear the selection by choosing option 6 from the Edit Menu or by pressing Control + M.

You may also choose Select All from the Edit menu and then perform a cut, copy or delete to take action on the entire text of the document.

If you have cut or copied a selection to the clipboard, the option Paste Selection will appear in the Edit menu. Select this option to paste the contents of the clipboard to the current location of your cursor. You may also use shortcut keys from within a document to perform these actions. Use control+x to cut selection, control+c to copy a selection, control+v to paste a selection, and control+a to select all.

You may format the text you have selected by choosing option 8 from the Edit menu, Paragraph properties.   This option brings up a dialog of choices about how your text is presented. The first item in the dialog refers to text alignment (centered or left- or right-justified), and you may navigate among the available options with the left and right arrow keys. Arrow down to choose between single, 1.5-line, or double spacing: again, use your left and right arrows to navigate among the choices. When you have finished, press the OK key to return to your document.

Editing: Find and Replace

You may choose option 9, Find, from the Edit menu or press control+f to search for a specific string of text. Input the string you'd like to search for, then arrow down to choose whether to search from the cursor. Use the Select key to toggle between Yes and No. If you choose Yes, your search will begin at the location of your cursor. Choosing No will start the search at the top of the document. Arrow down once more, and use the select key to toggle whether the search is case-sensitive; in other words, whether it will restrict the search to letters with the exact same capitalization that you entered. When you are finished setting your search preferences, press OK, and the cursor will be moved to the first occurrence of your search string. To search for the next occurrence, return to the Edit menu and select option 10, Find Next or press control+shift+f. Option 11 in the Edit menu, Replace, works the same way as the Find option, except that beneath the search string prompt there is a second prompt which asks for the text with which you'd like to replace the search string. As you continue to arrow down through the find dialog, you'll find first a Replace All option for replacing every occurrence of a search string, and then a Replace Next option for replacing only the first occurrence. Press Select on either option to activate it, and the text you have input will be substituted with the replacement string you entered.

Editing: Spell Checker

Options 12 and 13 in the Edit menu, Check Spelling from Cursor and Check Spelling, offer a quick and efficient way to proofread your documents. choose option 12 to check only the portion of the document below your cursor; choose option 13 to check the entire document. When you press Select, the spell checker will start by announcing the first error it finds.

Once the Icon has found an error, the first option in the Spell Checker dialog is Suggestions. The Icon will first announce the problem word and then propose a suggestion. If the first suggestion is not the correct one, use your left and right arrows to navigate through the list of other suggestions. If none of the suggestions are appropriate, you will continue down to the Edit Here line of the dialog to correct your error manually.

Arrow down past the list of suggestions and, if you've selected a suggestion that fits, press either option 2, Change, to change only one occurrence of the problem word; or select option 3, Change Remaining, to change all remaining occurrences in the document. Options 4 and 5, Ignore Once and Ignore Remaining, allow you to skip past a word once or throughout the document. Option 6, Add, will add the problem word to the dictionary, consider it correct from now on, and continue with the spelling check. Option 7, Edit Document here, will exit the spell checker and return you to the document with your cursor positioned on the problem word. You may resume the spelling

checker after manually correcting the problem word the spelling checker has found by re-entering the Edit menu and selecting Check Spelling again.

Navigation Menu

The Icon's word processor contains the same options under the Navigation menu as are available in the Newsstand and Book Reader. You may choose from option 1, Document Navigation; option 2, Go to Page; option 3, Go to Start of document; and option 4, Go to End of Document. However, option 1, Document Navigation, will only bring up navigational information for types of documents like HTML, which have navigational information embedded.

Planner

The Icon's planner allows you to organize your schedule by creating appointments with or without alarms and browsing your created appointments by day, week, month or year. A convenient line in the Information and Status Center will inform you any time you have an appointment on the current day. You can even attach a file to an appointment: for example, you might attach the agenda of a meeting you're scheduled to attend, or a syllabus for the first day of class, so that you can retrieve it effortlessly when your appointment occurs.

You may open the planner either from the Tools menu, or by pressing 5, 2 from the Applications menu. You may also open the planner by pressing Select on the line within the Information and Status Center that displays your appointments for the current day. Either way, the Planner opens on the current day, and announces whether or not you have appointments scheduled for this day.

Finding Appointments

The Icon planner lets you check whether you have appointments by day, week, month or year. When the Planner first opens, you may press the left and right arrow keys to move backward and forward by days. Pressing the up arrow key will switch you to moving with the left and right arrow keys by week, month or year. Browse across days, weeks, months or years until you hear the number of appointments within the period of time that interests you. Use your down arrow key to narrow down your search: the Icon will always announce whether there are appointments contained within a given unit of time as you arrow past it. Finally, when you come to a day where appointments have been scheduled, down arrow to view By Appointments, and use your left and right arrow keys to explore the appointments you have scheduled.

