



# Orbit Reader 40™ User Guide

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Note: This user guide is applicable to software version vB0.00.00.00r01 and onwards.

## 1 Introduction



The Orbit Reader 40 is a portable, refreshable braille display and stand-alone reader with the following features:

- A line of 40 braille cells with pins that arrange into the required pattern to accurately represent any six- or eight-dot braille code, in any language, and for any discipline
- Cursor routing buttons
- Reads the contents of files on an SD™ (Secure Digital) card or USB drive in the Stand-Alone Mode
- Remote connectivity to PCs and mobile devices for use with a screen reader
- On-board translation from text to braille and from braille to text
- On-board support for contracted braille
- On-board support for over 40 languages, including UEB
- Simple editing functions
- Audio and vibration indications
- Onboard utilities such as Calculator, Calendar and Alarm
- Signage-quality braille

## 2 How the Orbit Reader 40 Is Used?

### 2.1 Stand-Alone Mode

Content stored on an SD card is read in one of three ways:

- Sent by library.
- Prepared on a computer and copied to the device.
- Using onboard translation

In Stand-Alone mode, the Orbit Reader 40 displays the contents of files stored on an SD card (or USB thumb drive). It supports text to braille and braille to text translation on-board for English and over 40 other languages. For English, it supports translation to and from contracted and uncontracted braille. In addition, it can be configured to translate contracted braille in other languages. Please refer to the [localization](#) section in this guide for more details.

### 2.2 Remote Mode

Connect the device to a computer or mobile device with a screen-reader and then do one of the following:

- Read commercially available titles on Kindle™, Adobe® Digital Editions, or Apple Books® application programs.
- Employ any accessible technology for browsing, utilities, and education.

The screen reader translates text into Braille code of choice.

## 3 Transcribed Braille

There are multiple sources for files that are transcribed into high-quality braille. Below are some examples:

- [National Library Service](#) (NLS) provides professionally transcribed, formatted files through the Web Braille project.
- [RNIB Reading Services](#) offers professionally transcribed braille titles.
- [National Braille Press](#) (NBP) produces braille books, textbooks, tests, and information for adults and children.
- [Louis Database](#) lists titles produced by over 160 organizations  
[American Printing House for the Blind](#) (APH) transcribes textbooks for K-12 students.

## 4 Automatic Translation

In addition to professionally transcribed titles, you may also use dynamic translation to obtain braille.

Automatically translated braille may be appropriate for some forms of reading.

- [Bookshare®](#) dynamically generates braille formatted files from the titles in its library.
- [Sugamya Pustakalaya](#) is India's first and largest collection of accessible books. Users can access a collection of over 3,28,900 books, maintain their individual reading shelves online and download books in chosen formats.
- [NFB-NEWSLINE®](#) is a free audio information service, providing downloadable Braille files of up-to-the-minute content from over 400 national, international, and state newspapers.

## 5 Translate Braille

- The Orbit Reader 40 features built-in forward and reverse braille translation. This is controlled by the profile selected from the menu.
- [BrailleBlaster™](#) is a full-featured transcription software package for creating quality formatted braille.
- [DAISY™ Pipeline](#) provides a comprehensive solution for converting text documents into accessible formats,
- [Send to Braille](#) is a shortcut that adds braille to the Windows® Send To menu, which can convert files on your computer into unformatted BRF (Braille Ready Format) files.

## 6 Documentation Conventions

For consistency and clarity, we have used the following conventions in this document.

Braille keys are indicated by number. For example, if the documentation indicates Dot 1, it shows: Dot 1.

If multiple braille keys are required, the documentation indicates those keys by showing the numbers separated by a space like this: Dots 1 4.

When modifier keys are used, the documentation separates the modifiers from the rest of the keys with a plus (+) sign like this: Space + Dot 1. Modifiers like the Shift key on a regular QWERTY keyboard, are keys you hold down while pressing another key. This modifies the effect of the pressed key. On a braille keyboard, Space is often used as a modifier key to alter the effect of the input keys.

Key mnemonics are written in capital letters for emphasis but are typed in braille lowercase (unless otherwise stated). When one key follows another, the two keys are shown with a comma between them. For example, the command Select, M means to press and release the Select key, then press and release M (Dots 1 3 4) simultaneously.

The Up, Down, Right, and Left directional buttons on the navigation pad are interchangeably referred to as arrows, buttons, arrow buttons, and arrow keys.

All messages from the device are preceded with Dots 2 5, 2 5 and a space. In the documentation, this is indicated by a double hyphen.

The words Keys and Buttons are used interchangeably.

In the descriptions of each Menu option, this documentation indicates the default setting.

Any reference to navigation by “page” while in Stand-Alone mode only means navigation by 1000 characters (page = 1000 characters).

## 7 In the Box

The Orbit Reader 40 package typically includes the following items:

- The Orbit Reader 40 unit
- USB Type-C cable
- AC adapter
- SD card
- A Quick-Start guide in large-print

Depending on where you have purchased the Orbit Reader 40 from, you may receive a different set of accessories. Check that all purchased items are in the box that you have received.

Note that some distributors may ship the unit with SD card already installed in the machine.

## 8 Features

The Orbit Reader 40 has the following features:

- 40 refreshable eight-dot braille cells that can display 6-dot as well as 8-dot braille symbols
- A cursor routing button above each braille cell
- Onboard forward and backward braille translation
- Bluetooth® wireless technology supporting simultaneous connection to 5 devices
- Clock function also time-stamps files when they are created or edited
- Calculator, calendar, and alarm applications
- Audio and vibration indications
- Eight Braille input keys and space bar

- Navigation keypad with four directional buttons (Up, Down, Left, Right) and the Select button
- USB Type-C charging and communication port
- Full-size SD card slot
- USB Host port to connect a USB drive
- Ability to connect an external QWERTY keyboard over Bluetooth
- Two rocker keys for panning
- User-replaceable rechargeable battery

## 9 Orientation

The orientation of buttons, keys, cells, and slots is important for understanding how Orbit Reader operates and how you input and receive information on your braille display.

To begin with, place the device on a flat surface in front of you with the row of braille cells closest to you. This is the proper operational orientation.



### 9.1 Side view

On the right side of the device, from front to back, is the Power button (front), USB Type-C (center), and 3.5mm Audio Jack (back). The USB port has one bump below it (shown in the image below)

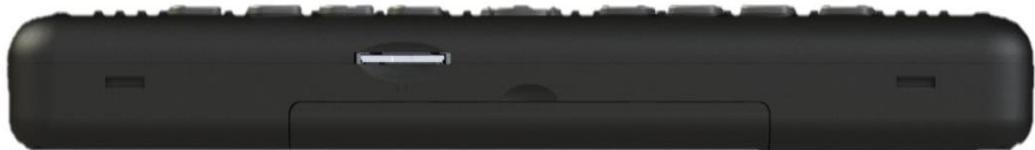


On the left side of the device, is the standard USB A host port (shown in the picture below). It has three bumps below it.



## 9.2 Back view

At the backside of the device, is the SD card slot. It has two bumps below it. The SD card slot is a standard type with spring feedback. The SD card is inserted with the card connector fingers facing down. To remove the card, press in and remove your finger to allow the card to pop out (shown in the picture below).



## 9.3 Key Locations and Use

When properly oriented, the space bar is closest to you. The panning keys are at each end of the braille display. See the [Panning Keys](#) section for more information. Above the space bar are the braille cells.

For orientation purposes, there are seven slightly raised tick marks located above the braille cells. These orientation marks are spaced at every fifth braille cell. For example, the first tick mark from the left is between the fifth and sixth braille cell.