Creating Appointments

Creating a new appointment is easy. Press the Program Menu key and select option 1, Add an Appointment. You will be prompted for a description of your appointment. Write a few words here to describe the appointment to yourself, and then press down arrow. You will now be asked to enter the date of your appointment in MMDDYYYY format: that is, two digits for the month followed by two for the date and four for the year. For example, if you wanted to remind yourself of a friend's birthday on July 12, 2007, you would enter 07122007. When you're done entering the date, down arrow again and you will be prompted to enter two digits for the hour and two digits for the minute when your appointment will occur.

Arrow down once more to choose, using the select key to toggle between the choices, whether or not your status during the appointment is busy. If you select Yes, the Icon will not allow you to schedule other appointments that overlap with the one you're scheduling. This will help you avoid overbooking your time with conflicting tasks. You should choose No for events like holidays and anniversaries that do not conflict with meetings and other obligations.

Now, arrow down to enter, in minutes, the length of your appointment. The default setting here is 30 minutes. Setting a specific length for all-day events is unnecessary, but you should schedule specific obligations accurately so that the Icon will be able to help you detect and avoid conflicts.

Down arrow again and you'll be prompted to decide whether you want an alarm for this appointment. By default, the Icon does not create an alarm, but you can press Select to change that. At this point the Icon will ask you to choose from a list including 1 for None; 2 for Custom alarm; 3 for the same time as the actual appointment; 4 for 5 minutes; 5 for ten minutes; 6 for 15 minutes, and so on. Use the Custom Alarm choice if none of the listed options reflects the warning time you need the alarm to give you before your appointment, and you can enter any amount of time, in minutes, and press OK. If one of the preset alarm times works for you, just highlight it and press select.

Setting up Recurring Appointments

Back on the main appointment creation screen, down arrow again to specify whether your appointment repeats. By default, an appointment occurs only once, but you can press Select to change this and you will be presented with a list that includes the options None (no recurrence), daily, weekly, monthly or yearly. Press Select on the option you want. If you choose daily or weekly, you will be prompted to specify the number of days to skip between each occurrence. For example, if you want to schedule time for yourself to exercise every other day, you would respond to the prompt by pressing 1, and the appointment would be set to occur every second day.

The Yearly option in the recurrence menu works a little differently. Option 1 is called Every. Selecting this option will prompt you to choose first the month, and then the day, when your yearly appointment happens. This is a good way to schedule birthdays and other events that always have the same date. Option 2, On The, guides you through a process where you schedule an appointment by the relative day it happens. First, you select from a list containing First, Second, Third, Fourth and Last. Then, you specify which day of the week your appointment should be scheduled for. Finally, you select the month into which your appointment falls. For example, to schedule the Super Bowl, you might choose the first Sunday in February. The Icon automatically determines what date that is, and reminds you accordingly.

The Monthly option in the recurrence dialog lets you specify how many months to skip between occurrences, and it also allows you to choose between option 1, Numeric Day or Option 2, Non-numeric attribute. If you choose Numeric Day, you'll be prompted to enter the day of the month when your appointment occurs. If you select Non-numeric Attribute, you'll be prompted to choose whether your appointment is the first, second, third, fourth or last position for that day of the week during the month; and then to select the day of the week itself. For example, you might have a meeting on the third Wednesday of every month. Notice that, in addition to the named days of the week, this dialog lets you specify Day to indicate how many days into the month the appointment occurs, without regard to day of the week; or to tether the appointment to a particular weekday or weekend day. For example, you might remind yourself to pay the cable bill on the 5th day of every month; or to have a meeting with your staff on the first weekday of every month.

When you're done setting all your appointment parameters, press OK and your appointment will be created.

Editing and Deleting Appointments

To edit the details of an appointment you have already scheduled, highlight it and select Edit Appointment from the Program Menu. You will be presented with the same dialog as you use to create a new appointment, and you can alter any of the information it contains. When you're done, press OK to confirm the changes you've made; if you don't want to make those changes, press Cancel.

To delete an appointment, highlight it and select Delete Appointment from the Program menu. You will be prompted to press either OK or Cancel to choose whether you're sure you want to delete the appointment. If you're deleting an appointment that recurs, the Icon will then ask you to

clarify what you want to delete. You may choose to delete the highlighted occurrence only; all occurrences in the future; or all occurrences, future and past.

You may jump directly to any date in the Planner to determine whether you have any appointment schedule on that day by selecting option 2, Jump to Date, from the Program Menu, and then entering two digits for the month, two for the day and four for the year you'd like to jump to.

The Alarm

If you've set an alarm, it will beep whether the Icon is on or off. The Icon will read the description of your appointment as well as sounding the alarm. To dismiss an alarm while it is beeping, press the OK key.

Voice Recorder

The Icon offers a high-quality tool for recording audio content. Although it is called the Voice Recorder, you may set it up to work well with recording music or other types of stereo sound. The Voice Recorder works with the Icon's built-in microphone, or with an external microphone of your choice plugged into the audio input jack on the left side of the unit's upper edge.