There is a cursor routing button above each braille cell.



Moving towards the top and away from you and above the cursor buttons, there is a navigation pad in the middle. The navigation pad contains four directional arrow buttons (Up, Down, Left, Right) and the Select button.

On the left and right side of the navigation button are eight traditional braille input keys aligned horizontally along the top edge of the display. Dots 7 3 2 1 are on the left and Dots 4 5 6 8 are on the right.



In Stand-Alone mode, the braille input keys are used for navigation and editing/writing.

In Remote mode, while using the display with a screen reader on a host device, like an iPhone, the braille input keys can be used to input text or control the functionality of applications on the host device.

#### **9.4 Panning Keys**

The Panning keys are two-function rocker keys found at either end of the braille display. These keys control how you read the lines of the text: either next or previous. Pressing on one end of the key results in one action, while pressing on the opposite end results in the opposite action.

To read the next display of text (panning forward), press the bottom part of the key (down) on either Panning key. To read the previous display of text (panning backward), press the top part of the key (up) on either Panning key.

#### **9.5 8-Dot Braille Cells**

The Orbit Reader 40 is a six-dot braille device with two additional dots below Dot 3 and Dot 6. These two additional dots are Dot 7 and Dot 8, which are used to indicate capitalization while reading and editing the file in 8 dot mode. These dots also indicate a selected item in the menu, text with attributes or accent marks or a cursor. Their exact use depends on the application you use with the display.

### **10 Getting Started**

The Orbit Reader 40 has two modes: Stand-Alone mode and Remote mode. In Stand-Alone mode, the device is a book reader that uses an SD card or a USB drive as storage media. In Remote mode, the device works like a braille display and needs to be connected to a computer or other host with a screen reader.

This section explains how to charge, turn the device on and off, insert the SD card/USB drive, and enter and exit the menus.

## 10.1 Charging the Device

When you receive the Orbit Reader 40, it may be already charged; however, we recommend that it should be fully charged before or during first use. You can use the device and charge it at the same time, so it saves reading time. When the battery in Orbit Reader 40 gets to 10% of its capacity, Dot 8 of the 40th cell on the display starts blinking on and off. This behavior is normal and indicates that the battery is low.

To charge the device, use the standard USB-A to Type-C USB cable and the charger power plug provided with the unit. Insert the small end of the cable into the Orbit Reader 40's USB C port. It should slide in without resistance; do not force it. Now insert the large end of the cable into a computer's USB A port or the charger plug provided. Plug the charger into an AC mains outlet.

If the device is on when you connect the charger, the display shows "-- Charger connected". When you unplug the charger, it shows "-- Charger unplugged". The charger plugged and unplugged indications are displayed briefly even when the unit is off. The language of the message depends on the language you select for system messages from the menu. By default, the language will be UEB Grade 1 (uncontracted).

For more information, see the [Battery](#) section under [the Menu](#).

If you have charged the device for 4 hours or longer, and it does not power on, contact Customer Service at [techsupport@orbitresearch.com](mailto:techsupport@orbitresearch.com)

## 10.2 Power On and Off

A square Power (on/off) button is located on the right face of the device. See the [Orientation](#) section for more information.

To power on the device, press and hold the power button for 2 seconds. If for some reason the powering on process takes more time, the Orbit Reader 40 flashes the braille cells from left to right to let you know that it is powering on.

When you turn the device on, the Orbit Reader 40 resumes from the place you left. If you are using the device or inserting the SD card/USB drive for the first time, the Orbit Reader 40 shows the first file or folder name on the SD card.

The Orbit Reader 40 displays, "SD card [no media]" when the SD card slot is empty.

To turn off the device, press and hold the Power button for two seconds. The braille cells flash from left to right to indicate the device is powering down.

The Orbit Reader 40 has a low-power standby/sleep mode. Quickly tapping the Power button puts the unit in sleep mode. Tapping the Power button while the

device is in sleep mode, wakes the device. While editing or when connected to Bluetooth, if no keys are pressed for an hour, the unit automatically goes into sleep mode. Otherwise, the device goes to sleep after 10 minutes of inactivity. After five hours in sleep mode, the unit shuts off to conserve power.

### ***10.3 Inserting and Formatting the SD Card***

The device comes with an inserted SD card with translated braille files already on it, so that you can quickly learn to use the device by reading the material.

The Orbit Reader 40 uses standard full-size SD cards from 4GB to 32 GB in capacity. The card must be formatted as FAT32. There is no way to format a card on the device. Most cards come already formatted. However, you can format one as FAT32 on a desktop computer for use with the Orbit Reader 40.

To insert the SD card, find the large slot at the back.

On one of the short sides of the SD card, there are some ridges called fingers or teeth. Position the SD card with the teeth facing down. Now insert the short side with teeth into the device. The SD card should go in smoothly until it gets about a quarter of an inch from being fully in the device. At this point, you feel a slight resistance. The card slot works like a toaster, gently push the SD card in until you hear a click. The card is aligned with the rear edge when properly inserted.

To remove the card, press it in a little until it pops out and then gently remove it.

### ***10.4 Inserting a USB drive***

The Orbit Reader 40 comes with a standard USB A host port. You can insert a USB flash drive and read its contents. It shows the message “-- USB drive inserted” when the flash drive is plugged in. You can copy or move content from the flash drive to the SD card and vice-versa.

The Orbit Reader 40 can support Flash drives up to 32 GB in capacity. The drive must be formatted in the FAT32 format. It is not possible to format a USB drive on the Orbit Reader 40. You use a Windows or Mac computer to format the drive.

### ***10.5 About Menus and File Names***

The Orbit Reader 40 shows internal menus and file names according to the language selected from the menu.

### ***10.6 Entering and Exiting Menus***

To...	Do this
Open the menu	Press Select + Up Arrow
Exit the menu	Press Dot 7
Move through the menu choices	Press the Up or Down Arrows
See choices within a menu option	Use the Right and Left Arrows

Select a menu item	Press Select
--------------------	--------------

### 10.7 Device Operational Modes

The Orbit Reader 40 has two functional modes. Stand-Alone mode and Remote mode.

Stand-Alone mode is the default operational mode and allows you to read, edit, and browse files without being connected to another device. An SD card or USB drive must be inserted in the Orbit Reader 40 while operating in Stand-Alone mode. See the [Stand-Alone Mode](#) section of this document for more information.

Remote mode allows you to connect the Orbit Reader 40 to iPhone® , iPad® , and Android™ mobile devices, as well as desktop computers. In Remote mode, Orbit Reader 40 acts as an input and output device for the remotely connected host via USB or Bluetooth. See the [Remote Mode](#) section of this document for more information.

To move back and forth between Stand-Alone and Remote modes, use the following commands:

- To switch to Remote mode: press Select + Right Arrow
- To switch to Stand-Alone mode: press Select + Left Arrow

The Stand-Alone mode provides the following features:

- [Menu](#)
- [File Manager](#)
- [Reader](#)
- [Editor](#)

Remote mode connects in the following ways:

- Bluetooth
- USB: HID (Orbit), Braille-HID, Serial, or Mass Storage

### 10.8 Languages and Translation

The Orbit Reader 40 supports multiple languages. The following languages are pre-loaded on the unit:

- UEB Grade 1 (uncontracted)
- UEB Grade 2 (contracted)
- US computer braille (8 dot)
- US English Grade 1 (EBAE)
- US English Grade 2 (EBAE)

More than 40 other languages can be loaded from the SD card. These include:

- Arabic Grade 1
- Arabic Grade 2
- French 6-dot Braille
- French 8-dot computer braille
- French Grade 2
- German Grade 1
- German 8-dot computer braille
- Hindi
- Spanish Grade 1
- Spanish Grade 2

You can configure the Orbit Reader 40 to use the same or different languages for the system messages and to read/write files. For example, you can have the system menu and messages to be in your local language while you work with UEB Grade 1 (uncontracted) files with the reader/editor or vice versa.