To access the Voice Recorder, navigate to the Tools menu and select option 3, or arrow down until you hear the Voice Recorder option and press Select. The unit will respond "Finding Recordings", even if this is your first time opening the recorder application. After a short pause, you will find yourself positioned in a list of the recordings on your hard drive. The unit will say "no recordings" if this list is empty. Pressing the right arrow key will move you into a list of recordings on your internal flash disk; and, if you have inserted a Mini-SD card, pressing right arrow once more will bring you into the list of recordings on the card. Arrowing up and down through any of these lists will move you through any existing recordings in the list; and pressing select on any one will launch it in the audio player, where you may use the same navigation strategies as you would in the Music Player.

Managing Your Recordings

In the Program Menu, you will find additional tools for managing your recordings. You may select Option 1, Rename a Recording to change a recording's name, or Option 2, Delete Recording to discard a recording you no longer need. You may also use the * key when a recording is highlighted to delete it. In either case, you will be prompted to decide if you're sure you want to delete the recording.

Settings for Controlling Quality, Source, Environment, and File Naming

Option 3 within the Program Menu is Recording Settings. When selected, this option launches a dialog that allows you to control the quality and other parameters of your recordings. The first item with which you are presented is Recording Quality. Use your left and right arrow keys to cycle through the choices, which range from "Voice, Low Quality" to "Music, highest quality." All the settings denoted by "voice" are mono, which means that they record on one channel; the "music" settings are stereo, meaning that they will create a recording that has two channels for left and right-oriented sound. As quality increases, so does the disk space required to host a recording; and stereo recordings, since they record two channels at once, are more space-intensive than mono recordings. A low- or medium-quality voice setting will be fine for quick notes: for example, you might use it to record your grocery list. If you're recording an important lecture or a piece of music, though, consider using a higher recording quality.

Arrow down once to choose between using your internal microphone to create a recording and using an external microphone plugged into your audio input jack. External microphones are sold

in a range of qualities and for a variety of specialized uses: look to the Internet or an electronics store for guidance on what kind to buy for your purposes.

Arrow down once more to the next option in the dialog, which controls recording level. Use your left and right arrow keys to select a level between 0 and 63. The louder the environmental sound you are recording, the lower the recording level needs to be.

It is a good idea to test the recording settings you have chosen by recording a short audio clip before you commit to using them for an important task. You can easily return to the settings dialog to fine-tune the settings after you test them, and in addition, you may change the recording level on the fly as you record.

The final option in the Recording Settings Dialog is the Recording Name Template. This lets you customize how your recordings are named by Icon. If you arrow down to this option, then use the left and right arrows to navigate the line by character, you'll discover several letters flanked on the left side by % (percent) signs. Each letter denotes a component of the file name, and may be deleted or moved in order to customize how Icon names your recordings.

By default, the Icon's Recording Name Template contains the following: %d, 2 digit day of the month; %b, Abbreviated month name; %H, 2 digit hour as denoted using a 24-hour clock; %M, 2 digit minute; and %S, the second denoted in 2 digits. Removing any of these %-letter combinations will delete that component from the title given to the recorded file. Changing the order of the combinations will change the order of the components in the file's title. In addition to the components in Icon's default template, you may choose from a host of other %-letter combinations to customize your titles using other components. Some of these are, %a, abbreviated weekday name: %A, full weekday name; %B, full month name; %I, 2 digit hour using a 12-hour clock; %m, month written in 2 digits; %p, a.m. or p.m.; %y, the year in 2 digits (2007 as 07); and %Y, the year in 4 digits.

You may also type words in the Recording Name Template. When you do this, the word will become part of the file's title along with the other components. This may be useful in a situation where you want a group of recordings to be easily distinguished from the rest of the recordings in your list. If you record class lectures, you could change words in your Recording Name Template for each class, so when you went back through your list of past lectures, all of the lectures from your English class might have English in the title, your psychology class could have psychology in the title, etc. This also might be helpful if you attend a conference. You could have all the recordings you make at that conference contain the word "conference" as well as the time and date in their file names.

Note: All components of a file name, whether words or %-letter combinations must be separated by a space. You may delete any item in the template by right arrowing past it, and pressing the star key to backspace over it. To insert an item, use the left and right arrows to navigate to where you want the item inserted and type the word or component symbol. When you are done customizing your settings, press the OK key to save them.

Making a New Recording

To create a recording, navigate to the list of existing recordings that reflects the desired placement of your new recording -- to place a recording in the hard drive, highlight the "recordings on hard drive" list. When you have customized the recording settings to your satisfaction, press the OK key and, after a short pause, the Icon will announce "Begin Recording." While you're recording, you can use the up and down arrow keys to raise and lower the recording level to suit changing circumstances in your audio environment. If you raise the recording level too much, you may begin to receive a clipped signal, causing distortion in your recording. If this happens, the Icon will vibrate to let you know, and you should lower the recording level until the vibration stops.

You may pause and resume recording at any time by pressing the Select key. This feature can be particularly helpful as a study tool for recording verbal notes, recording steps in a route, or creating other sequential records within a single recording. When you have finished recording, press the Cancel key and you will hear Icon say "saving" and you will be placed in the recordings list with the recording you just made highlighted.