For this, there are language profiles that can be selected and configured from the menu. Alternatively, you can switch between different profiles using the hotkeys. Please refer to the section '[Setting up the languages](#)' for more details.

While typing you need to enter the key inputs as per the language selected. For example, if you have selected UEB Grade 1 (uncontracted), you must type in UEB Grade 1 (uncontracted) only. This applies to any key input you provide such as typing for the Find command, or for renaming the file.

## 11 The Menu

The Orbit Reader 40 provides a menu for setting options, checking the battery, and changing modes of operation.

To open the menu, press the Select + Up Arrow keys. Battery Status is the first menu option displayed.

Some menu options let you select among several choices. For example, the Sort option allows you to choose one of the various options for arranging files in the file manager. Other menu options provide information about the device, such as serial number and version. The selected option is underlined with Dots 7 8.

To scroll through the other possibilities, press the Right Arrow key. To select the option, press Select. The Orbit Reader 40 responds by underlining the word with Dots 7 and 8 to indicate the choice.

To move to another menu item, press the Up or Down Arrow key. When you get to the end of the list of options and press the Down Arrow key, the Orbit Reader 40 moves back to the top menu item. Similarly, when you press the Up Arrow from the first menu item, The Orbit Reader 40 moves to the last item in the list. This feature allows quick access to the last few menu items and so some options that may be used frequently are located at the bottom of the menu list.

To close the menu and return to your work, press Dot 7.

### **11.1 Setting up Languages**

The Orbit Reader 40 comes configured to support UEB Grade 1 (uncontracted), UEB Grade 2 (contracted), US English Grade 1 (EBAE), US English Grade 2 (EBAE) and US Computer Braille (8 dot). Additional language files can be loaded from the SD card. Please refer to the [localization](#) section in this guide for more details.

Note: BRF cannot be configured as the system language.

You can also configure the encoding type of the text file.

To allow easy configuration of languages and switching between languages, four language profiles (Profile 1,2,3, and 4) are provided. Each profile has options to choose the System Language, Read/Edit Language and Editor Encoding.

#### **11.1.1 System Language**

The System Language setting allows you to set the language of the system messages and menu options.

#### **11.1.2 Read/Edit Language**

The Read/edit Language setting allows you to read or edit the content in the desired language.

Following is the list of languages that can be set as System language and/or Read/Edit language

- a. eng\_uncontracted (US English Grade 1)
- b. eng\_contracted (US English Grade 2)
- c. eng\_8-dot-computer (US Computer Braille (8 dot))
- d. brf (BRF format files)
- e. UEB Grade 1 (uncontracted)
- f. UEB Grade 2 (contracted)
- g. < Additionally loaded Languages from SD card>

### 11.1.3 Editor Encoding

The Editor Encoding setting applies to new files only and allows you to save the file in the desired encoding format. Encoding is how the data is stored internally in the text file. There are pros and cons to each of the encoding systems. If you are not sure which encoding to use, we recommend using UTF-8. More details on encoding can be found at [https://en.wikipedia.org/wiki/Character\\_encoding](https://en.wikipedia.org/wiki/Character_encoding)

It has the following options:

- a. UTF-8
- b. Unicode-16LE
- c. Unicode-16BE
- d. ANSI

The hotkeys for switching between profiles are Select + 1, Select + 2, Select + 3, and Select + 4 for profiles 1, 2, 3, and 4, respectively.

If you accidentally select an unfamiliar language, pressing Select + 1 2 3 restores the default profile.

### 11.2 Menu Availability

The menu is available for the Remote and Stand-Alone modes. Press Select + Up Arrow to open the menu in either mode.

To exit the menu and return to the previous mode, press Dot 7.

### 11.3 Menu Options

Some of the Menu options have a default setting (indicated in the list below). For most of these options, you can move among alternatives by pressing the Right or Left Arrows and then pressing Select. Selected items are underlined with Dots 7 8. Refer to the specific section for further information.

<u>Battery</u>
<u>Cursor Blink (1)</u>
<u>Sort (Name: Ascend)</u>
<u>Split Words (Off)</u>
<u>Filter Dot 7 (On)</u>
<u>Wrapping (On)</u>
<u>Compress Spaces (On)</u>
<u>Indents (On)</u>
<u>Scroll rate (4)</u>
<u>System Sound (Off)</u>
<u>Navigation Sounds (Off)</u>

<a href="#">Error Sounds (Off)</a>
<a href="#">Volume (3)</a>
<a href="#">Vibration (On)</a>
<a href="#">Profile 1</a>
<a href="#">Profile 2</a>
<a href="#">Profile 3</a>
<a href="#">Profile 4</a>
<a href="#">Add language</a>
<a href="#">Remove language</a>
<a href="#">Version.</a>
<a href="#">Audio version.</a>
<a href="#">Serial Number.</a>
<a href="#">Reset Defaults</a>
<a href="#">Date Format (dd-mm-yyyy)</a>
<a href="#">Time format (12 hours)</a>
<a href="#">Clock Settings</a>
<a href="#">Alarm 1</a>
<a href="#">Alarm 2</a>
<a href="#">USB (HID)</a>
<a href="#">Bluetooth mode (Auto)</a>
<a href="#">Pair (Just Works)</a>
<a href="#">Emulate (VarioUltra40)</a>
<a href="#">Mode (Stand-Alone)</a>
<a href="#">Bluetooth scan</a>
<a href="#">Manage connections</a>

### 11.3.1 Battery

The Battery status menu item displays the amount of energy remaining in the battery as a percentage of the total capacity of the battery. When the battery in the Orbit Reader 40 gets to 10%, Dot 8 of the 40th cell on the display blinks on and off. This behavior is normal, indicating that the battery is low.

When the unit is plugged in for charging, the message "-- Charging XX%" is displayed, where XX is the percentage of remaining energy.

### 11.3.2 Cursor Blink (1)

The Cursor Blink option works only while editing in the Edit Box or Editor mode. This option allows selecting the number of seconds between blinks. The default setting for the Cursor Blink option is one second between blinks. The setting choices are 1, 5, 15, 30, and 60 seconds, and 0 where the cursor does not blink. To make a selection, press Select.

### 11.3.3 Sort (Name: Ascend)

The Sort menu item lets you change the order in which files on the SD card or USB drive are displayed using The Orbit Reader 40's built-in File Manager. The sorting categories are: Name, Date, Size, and Last Read.

Additionally, you may sort files within the selected category in ascending or descending order. After selecting a category, press the Right Arrow until you reach either Ascend or Descend in the list and press the Select button. The Orbit Reader 40 displays the files in the selected order. The default setting for this menu item is Ascending (A to Z). To return to the File Manager, press Dot 7 from Stand-Alone mode.

### 11.3.4 Split Words (Off)

The default setting for Split Words is Off. In the default setting, the Reader tries to put as much content on the display as possible without splitting a word. However, if you want 40 cells of braille, no matter the content, set Split Words to On. When Split Words is on, the Reader shows partial words. When you pan to the next 40 cells of braille, the remainder of that word appears at the beginning of the line. To make a selection, press Select.