Recording while Multi-tasking

You may continue to record while in another application. Pressing the Application Menu key will not disrupt your recording, and you can use the Applications Menu or the Task Manager to return to the recording dialog at any time to pause or stop your recording, or to adjust its audio level. When you're done with your recording, press the Cancel key, and your recording will be displayed in the list, named by the time and date it was created. You may change this name to anything you like with the Rename option in the Program Menu.

Hearing Voices?

When you use the Icon without headphones, the built-in speech will emanate from the internal speakers, as always, and will be picked up by the internal microphone. This is ideal if you're composing an Icon tutorial: for almost any other purpose, it is not desirable at all. To keep the Icon from providing an accidental soundtrack to your recordings, you should either (a) press Select to pause recording before changing the audio level or performing other functions; or (b) simply plug in your headphones, which will keep your speech output neatly separated from your audio input.

The Calculator

The Icon's built in calculator works by using the numbers of your keypad, the star, select, and cancel keys and the four arrow keys.

Basic Operations

Digits in the calculator are entered by using the alpha-numeric keypad you are already familiar with; however, where in text editing modes you access the decimal point or period via the One key, and numbers after several repeated presses of an alphanumeric key, here, the pound key to the right of the 0 digit enters a decimal point, and the keypad is always in Numbers Mode. Use the star key to backspace if you make a mistake. The four basic functions are performed by the arrow keys. Arrow Up for Multiplication, Down for Division, Right for Addition, and Left for Subtraction. To get an exponent, press the up arrow twice in rapid succession. To get the result of the expression, press the Select key; it functions as Equals while in the calculator. Pressing the Cancel button will clear whatever is currently being stored by the calculator, whether it is part of an expression not yet completed or the results returned after pressing Select. Pressing Cancel when no value is active (for instance, after you have already cleared the results of the last expression or before you have entered one) will return the Icon to the Applications Menu.

Equations with More Than One Operation

There are two ways to perform multi-operation equations. You can enter all steps prior to hitting Equals, or you can total your results as you go. When you press one of the arrow keys after totaling the results of an expression, the calculator uses the results as the first value in the next expression. So, for example, if you were at a restaurant and wanted to get a subtotal of your order then add a tip or tax and get a new total you could do this by hitting equals after adding up all the items. The Icon would then announce the sub-total. You would add the tip by hitting Right Arrow, entering the value of the tip, and then pressing Select again. The Icon will announce the new total.

Advanced Calculator Functions

In addition to the simple calculations already outlined, Icon's calculator can be used to perform more advanced functions using the eval function from the Python programming language.

Stopwatch

You can find the Stopwatch in the Tools menu: press 5 to select it, or arrow down to it and press Select. Icon simply says "Stopwatch stopped" when the application opens. To start the stopwatch, press select: to pause it, press Select again. Press OK to hear how much time has elapsed and whether the stopwatch is stopped, paused, or running, and press Cancel to clear the stopwatch. Remember: pressing Cancel, in addition to clearing the stopwatch, stops it; so if you want to start timing a new event, you must press Select.

Journal

Icon's Journal allows you to keep daily records and to synchronize with popular journaling hosts on the Web, such as LiveJournal. You may access it by pressing 6 in the Tools menu, or by arrowing down to it within the Tools menu and pressing Select. When the Journal launches, the Icon will say "journal calendar", followed by today's date, followed by the number of entries already inserted for this day. You may navigate through the journal calendar in the same way that you move through the planner: in brief, use your up and down arrows to select whether you are moving by entry, day, week, month or year; and use your left and right arrow keys to move one at a time among those units. (For more details on calendar navigation, see the Planner section of this manual.) When you have highlighted an entry you'd like to read, press Select. You may then arrow down through the elements (subject, date, time, content) of the entry, and press Cancel to return to the calendar. When an entry is highlighted, selecting option 2 from the Program Menu will delete it.

Creating a New Entry

To create a new journal entry, highlight the day under which you'd like to classify the entry, press the Program Menu button, and select option 1, Add Entry. You will be prompted to enter a subject for your Journal entry. You may leave this line blank if you wish. arrow down to confirm that the date selected is the one you want. If it isn't, enter two digits for the day, two for the month, and four for the year in this space. Arrow down once more to confirm the time of your journal entry. Arrow down again to the "Content" prompt, and press Select to start writing your journal entry. You will find yourself in a window essentially similar to a word processor document, and your usual editing and navigation options are available to you.   When you're finished composing your journal entry, press the Cancel key and your entry will be saved to memory.

From this point, arrow down again to select the privacy level of your journal. Choose, with the left and right arrow keys, between Private, Friends and Public. These designations are particularly useful in synchronization with the popular journal host LiveJournal, which will be discussed later.

Finally, arrow down one last time to select, with your left and right arrow keys, the Mood you'd like to associate with this journal. Again, this option is commonly associated with LiveJournal, and you may skip it if you wish. When you're done selecting all the parameters for your journal entry, press the OK key and your entry will be saved.

Finding Entries

Option 3 within the Program Menu allows you to jump to any date to look for entries under that date. Once you've selected this option, simply enter two digits for the day, two for the month, and four for the year of your target date, and press OK. You will be positioned at the date you entered and informed whether there are any existing entries for this day, and you can resume normal movement within the calendar.

Enabling Synchronization and Uploading Entries

Option 4 within the Program Menu is Synchronization. Currently, the Icon supports synchronization only with LiveJournal. When you have chosen Synchronization, you will be presented with one option, Add Journal or Blog Account. Select this option and you will be presented with another single option, Existing LiveJournal Account. Selecting this option will present you with a form where you may enter your LiveJournal (or LJ) user name, down arrow, enter your LJ password, and press the OK key to add your account to the Icon.

Now, when you return to the Synchronization option, you will be presented with a single option reflecting your personal LiveJournal account. Selecting this item will present you with the options to (1) synchronize or (2) remove the account from your Icon.

Make sure you are connected to the Internet before choosing Synchronize. Selecting this option will do two things: the Icon will update the LiveJournal server with any entries you have created on the Icon, complete with their time, date, privacy level and mood; and the Icon will retrieve your LiveJournal entries from the server and place them into your journal calendar for offline perusal. Stay tuned for software updates to bring synchronization support to other popular blogging and journal hosts

The Utilities Menu

Settings

The first item in the Utilities Menu is Settings. You may access this by navigating to the Utilities Menu and selecting the first option or by typing 6, 1 from the applications Menu. You will be presented with a menu containing 4 settings categories, each of which opens a dialog when selected. After adjusting the settings in any dialog, press the OK key to save your changes, or the Cancel key to return to the settings menu without changing anything.

General Settings

The first item in the Settings Menu is General Settings. Use the up and down arrows to move through the various settings in the dialog, and the left and right arrows to move through the options for each setting. The first item in the General Settings dialog controls how long the Icon waits to automatically shut off after inactivity. By default this is set to 5 minutes, but you may also choose 10 minutes, 30 minutes, or never, in which case, Icon will never shut off unless you shut it down manually. Remember that, if you choose never, and forget to shut Icon down, you may completely drain the battery and could loose unsaved data.

The second item in the General settings dialog pertains to the sleep timer. You may find the sleep timer useful if you like to read or listen to music at night as it will ensure that the Icon does not continue reading or playing music too long after you have gone to sleep. By default the sleep timer is set to off. You may choose to set the timer to stop a continuous read or media playback after 15 minutes, 30 minutes, 45 minutes, 60 minutes, 75 minutes, 90 minutes, 105 minutes, or 120 minutes. The sleep timer only stops the continuous read or media playback, it does not shut Icon off. After the sleep timer has stopped activity, the auto shut off setting described above will take effect. So, if your sleep timer is set for 45 minutes, and your auto shut off setting is set for 15 minutes, reading or playback will cease after 45 minutes, but Icon will not shut down for another 15 minutes. If playback or reading is restarted before auto shut off takes effect, the cycle will start over, and sleep timer will again cease activity in 45 minutes.

The third and fourth items in this dialog have to do with inputting text. The character timeout setting allows you to control how long the Icon waits to pick up a character when texting through the telephone keypad. By default this is set to 1 second, but can be adjusted by 0.1 second intervals from 0.5 seconds to 2 seconds. The final item lets you choose whether you would like the Braille input method to be computer Braille (uncontracted or grade 1 Braille) or grade 2 Braille (contracted Braille).

Menu Settings

The second item in the Settings Menu lets you customize how menus operate on the Icon. The first item in this dialog is "Speak Menu Numbers?" and can be set to yes or no using the Select key as a toggle between the two. By default, Icon speaks menu numbers you navigate through menu items so that users can become familiar with the numeric shortcuts used to access them. However, once you have memorized these, you may no longer wish to hear them. Please note: even if menu numbers are not spoken, you can still use the numeric shortcuts to open programs or menus.

The second item in this dialog is similar to the character timeout option in the General Settings dialog, but pertains to using numeric shortcuts in menus. This item allows you to set how long you want the Icon to wait before inputting a menu selection that requires multiple digits. By default, this is set to 1000 microseconds and may be adjusted using the left and right arrows.

The final item in this dialog is a yes/no toggle controlled by the Select key that lets you choose to have the Icon remember your last menu item location. If you choose yes, when you enter a menu, the item you selected last time you were in that menu will be highlighted. By default, this is set to no. When set to no, Icon will place you at the top of each menu you enter.

Speech Settings

The third item in the Settings Menu lets you define the various voices Icon uses to indicate formatting attributes, e-mail replies, and elements of a webpage. The first option in this dialog is a global setting that controls key echo. Use the left and right arrows to move through the choices: none, characters, words, and words and characters. Below this are a number of definable voices for use in the Word Processor, E-mail, and Web Browser as well as a default voice. To move through the various voices, use the up and down arrows. To adjust the pitch of the highlighted voice, use the number 1 to lower and the number 3 to raise the pitch. To adjust the speech rate of the highlighted voice, use 4 for slower, and 6 for faster. Finally, use 7 and 9 to move through the various voice personalities available on Icon so that you may choose which personality you would like assigned to the highlighted voice. If you do not wish Icon to use separate voices for each element, you can set all the voices to the default by pressing the Menu key and choosing option 1, Set all Voices to the default Voice.