### 11.3.5 Filter Dot 7 (On)

The default setting for Filter Dot 7 is On. The Filter Dot 7 menu item lets you turn off the Dot 7 that frequently appears in some BRL and BRF files. The Dot 7 is filtered by default, but if you want to make a BRL or BRF file that uses eight-dot braille, turn this setting off. To make a selection, press Select.

### 11.3.6 Wrapping (On)

The default setting for Wrapping is On. The Wrapping option is The Orbit Reader 40's way of reflowing files that are already formatted for embossing. Normally, formatted files contain line-end indicators every 38-40 characters, which starts a new line. This option eliminates extra spaces, making it easier to read on a 40-cell display. To make a selection, press Select.

### 11.3.7 Compress Spaces (On)

Carriage returns, blank lines, and tabs represent extra spaces (or white space) in a document. These spaces take up a lot of room and therefore slow down reading on a braille display. The Compress Spaces option eliminates superfluous blank lines and spaces. If multiple blank lines or spaces appear in the file, they are compressed to a single space. This setting is especially useful when reading formatted text files that contain many blank lines.

The default setting for Compress Spaces is On. To make a selection, press Select.

### 11.3.8 Indents (On)

Paragraph Wrapping lets you choose if the Compress Spaces setting should be applied to the leading spaces of paragraphs or not. If Paragraph Wrapping is set to off, the paragraph is displayed with leading spaces if present, regardless of the Compress Spaces setting.

If Paragraph Wrapping is set to on, the Compress Spaces setting is applied to the leading spaces of the paragraph. The default setting for Paragraph Wrapping is On.

### 11.3.9 Scroll rate (4)

Displays the current scroll rate time in seconds and lets you adjust the same.

### 11.3.10 System Sounds (Off)

The Orbit Reader 40 provides sound indications over the speaker and audio jack for different actions.

Using this menu item, you can enable and disable sound indications for system events such as start-up, shutdown, low battery and waiting events. The default setting is Off.

### 11.3.11 Navigation sounds (Off)

Using this menu item, you can enable and disable sound indications for navigation events.

### 11.3.12 Error sounds (Off)

Using this menu item, you can enable and disable sound indications for various error events.

For more information, see the [Sound and Vibration](#) section.

### 11.3.13 Volume (3)

You can adjust the audio volume from this menu item to a level between 1 and 10. The default setting is level 3. To make a selection, press Select.

### 11.3.14 Vibration (On)

The Orbit Reader 40 can provide indications via vibration in response to various user actions. These indications can be turned on or off from this menu item. The default setting for Vibration is On. To make a selection, press Select.

For more information, see the [Sound and Vibration](#) section.

### 11.3.15      **Profile 1**

The Profile 1 settings are configured by default for using the device with UEB Grade 1. However, it can be configured to select any of the available languages and encoding schemes. The default configurations are as follows:

- System Language: UEB Grade 1 (uncontracted)
- Read/Edit Language: UEB Grade 1 (uncontracted)
- Editor Encoding: ANSI

### 11.3.16      **Profile 2**

The profile 2 default settings are configured for using the device with the UEB Grade 2. However, it can be configured to select any of the available languages and encoding schemes. The default profile 2 configurations are as follows.

- System Language: UEB Grade 2 (contracted)
- Read/Edit Language: UEB Grade 2 (contracted)
- Editor Encoding: ANSI

### 11.3.17      **Profile 3**

The profile 3 default settings are configured mainly for using the device with the Computer Braille. However, it can be configured to select any of the available languages and encoding schemes. The default profile 3 configurations are as follows.

- System Language: US Computer Braille (8 dot)
- Read/Edit Language: BRF
- Editor Encoding: ANSI

### 11.3.18      **Profile 4**

The profile 4 default settings are configured mainly for using the device with the language loaded from the SD card. However, it can be configured to select any of the available languages. The default profile 4 settings are as follows.

- System Language: <Languages from SD card>
- Read/Edit Language: <Languages from SD card>
- Editor Encoding: UTF-8

The default settings of Profile 1,2,3, and 4 can be changed with Right/Left Arrow keys, under the System Language, Read/Edit Language and Editor Encoding options.

For example, if you wish to have the system language as UEB Grade 1 (uncontracted) and work with BRF files, you can select Profile 3 that has the following default settings.

- System Language: UEB Grade 1 (uncontracted)
- Read/Edit Language: BRF
- Editor Encoding: ANSI

Likewise, all profiles can be configured as per the user's requirements.

Please refer to the [localization](#) section in this guide for additional information.

### 11.3.19 Add Language

The Add Language menu option lets you load language files from the SD card to the internal memory of your Orbit Reader 40. It lets you load as many languages as the available memory permits. If the memory is insufficient, the unit will display a “memory full” message. If you encounter this, you will need to remove some languages from the memory before you can load new languages.

You can scroll through the available language files on your SD card by pressing the Right or Left Arrow keys and press Select to add a language.

It may take some time for the file to be loaded. The unit shows a busy indication through audio sounds and by displaying “busy” on the display.

### 11.3.20 Remove Language

The Remove Language menu option lets you remove language files from the internal memory of your unit so that you can make space for loading other languages.

You can scroll through the loaded languages using the Right or Left Arrow keys and press Select to remove a file.

You can also use the “remove all” option that appears as the first item to remove all the loaded languages at once. Note that if you use this option, it removes the pre-loaded UEB Grade 1 (uncontracted) and UEB Grade 2 (contracted) languages as well. It does not remove the US English Grade 1 (EBAE), English Grade 2 (EBAE) and the US computer braille (8-dot).

If you remove a language that is currently assigned in a profile, English 8-dot computer Braille is assigned to the profile by default.

It may take some time for the file to be removed. The unit shows a busy indication through audio tones and by displaying “busy” on the display.

### 11.3.21 Version

The Version item in the menu displays the version number of the software on your device. You may need the version number when talking to Customer Service. For the latest version of software, refer to the website.

Note: The software version is shown in US computer braille (8 dot) only.

#### 11.3.22      **Audio version**

The Audio version item in the menu displays the version number of the audio firmware installed on your device. You may need the version number when talking to Customer Service. For the latest version of audio firmware, refer to the website.

Note: The audio firmware version is shown in US computer braille (8 dot) only.

#### 11.3.23      **Serial Number**

The Serial Number item in the menu shows the serial number of the device you are using. This number is useful for service and warranty purposes.

#### 11.3.24      **Reset Defaults**

The Reset Defaults item in the menu resets all your menu settings to the factory default settings. To reset to the default settings, press the Select button. This action resets defaults and takes you to the top of the Menu options list (Battery Status).

#### 11.3.25      **Date Format (dd-mm-yyyy)**

The Orbit Reader 40 supports the following date formats:

- dd-mm-yyyy
- mm-dd-yyyy
- yyyy-mm-dd

The default date format is “dd-mm-yyyy”. You can change the date format using left and right arrow keys and set the date format by pressing the Select key.

#### 11.3.26      **Time format (12 hours)**

The Orbit Reader 40 supports the 12/24 hours time formats. The default Time format is 12-hour format. You can change the time format using left and right arrow keys and set by pressing the Select key.

#### 11.3.27      **Clock Settings**

The Orbit Reader 40 includes a clock. You can check the date and time by pressing SPACE + Dot 2 3 4 5. The date and time are also used when creating, editing, and saving a file or folder.

The default format for time and date is HH:MM DD-MM-YYYY (where, HH is Hours, MM is Minutes, DD is Date, MM is Month and YYYY is Year). You can scroll through these fields with the Left and Right navigation keys. The active

field (where the cursor is currently) will be underlined. Press the Select key to modify the current field.