Time and Date Settings

The fourth and final item in the Settings Menu is Time and Date Settings. Selecting this option will bring up the same dialog as does selecting the Time and Date line of the Status information. Setting the time and date has already been described in the section of the manual concerning the Info and status Center.

File Explorer

Option 2 from the Utilities Menu is the File Explorer. You may use this application to review the files you have stored on the Icon, create and manage folders, and open, delete, and rename files on the system. Remember that many of the files stored on the internal flash disk and the hard drive are essential to the operation of your Icon, so you should never delete or move a file you are unfamiliar with unless instructed to do so by technical support personnel. In the event that you remove a file necessary to the operating system of the Icon, you will have to reload the Icon's software, and may experience loss of your data and settings.

When you select the File Explorer from the Utilities menu, you will hear the message "Available Drives: Hard Drive." This means that you are in the list of drives available on the Icon, with the 30 GB hard drive highlighted. Use the up and down arrow keys to move among the available drives. The Internal Flash Disk should always be available, and if you have inserted a mini-SD card or connected a peripheral drive, these will show up as well.

To access the contents of the highlighted drive, press the right arrow key. As you navigate with your up and down arrow keys through the available files and folders on the drive you've selected, you will hear their names. A name by itself represents a file, but if the Icon says "folder" after the name, you have highlighted a folder that contains other folders or files, and you may right arrow again to access its contents. You can determine the size of any highlighted file by pressing the status key: at this point, the file name will be announced followed by its size, as measured in bytes.

Pressing the right arrow key, or Select, on a file will launch the file. If it is a document, it will open in the word processor; if it is audio content, it will launch in the Music Player. Sometimes, when you are attempting to access a system file or a file type the Icon does not recognize, the Icon will fail to launch the file and will instead announce "I don't know how to open this file."

Several options are available to you within the File Explorer's program menu. You may choose to delete a file (option 2 from the Program Menu). If you do this, the system will ask you if you are sure you really want to delete the file, and you may press OK to confirm or Cancel to abort the deletion. You may use the * key, rather than entering the program menu, to quickly delete a file or folder. Please note that there is no difference between the deletion confirmation for an ordinary file, such as a song or document, and a system file integral to your Icon's performance, so always exercise caution in choosing which files to delete.

You may choose to rename the highlighted item by selecting option 3 from the Programs Menu. You will be prompted to enter a new name for the file or folder you've chosen. After you do this, press the OK key and the name change will be completed.

Option 6 within the Program Menu is Create Folder. Use this option to create new folders to help you organize your files. For example, you might set up a folder for each class you are taking during a particular semester, or a folder for audio recordings you make during a vacation.   Simply select Create Folder, enter a name for your new folder, and press OK. Your folder will be created immediately, and you may start saving content there.

You may select one or more files at a time to copy, move, open or delete. To do this, highlight the file or folder you would like to select and then press the # (pound) key. The file or folder that has been selected will be announced, and you will hear an echoing tone. (Note: If you select an entire folder, all files within it will be selected.) Whenever you navigate past a file or folder that you've selected, you will hear the echoing tone again. Pressing the # (pound) key when you hear this echoing tone will remove the highlighted item from selection.

Once you have selected one or more items, new options will appear in the Program Menu as follows. Option 1, Open Selected, will launch all your selected files. Option 2, Delete Selected, will delete all of your selections. Option 4, Copy Selected Here, will create copies of all your selected files at the location you have currently highlighted. Option 5, Move Selected Here, will remove all your selections from their present location and move them to the location you have currently highlighted. Finally, option 7, Clear Selected, will undo all of your selections and leave you free to make new selections.

Disk Drive Mode

Option 3 from the Utilities Menu is Disk Drive Mode. This application is used to connect the Icon to your PC in order to synchronize information or transfer files. Before entering Disk Drive mode, ensure that your Icon is connected securely to the docking cable; and that the docking cable is securely connected, via USB, to your PC. You should save your data and close other applications before attempting to enter Disk Drive Mode, because if the hard drive is busy with another application, the Icon will not be able to enter this mode.

Once you've selected Disk Drive Mode, the Icon will say "Preparing to enter Disk Drive Mode" and, if activation of the mode is successful, "Disk Drive Mode ready." Unlike other applications on the Icon, Disk Drive Mode will not allow other applications to function while it is running. To leave Disk Drive mode, you must press Cancel and wait for the message "Exiting Disk Drive mode."

 While the Icon is connected to your PC in Disk Drive Mode, it will show up in the My Computer utility (assuming that you are using Windows) as a removable disk. You may use your PC to navigate through the Icon's folders and files, add media or book content, transfer documents, or check on the available storage space on your drives. Please avoid altering or deleting system files (or any files you do not recognize as your own), or attempting to add new programs to the Icon, while in Disk Drive Mode.

Always be sure to press Cancel on the Icon and wait for the "Exiting Disk Drive Mode" message before disconnecting the Icon from your PC. Following this procedure will make sure that the Icon has successfully finished any data transfers and synchronizations before the connection is broken. Ending the connection while the Icon and your PC are still communicating makes you vulnerable to data loss and corruption.

Bluetooth Control Panel

The Bluetooth Control Panel, option 4 from the Utilities menu, is a simple application that allows you to interface wirelessly with Bluetooth-compatible headsets and keyboards. Like the Wireless Control Panel turns on the wireless radio when it launches, launching the Bluetooth Control Panel turns on the Bluetooth radio. Remember that keeping Bluetooth on will cause your battery to drain more quickly than usual, so it is a good idea to disable the radio when you aren't using any Bluetooth devices.

The first time you launch the Bluetooth Control Panel, the list of Bluetooth devices will be empty. Use option 1 from the Bluetooth Control Panel's Program Menu to find any Bluetooth devices within range of your Icon. You will hear the message Finding Bluetooth Devices", followed by a snicking sound as the search is completed. The message "Bluetooth Devices Found", combined with an ascending series of pops, will signify that the search is complete. Any available devices will be displayed in a list which you may navigate with your up and down arrow keys; and you may connect to any item in this list by pressing OK.

You may highlight any item in the list of active Bluetooth devices and end its pairing with the Icon by selecting Remove Bluetooth Device from the Program Menu.

You may turn off the Bluetooth radio and close the Bluetooth Control Panel at any time by selecting option 2, Turn Bluetooth Off, from the Program Menu.

Task Manager

The Task Manager, which can most quickly be accessed by a one-second press of the Applications Menu key, was covered near the beginning of this manual. It can be accessed directly from the Utilities Menu under option 5.

Check for Software Updates

Updating software on the Icon is easier than the update process on any competing device. All you need is a wireless Internet connection and ten minutes. Just select option 6, Check for Software Updates, from the Utilities menu, once you've made sure that you're connected to the Internet. The Icon will say "checking for software updates." If you are running the latest version of the software, the Icon will report "No software updates available". If,, however, there is a new version of the software available for download, the Icon will say the version number that is available, and give you two options: 1 to download the software and 2 to hear it described. If you choose option 2, listen to the description and then press Cancel to return to the software update menu. Selecting option 1 will launch the software update process. The Icon will ask you to close any active applications, save your work, and press OK when you're ready to continue with the update. Once the update begins, the Icon will keep you updated on its process through the use of speech prompts to let you know what tasks it is performing and also a swishing sound every few seconds as is present when downloading e-mail or updating periodicals, and will eventually restart on its own, running the newly downloaded version of your software. You can cancel the update at any time by pressing the Cancel Key.

Backup

Launch option 7, Backup, from the Utilities Menu, to save your Icon settings for later retrieval. When the backup application launches, you may either back up (save) your current settings, or arrow down to restore settings you have saved before. This application is useful for saving settings for later restoration in case of loss of power to the system or a major upgrade; or for maintaining more than one group of settings for different purposes (e.g. editing a document with a special group of speech settings).

Press Select on "Backup Current Application Data" to save your current settings. You will be presented with a two-line dialog. The first line is meant to contain a description of the settings you are saving. You may either leave it blank or press select, enter your description, and press Cancel to return to the dialog. The second line, accessed by pressing down arrow, automatically records the time and date of your backup. You may review but not change this information. When you are ready to back up your settings, just press OK. The Icon will announce "Backing up application data ... backup complete."

If, from the main backup screen, you highlight the date of a previous backup, you may press Select to access the options referring to it. You may choose option 1 to restore the backup. You will be asked if you are sure you want to proceed with the restoration: press OK to confirm or Cancel to abort the operation. Alternatively, you may choose option 2 to delete the backup. In this case, too, you will be asked to choose whether you are sure.

Report a Problem

The Icon's developers are committed to keeping the software as up-to-date, responsive, and free of bugs as possible. To meet this goal, they need to know when users experience a problem. With that in mind, the Levelstar team has developed a system for reporting problems unrivaled on any device in the adaptive technology market. Reporting a problem will take a few moments of your time, but it will increase your chances of a satisfactory solution and will help the developers improve the Icon software.

To report a problem, select option 8 from the Utilities menu. The Icon will say "Report a problem" and ask for your name. Please enter your first and last name so the developers will know who has sent in the report. Then, down arrow to the line that says "Description", and press Select. Now you may enter a description of the problem you are having. Since the OK key is used to start a new line, just as it does in any document, you must press Cancel when you're done entering the description of your trouble.

As you continue to arrow down, you will pass the serial number and software version of your unit. You may not change these lines. Below them, you will find first the current date and then the current time. These should be correct, but if they are not, enter the current date and time as you would in the Set date and Time dialog.

When you have filled out all the pertinent information about your problem, press the OK key. The Icon will say "Creating Report" and then offer you a list of choices for handling the report. You may (1) Place it in the Problems folder on the hard drive, or (2) send it to Levelstar via the Internet. If you have a working Internet connection, choose option 2. If you do not, you may choose Option 1, and retrieve the problem report by connecting the Icon to your PC and copying the problem report from the Problems folder of your hard drive.   You may then E-mail it to Levelstar using your PC. For further instructions on handling problems when you do not have an Internet connection, please call Levelstar at (303) 926-4334.