Press the Up Arrow key to increase and the Down Arrow key to decrease the value in the date and time fields. For instance, if the current date is 01-08-2020 and you want to change it to 01-08-2021, use the Left/Right navigation keys to move the cursor to the year field (YYYY) of the date. Press the Up Arrow key to change the year from 2020 to 2021 and the Select key to save the changes.

Press Dot 7 to exit from the Menu. The value in a field wraps once you reach the last valid value. For instance, minutes ranges from 00 to 59. So, if you press the Up Arrow key when the time is 09:59, it increments the time to 10:00.

### 11.3.28      **Alarm 1**

The Orbit Reader 40 provides two alarms. The first alarm can be configured from this menu item.

There are six fields to configure the alarm. You can navigate through different fields by pressing the Left and Right arrow keys and Press the Up and Down arrow keys to navigate through different choices in the field. The current field (where the cursor is placed) is underlined. Press Dot 7 once to save all the changes you have made in the alarm settings.

**Alarm Status (OFF):** Press the Right arrow key to go to Alarm status. Press Select to enable the editing cursor. You can toggle the Alarm status between ON and OFF by pressing the Up and Down arrow keys.

**Time (HH:MM):** Next to the alarm status item is the time setting. Press the Right arrow key to go the time field. The format for time is HH:MM in either 12 or 24-hours format depending on the set configurations of the menu item Time format (12 hours). Press the Up and Down arrow keys to set the values of the field and Press the Right arrow key switch between the fields.

**Repeat (Mon):** Press the Right arrow key to go the repeat field and set the desired days by pressing the Up/Down arrow key. You can choose any day from Monday to Sunday and there are two additional options: All and Once. When you set “All” the alarm rings every day and when you set “Once”, it rings only once at the next occurrence.

**Ringtone (Ring 1):** Press the Right arrow key to set a ringtone for the alarm and choose between Ring 1 through Ring 5 by pressing the Up and Down arrow keys. The ringtones are played as you navigate through the list.

**Ringtone duration (1 to 59):** Press the Right arrow key to set the alarm duration. The range of the alarm duration is 1 to 59 seconds and the default is 20 seconds.

**Snooze time (1 to 59):** Press the Right arrow key to set the Snooze time. The range of the snooze time is 1 to 59 minutes. The default is 5 minutes.

The alarm rings at the time and day it has been set for even if the device is in sleep mode or completely shut off. Press Dot 7 to cancel the alarm or press Space to Snooze. The alarm automatically snoozes after the ringtone duration if not acknowledged. It repeats this cycle 5 times and then turns off automatically.

### 11.3.29      **Alarm 2**

The second alarm can be configured from this menu item. It has similar settings to Alarm 1.

### 11.3.30      **USB (HID)**

The USB menu selects between the four possible USB protocols: Human Interface Device (HID) (Orbit), HID Braille, Serial, or Mass Storage. The default setting for USB is HID (Orbit). To select the option, press Select or Dot 8.

For more information, see the [USB Connectivity](#) section under Remote Mode.

### 11.3.31      **Bluetooth (Auto)**

There are three choices under this menu option.

- Bluetooth Auto
- Bluetooth manual
- Bluetooth OFF

The default setting for Bluetooth is Auto. If there is any screen reader activity running on the paired device, the Orbit Reader automatically switches to Bluetooth Remote mode. If you do not want an automatic Bluetooth connection, switch to manual option. To disable Bluetooth completely, select OFF. To select another option, press select or Dot 8.

For more information, see the [Using the Bluetooth Connection](#) section under Remote Mode.

### 11.3.32      **Pair (Just Works)**

The Pair menu item selects a Bluetooth pairing scheme. The Orbit Reader 40 uses the selected scheme when it responds to a Bluetooth pairing request from a host device. To select the option, press Select or Dot 8.

The two choices are:

Just Works – This is the default Bluetooth pairing scheme. When using this scheme, the Orbit Reader 40 automatically pairs to any device that sends a pairing request.

Confirm code – This is the most secure pairing scheme. With this scheme, the Orbit Reader 40 responds to pairing requests by showing a random number on both the Orbit Reader 40's braille display and on the host device. To confirm the request, ensure that the numbers match and press Dot 8 on the Orbit Reader 40. To reject the pairing request, press Dot 7.

#### 11.3.33 Emulate (VarioUltra40)

The Emulation option allows you to choose how the device appears to the Host screen reader applications while operating in Remote mode. If VarioUltra40 Emulation mode is selected, the Orbit Reader 40 appears as a VarioUltra40. If Emulation mode is Off, it appears as Orbit Reader 40. To select the option, press Select.

The default setting for Emulation mode is VarioUltra40.

#### 11.3.34 Mode (Stand-Alone)

By default, the Orbit Reader 40 operates in Stand-Alone mode where you read and write files stored on the SD card. To specifically set the unit to another mode, select among Remote, BT (for Bluetooth,) or USB. the Orbit Reader 40 tries to automatically switch to Bluetooth or USB depending on screen reader activity, but if you want to, for instance, specifically switch back to Stand-Alone mode from Remote mode, or switch the interface from Bluetooth to USB, use this option. To select the option, press Select.

#### 11.3.35 Bluetooth scan

To use the Orbit Reader 40 with various screen readers wirelessly over Bluetooth, you must first configure a Bluetooth partnership between the Orbit Reader 40 and computer or smartphone. You can search for Bluetooth devices from the Orbit Reader 40 by pressing the select button. It initiates the Bluetooth device scanning and shows the progress bar on the braille display.

Once the scanning is finished it shows the first device's name on the display or “No device found” message if no nearby Bluetooth device is found

You can scroll through the list of scanned devices by pressing Up and Down arrow keys and press select to pair with that device. Press dot 7 to go back.

For more information, see the [Using the Bluetooth Connection](#) section under Remote Mode.

#### 11.3.36 Manage connections

The Orbit Reader 40 supports up to five Bluetooth connections and one USB connection. This means that you can use the Orbit Reader 40's USB connection with your desktop computer and set up Bluetooth connections to your phone and

tablet. The first screen reader that connects with Orbit Reader 40 becomes active by default. The Orbit Reader 40 preserves all connection information when powering off.

The Manage connections menu item shows you the list of paired Bluetooth devices and allows you to switch between different devices. The Orbit Reader 40 displays contents from the active connection and sends braille key inputs to the active connection.

You can quickly toggle the active connection among the paired Bluetooth devices. The Orbit Reader 40 highlights the active connection by underlining it. For example, if the Orbit Reader 40 is connected to your primary computer and you receive a text message on your smartphone that you want to read and respond to using the braille display, you can switch access to the smartphone and then back to resume braille access to your computer.

Pressing the Select key from this menu item shows the first device name from the paired devices list. Scroll through the list by pressing the Up and Down arrow keys. When scrolling, the Bluetooth device name is displayed, if available. Otherwise "Bluetooth device" will be displayed, followed by a number from 1 to 5.

Press the Select key to make it the active connection. Press dot 7 to go back.

For more information, see the [Using the Bluetooth Connection](#) section under Remote Mode.

## 12 Stand-Alone Mode

Stand-Alone mode is the default operational mode and allows you to read, edit, and browse files without being connected to another device. A formatted SD card or USB drive must be inserted in the Orbit Reader 40 while operating in Stand-Alone mode. This card must contain the files you wish to read.

Stand-Alone mode operates in the following ways:

- [File Manager](#)
- [Menu](#)
- [Reader](#)
- [Editor](#)

## 13 File Manager

The File Manager is where you select a file stored on the SD card or USB drive to read on the Orbit Reader 40. You can also create new files and folders, view the properties (such as the file size and current reading position) and copy, rename, and delete files.

When moving through the list of files, the Orbit Reader 40 shows the first 40 characters of the file name. You may scroll to the rest of the information about the file, such as the rest of a long file name, its size, and date, by using the panning keys to move the display window. You can change the way files are sorted in the file list using related menu options.

Each item on the file list includes the following items:

- Filename and extension
- The current reading position in the file as a count of characters
- Size in KB (kilobytes)
- Last modified time
- Protected or Unprotected

Only one column is displayed per line (with panning as necessary). Pressing Left or Right Arrow moves to the previous or next column heading (file information). Upon exiting the Reader (Dot 7), you are returned to the same place and column in the File Manager.

The language of the file name is displayed according to the system language. For instance, if the file is in UEB Grade 1 (uncontracted) and the default language is also UEB Grade 1 (uncontracted), it will be displayed in UEB Grade 1 (uncontracted). But If the system language is set to a different language, and the file name is in UEB Grade 1 (uncontracted), the file name may appear unrecognizable. However, you can quickly change the profile using a hotkey to read the file name in the appropriate language.

The Orbit Reader 40 supports two media storage devices – external SD card and external USB drive. You can use one or both simultaneously for reading and creating new files.

### **13.1 File Manager Drives**

The file manager shows two drives at the top level:

- a. SD card
- b. USB drive

Pressing the Select key opens the root of the directory of the chosen drive. When you press the Select key on the SD card drive, it opens the root directory of the SD card and shows the list of files available on the SD card. Pressing Dot 7 will take you back to the top level in the file manager. Press the Down arrow key to go to the USB drive and press Select. This opens the root directory of the external flash drive connected to the USB host port.

When there is no flash drive connected to the USB host port, the display shows “USB drive [No media]”. Similarly, it shows “SD card [No media]” when there is no SD card inserted.

Inserting a flash drive into the USB Host port shows the message “USB drive inserted” and it shows the message “USB drive removed” when you remove it.

If you are browsing the contents of the flash drive and remove it from the USB Host port, the File Manager takes you to the top directory of the file manager.

You can copy files between SD card and USB drive using available commands.

### **13.2 File Manager Commands**

The following are the commands which you can use in the File Manager. Most of the commands for files also work for folders.

To...	Press	Additional information
Open a file or folder	Select or Dot 8	Pressing Select or Dot 8 opens the file or folder.
Go to previous or next file or folder	Up or Down Arrow	Pressing Up or Down Arrow moves to the previous or next file in the list.
Go back one folder level	Dot 7	Dot 7 acts like a "back" key to exit the current activity. If you are already in File Manager, pressing Dot 7 moves back one level where you have multiple subfolders open. If you are at the root level, Dot 7 does nothing. If you are in one of the columns of information, for example, size or date, then pressing Dot 7 returns to filename.
Move through file information	Left or Right Arrow	This command moves you through the file information by headings. See <a href="#">File Manager</a> section for more information.
Open the Menu	Select + Up Arrow	Pressing Select + Up Arrow opens the Menu.
Scroll text	Left or Right Panning keys	If the file name is longer than the display, panning left or right displays more of the file name. When you get to the end of the file name, pressing the panning key moves you to the next item of file information, like position, size, date, and so on.

Make a New File	Space + N (Dots 1 3 4 5)	The New File command starts the Editor mode with a new file in which to type. To exit the Editor, press Select twice.
Make a New Folder	Space + O (Dots 1 3 5)	The New Folder command opens the Edit Box where you may type the name of the new folder. Pressing Dot 8 saves the new folder name and returns you to the file list with that folder selected. If you do not name the folder, pressing Dot 8 names the folder as New Folder. Press Select to exit without making a new folder.
Delete a file or folder	Space + D (Dots 1 4 5)	This action deletes the currently selected file(s) or folder(s). Only empty folders and unprotected files can be deleted. A confirmation is required before the file or folder is deleted. When the message "-- Confirm action" is displayed, press Dot 8 to confirm or press Dot 7 to cancel.
Rename a file or folder	Space + R (Dots 1 2 3 5)	The Rename File command allows you to change the name of a file or folder. To use it, press the Rename command. The Orbit Reader 40 responds with an Edit Box containing the original file or folder name. Edit the name or type a new one and press Dot 8. Press Select to exit without renaming a file or folder. <b>Note:</b> The key input for the file name should be entered as per the selected system language.
Cut a file	Space + X (Dots 1 3 4 6)	This action cuts the currently selected file(s) or empty folders from their location and places it (them) on the clipboard to be used with the paste command.
Copy a file	Space + C (Dots 1 4)	The Copy File command makes a copy of the currently selected file(s) or empty folders and places it (them) on the clipboard to be used with the paste command.
Paste a file	Space + V (Dots 1 2 3 6)	This action pastes the file(s) or folder(s) that are currently on the clipboard into the current location in the File Manager. If no file or folder is on the clipboard, no action is taken.

Mark a file	Space + M (Dots 1 3 4)	When moving multiple files, use the Mark File command to mark each individual file before using Cut, Copy, or Delete. To Mark a file, place arrow on the file and press Space + M. To clear a marked file, press Space + M again. File Manager indicates marked files by raising Dots 7 and 8 of the first letter of the file name.
Protect or unprotect a file	Space + P (Dots 1 2 3 4)	To protect a file from accidental changes, arrow to the file and press Space + P. To remove the protected status, select the file and press Space + P again. To determine if a file is Protected, arrow Right or Left to the Unprotected/Protected heading.
Edit the current file	Space + E (Dots 1 5)	When editing the current file, the Orbit Reader 40 switches to Edit mode, which is indicated by a cursor at the point of input. The cursor is at the first character shown on the display when you pressed the edit command. As you type, everything is saved to the file. To exit, press Select twice. See <a href="#">The Editor</a> section for more information.
Edit Last Edited File	Space + Dots 1 2 4 6	This command reopens the last file you edited and returns the cursor to its last position in that file. “The Edit Last Edited File” command is useful for taking notes on what you read. Use the command to quickly switch back to the Editor. Then close the Editor to return to the title you are reading. This command has no effect if you are already editing a file. The device displays the error message “-- File not found” when no previous file has been opened or if the file was deleted. Press Select twice to return to the file you were reading.

### 13.3 More about Copying and Pasting Files

When copying or pasting a file that results in another file with the same name, File Manager adds an extension to indicate that the new file is a copy. For

example: if you copy book.brf to a folder that already contains book.brf, the new file becomes book\_1.brf and the original book.brf remains unchanged.

If the SD card runs out of space before a file operation is completed, File Manager shows, "-- Error copying file xxx" where xxx is the file name.

When copying a large number of files, or large files that can take some time, the File Manager displays progress messages during the copy operation.

If copying a file takes more than five seconds, File Manager displays, "-- Copying xxx (yy%)" where xxx is the name of the file and yy is the percentage complete. This percentage is updated after every 10% of the progress.

For the command keys, go to the [File Manager Commands](#) table under the File Manager section.

### **13.4 File Movement Commands**

To...	Press	Additional information
Move to the first file	Press Space + Dots 1 2 3	Pressing Space + Dots 1 2 3 moves File Manager selection to the first file in the current folder.
Move to the last file	Press Space + Dots 4 5 6	Pressing Space + Dots 4 5 6 moves File Manager selection to the last file in the current folder.
Incrementally search file list	Type the file name quickly	To find a file quickly, type the first few letters of the file's name. File Manager highlights the first file matching the letters you typed.