If you attempt to exit the Problem Report utility before completing your report, the Icon will ask you to decide whether you are sure you want to exit. If you choose Yes, the problem report in progress will be lost.

Console

The Icon runs on a special version of Linux. Option 9, Console, within the Utilities menu, allows you to access the Linux command line and interact with the Icon on an advanced, non-menu driven level. You should access this option on your own ONLY if you understand how to interact with the Linux command line, since your actions within the Console may influence the regular Icon interface in unpredictable ways. For more information on the Console, contact the Icon developers.

Warning! Levelstar provides the Console for advanced Linux users, but you enter it at your own risk. It is possible to modify the Icon's software through the Console in such a way that the software is corrupted. Consequences may include data loss and failure of the operating system. If your actions in the Console necessitate repair by Levelstar, that repair will not be covered under your warranty or maintenance agreement, so please use good judgment and extreme caution if you decide to use the Console. If you want to learn Linux, there are several books on Bookshare that will introduce you to it, and your safest option is to start learning on a PC with a Linux distribution installed. We do not recommend that beginners attempt to learn Linux using the Icon.

The Games Menu

Currently, the only item in the Games Menu is Tic Tac Toe. To open it, navigate to the Games Menu and choose the first option, or type 7, 1 from the Applications Menu. When the game opens you will need to select your letter. Type 1 for x or 2 for o, or simply arrow to your desired letter and press select. The object of Tic Tac Toe is to get 3 of your letter in a row and to block your opponent from getting 3 in a row. Your row of 3 may be vertical, horizontal, or diagonal.

The nine squares of the Tic Tac Toe board are represented by the numbers 1 through 9 on the telephone keypad. To place your letter in a square, press and hold the number of that square. Icon will confirm the row and column where you have placed your letter, and will counter with its own move, announcing the column and row where it placed it's letter. If you forget what's in a given square and want to check, press the number of that square quickly and Icon will tell you what letter is in that square. When a game is won by you or the Icon, or it reaches a stalemate, Icon will prompt you to press Cancel to quit or OK to play again.

Appendix A

Icon Sync

The Icon Synchronization Program lets you synchronize your Outlook calendar and contacts as well as you're my Music folder with the Planner, Address Book, and Music folder on the Icon. Before you can synchronize, you must first install Icon Sync on your computer.

Installation.
1, Place the CD that came with your Icon in to the CD-rom drive of your computer and locate the Icon Synchronization Program folder. 2, Press enter to open the folder. 3, Select the setup.exe file and press enter to launch it. 4, Follow the prompts to accept or change the folder where the program is stored, and where the shortcuts will appear. To accept the defaults, simply tab to Next and press space or enter. 5, Review your installation options and tab to the Install Button and press space or enter. 6, Wait a few seconds for installation, press space or enter on the Finish Button when it appears.

Synchronizing.
Before launching Icon Sync from your computer, connect your Icon to the computer via the USB cable and place your Icon in Disk Drive Mode using the procedure described in the Utilities Menu section of this manual. Launch Icon Sync from your desktop. The program will open with a menu of 4 items. The first 3 are check boxes which are checked by default. These items are Synchronize Planner, Synchronize Contacts, and Synchronize Music. You may uncheck any of the boxes by pressing the spacebar if you do not wish to have a particular item synchronized.

The fourth item in the menu is the Synchronize Button. Press space or enter on this to start synchronization. When synchronization is complete, you will be placed back in the synchronization menu. You can then press Cancel on the Icon to exit Disk Drive Mode and unhook the Icon from the computer.

Appendix B

Troubleshooting

Appendix C

External Keyboard Functions

When using an external keyboard, you may wish to know what keys map to Icon keys.

Application Menu   F 10
OK   Enter
Cancel   Esc
Select   Space

Function keys are also used as shortcuts for opening programs and for running the media player. Use f4 to open the Media Player, f5 to open the Word Processor,, and f6 to open the Planner. Use the first 3 function keys as system wide hotkeys for controlling the media player. This means that you can be anywhere in Icon and can use f1 to rewind if held down, or go back a track if

pressed quickly; f2 to toggle pause and play, and f3 to fast forward if held down or move to next track if pressed quickly.

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Co-located Radio Modules

This co-located radio configuration has demonstrated compliance to FCC regulations.

Caution * Use of this product meets the FCC requirements for radio frequency (RF) radiation exposure in the standard head and body configuration. For body-worn applications, holster part # 2600-00087 must be used to ensure RF exposure compliance, with a minimum separation distance of 1.2 cm. The maximum SAR value measured for head was 0.174 W/kg averaged over 1 gram. The maximum SAR value measured for body was 0.096 W/kg averaged over 1 gram.

FCC Compliance Statement

NOTE: This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet or circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this unit not expressly approved by LevelStar, LLC could void the user's authority to operate this equipment

LevelStar, LLC
Icon Mobile Manager Model Number: EI-30
Icon Braille Mobile Manager Model Number: IBP-30
Braille+ Mobile Manager Model Number: EIB-30

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

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