#### **13.4.1 Supported File Types**

Extension	Type	Explanation
BRF	Translated, formatted braille	displays exact representation
BRL	Translated, unformatted braille	displays exact representation
TXT	Text	displays as per the language selected

In addition to the supported file types, the Orbit Reader 40 shows the contents of any file. This feature is useful, however, to examine files that do contain readable text even if it is not a supported file type. However, some files may not contain readable content.

There are several excellent braille translation systems available in the U.S. If you obtain textbooks from APH or get transcribed titles from NLS or NBP, the braille should be correct and formatted. You may also get braille translation software that produces automatically translated braille using programs like 'Liblouis'.

Alternatively, you can have Bookshare automatically generate braille files of the titles available.

### **13.5 Preparing Files**

To prepare BRF files for placement on the Orbit Reader 40, follow these guidelines:

- Determine the translation type.
- Translate the file.
- Place the file onto the SD card or use the Mass Storage protocol to copy from your desktop computer.

To copy files to the SD card, remove the card from the Orbit Reader 40 and place it into a card reader on your computer. Alternatively, you can connect the USB cable from the Orbit Reader 40 to your computer and activate the Mass Storage protocol on the Orbit Reader 40 by either pressing Space + Dots 5 7 or selecting Mass Storage from the USB option in the menu. When using the Mass Storage protocol, the Orbit Reader 40 shows up as a drive on the computer, and here, you cannot use other functions of the Orbit Reader 40.

### **13.6 File transfer (Bluetooth)**

You can transfer a file from the Orbit Reader 40 to any paired Bluetooth device over Bluetooth. Select a file from the file manager using the Up or Down arrow keys and press Space + Dots 2 3 4 5 7.

For more information, see the [File transfer over Bluetooth](#) section.

## **14 The Reader**

In Stand-Alone mode, the Orbit Reader 40 displays the content of files stored on an SD card and USB drive. It translates the text into the language that you select for the Read/Edit option in the menu section.

The Orbit Reader 40 is designed to be a stand-alone reader. Placing BRF, BRL, or TXT content (see [File Types](#) section) on an inserted SD card/USB drive turns it into an on-the-go braille book reader. When first powered on, the Orbit Reader 40 displays the contents of the first file on the SD card/USB drive. To get to the file list, press Dot 7. Go to the desired file using the Up or Down Arrow key. Press Dot 8 or Select to open the file. Use Left and Right Panning keys to read it. There are many other functions in reading mode such as Find, Power Move, Bookmarks, and even a menu to set preferences. The following sections describe the commands and settings that can be used while reading.

When you turn the device on, the Orbit Reader 40 resumes from the last place of the last file in use. For first-time use, it displays the first file or folder on the SD card. Press Dot 7 to close the file and display File Manager, which shows a list of

files on the SD card. If there is no SD card inserted, the message "-- No SD card" is displayed.

When you open a text file to read for the first time on Orbit Reader 40, the file gets translated first as per the language selected for Reading/Editing. For a large file, it may take a few seconds to complete the translation. The translation process is indicated by showing a progress bar on the display where the Dot 6 (6<sup>th</sup> pin) of the first 6 cells raises in sequence repeatedly.

The Orbit Reader 40 stores the translated files in the SD card/USB drive so that it can be used in the future. Latency is observed only when you open the file for the first time or if the translated file is lost for some reason.

While the file translation is in progress, no other operations are allowed and pressing any key will have no effect.

If translation is taking too much time and you wish to abort the operation, you can do so by pressing Dot 7. The system will cancel the file opening operation and will take you back to the file manager.

You can switch the reading language with the help of hotkeys, even if you are in the middle of the file. Please note that if you change the language, the system will translate the file again as per the new language selected.

When you reach the end of the file, "-- End of file" is displayed by the Reader. Similarly, if you are at the beginning of the file, "-- Start of file" is displayed.

#### **14.1 Reader Commands**

While in Stand-Alone mode, the following commands are available.

To...	Press	Additional information
Go to Previous or Next display	Panning keys	See <a href="#">Panning Keys</a> section for more information.
Go to Previous or Next Character	Left or Right Arrows	If you press Right Arrow key, the next letter appears on the right side of the display. To conform to traditional braille display navigation commands, the Reader also supports Space + Dot 3 and Space + Dot 6.
Go to Previous or Next Word	Space + Left or Right Arrows	If you press Space + Right Arrow, the next word appears on the right side of the display. The Reader also supports Space + Dot 2 and Space + Dot 5.
Go to Previous or Next Line	Up or Down Arrows	Pressing the Previous or Next Line command moves to the previous or next carriage return in the

		file. Also works with Space + Dot 1 and Space + Dot 4.
Go to Previous or Next Page	Dot 3 or Dot 6	Pressing Dot 3 or Dot 6 moves the cursor back or forward in the file to the next page marker (form feed) or 1000 characters, whichever comes first.
Go to Top or Bottom of a file	Dot 1 or Dot 4	Pressing Dot 1 moves to the top of a file; pressing Dot 4 moves to the bottom of a file. Alternatively, long-press Up or long-press Down keys can be used to jump to the top or bottom of a file, respectively. (For compatibility with other devices, Space + Dots 1 2 3 moves to the top and Space + Dots 4 5 6 moves to the bottom of a file.)
Exit File	Dot 7	If reading a file, pressing Dot 7 returns you to your previous location.
Open the Menu	Select + Up Arrow	Pressing the Select + Up Arrow opens the Menu.
Set or Clear a Bookmark	Space + M	In addition to the automatic bookmark placed when you close a file, the Orbit Reader 40 lets you set additional bookmarks. Reader displays the message "-- Bookmark added" or "-- Bookmark cleared" if there was already a bookmark at that position.
Go to Previous or Next Bookmark	Dot 2 or Dot 5	The Reader responds by moving the cursor to the bookmarked position. The bookmarked location appears as the first character on the display. If there are no marks in the indicated direction, "-- No more bookmarks" is displayed.
Power Move/Search Forward and/or Back	Dots 8 + Down or Dots 8 + Up	Press Dots 8 + left to move back. Press Dots 8 + right to move forward. See <a href="#">Power Move Forward and Back</a> section for more information.
Find Braille	Space + F (Dots 1 2 4)	Pressing Space + F opens an input field (Edit Box) with a cursor. By default, it shows the last search string on the display. This allows you to perform a search in a specific braille format by typing the text in the same braille format. Press Dot 8 to begin the search. To exit the Edit Box without performing a search, press Select. See <a href="#">Edit Box</a> and <a href="#">Find Braille</a> sections for more information.
Find Next Braille	Dot 8 + Right Arrow	Pressing Dots 8 + Right Arrow repeats a previous search forward from the point in the file where you are. If there is no text in the Find Edit buffer, the Reader uses the text at the cursor. See the <a href="#">Find Braille</a> section for more information.

Find Previous Braille	Dots 8 + Left Arrow	Pressing Dots 8 + Left Arrow repeats a previous search backward from the point in the file where you are. If there is no text in the Find Edit buffer, the Reader uses the text at the cursor. See the <a href="#">Find Braille</a> section for more information.
Edit Current File	Space + E	Space + E to edit the file you are currently reading. Press Select twice to exit the Editor and continue reading.
Open New File	Space + N	Space + N opens a new file in the Editor for editing/notetaking. Press Select twice to return to the file you were reading.
Edit Last Edited File	Space + Dots 1 2 4 6	Using this command reopens the last file you edited and returns the cursor to its last position in that file. The Edit Last Edited File command is useful for taking notes on what you read. Use the command to quickly switch back to the Editor. Then close the Editor to return to the title you are reading. This command has no effect if you are already editing a file. The device displays the error message "-- File not found" when no previous file has been opened. Press Select twice to return to the file you were reading.

## 14.2 Power Move Forward and Back

The Orbit Reader 40's power move commands provide a quick means of moving/searching through large sections of a file to find a known location in the document. A power move operates by using boundaries and moving 50% between them with each press of the key command. In essence, by using a power move to search within a file, you are drilling down to the information using a binary command. When you press Dot 8 + Down Arrow or Dot 8 + Up Arrow, the Reader moves in the following ways:

On the first press, the cursor moves halfway between the current position and the start (Dot 8 + Up Arrow) or end (Dot 8 + Down Arrow) of the file, which acts as the boundaries for the power search.

Subsequent presses treat the moved-from position as the new boundary in that direction. So, if you are at the beginning of the file (or 0%) when you press the Dot 8 + Down Arrow, the Reader moves the cursor to halfway between 0% and 100%. You are now at 50%, and this becomes the new boundary. The initial boundary is at the original position of 0%. Therefore, if you press Dot 8 + Up Arrow, you move halfway between 50% and 0% to end at 25%. Or, if you press the Dot 8 + Down Arrow, you move halfway between 50% and 100% to end at 75%.

Each time you press Dot 8 + up arrow or Dot 8 + down arrow keys, the Reader shows the percentage in the first few cells of the display line and fills the rest of the cells with text at that position. This continues until you press some other key. See the [Panning Keys](#) section for more information.

### 14.3 Find Braille

To find specific braille text, use the Find command (Space + F). The Orbit Reader 40 responds by opening an input field (see [Edit Box](#) section) with a cursor, which is indicated by Dots 7 and 8. By default, it shows the text at the current cursor location in the edit box. Unlike the Power Move, which searches by known location of text, the Find command searches the entire file for instances of the braille text you enter in the input field. If you have searched for something previously, that text appears in the Edit Box with your cursor at the end. See the [Power Move Forward and Back](#) section for more information.

To find a word, first press Space + F to enter the Edit Box. Type the word you wish to find, in the language selected for the reader/editor and then press Dot 8 to start the search moving forward in the file. To search moving backward in the file, press Dot 8 + Left arrow. The word is shown as the first word on the display. If the word is not found, the message "-- Not found" is displayed. Press Dot 7 to clear the message. To exit the Edit Box without finding the word, press Select.

After the word is found, to continue searching, press Dot 8 + right arrow to find the next occurrence (forward in the file) or Dot 8 + left arrow to find a previous occurrence (towards the beginning of the file).

If you are searching for text in a contracted braille file, you must type the text you want to search in contracted braille.

If you are searching in a plain text file, you must type the text you want to search in Computer Braille. See [Appendix A - Computer Braille Chart](#) for details.

You can search for terms up to 255 characters long. Searches are generally not case sensitive. A search for the word "animal" results in finding both lowercase and uppercase versions of that word (animal/Animal). However, if you want to find words with upper case letters only, type the text you wish to find *with* the braille indicator for capitalization included (in contracted braille, one Dot 6 precedes a capital letter, while two Dot 6s precede an entirely capitalized word. In Computer Braille, capital letters include Dot 7). For example, a search for the capitalized word "Animal" gives the results for "Animal" (capitalized), but not "animal" (lowercase).

Additionally, searches match both whole and partial words. Searching for "an" finds "an" (whole) and "man" (partial). To restrict searches to whole words, add a space at the beginning or end of the word. The Reader matches the space with any non-printing character such as spaces, tabs, and line feeds.

Read the section on [Edit Box](#) for editing commands and navigation functionality.

In "search files", the Reader moves from reading files to searched text and displays it at the beginning of the display line. If the text is not found, then the Reader displays "Not found" and gets back to its previous position. While searching through large documents, the Orbit Reader 40 displays "Busy" while conducting the search.

To repeat a search moving forward towards the end of the file, press Dot 8 + Right Arrow.

To repeat a search moving back towards the beginning of the file, press Dot 8 + Left Arrow.

#### **14.4 Braille Pacer (Auto-Scroll)**

The Braille Pacer feature is available in the Reader and lets you set a reading pace for the display to automatically advance.

The pace can be adjusted during reading by pressing the space and Up Arrow key to increase the speed (i.e. a faster advance rate) or the space and Down Arrow key to decrease the speed (i.e. a slower advance rate). Pressing these keys once increases or decreases the speed in one-second steps. You can set the scrolling speed from 1 to 20 seconds depending upon your reading speed.

Many users might like to have finer control of the speed and this can be achieved by pressing the space bar, dot 7 and up or down arrow keys. The fine control increases or decreases the speed in steps of one-tenth of a second.

The default speed is 4 seconds. You can review the current scroll rate from the menu, but it can be changed only while reading. The current scroll rate is not displayed when auto-scrolling. However, when the auto-scroll is stopped and the scroll rate is changed, the scroll rate will be displayed by the message "xx.y sec scroll rate". You can use all the reading navigation commands during the Braille Pacer mode as well.

To...	Press	Additional information
Start/Stop Braille Pacer	Space	The rate of change is not viewable if the speed is increased or decreased while active.
Increase/Decrease Speed by 1 Second	Up or Down Arrow + Space	Increases or decreases speed by 1 second.
Increase/Decrease Speed by 0.1 Second	Dot 7 + Up or Down Arrow + Space	Increases or decreases speed by 0.1 second.

## 15 Edit Box

The Orbit Reader 40 presents a text dialog or input field called an Edit Box when you want to find text or rename a file. The Edit Box permits only one line of text. Press Space + F to begin a search or press Space + R to rename a file.

Once in the Edit Box, insert the text by typing the desired text as per the language selected for the reader/editor and then use the Edit Box commands to navigate. The Edit Box displays a blinking cursor (Dots 7 8) to indicate the beginning of the text that you are searching or editing.

When the Orbit Reader 40 shows an edit box, it often provides default text, such as a file name or a previously entered search term. To delete or replace the selected text, type a letter, or press the backspace key (Dot 7). To edit the existing text in insert mode, press one of the arrow keys to move the cursor letter by letter to the position where you wish to edit.

### 15.1 Edit Box Commands

To...	Press	Additional information
Move Left or Right One Letter	Left or Right Arrow	Pressing left or right arrow moves the cursor in the desired direction. When the cursor reaches the end of the edit box, it stops--it can move no further.
Move to Start or End of Text	Up or Down Arrow	Press Up or Down Arrow to move the cursor to the beginning or end of the text.
Backspace	Dot 7	The Backspace key Dot 7 deletes the letter immediately left of the cursor. Use Backspace key in case of a typing mistake or to remove small amounts of text.
Accept typed text	Dot 8	Here, pressing Dot 8 acts as an Enter/OK key.
Close the Edit Box	Select	To close the edit box, use the Close command. In single line controls, Close removes what you have typed. In multiple line controls, all text is automatically saved in the editor.

## 16 The Editor

In addition to serving as a tool for reading braille, the Orbit Reader 40 offers the ability to write and edit text. This feature allows you to create/edit new or existing files on the SD card.

While you are in the Editor mode, the cursor notes the current position by blinking Dots 7 8. The default setting for the cursor is 1 second. The blink of the cursor can be turned off from the Menu.

There are three ways to edit a file. Each of these three commands is available both from the Reader and the File Manager.

- Edit new file: Space + N
- Edit current file: Space + E
- Switch to last edited file: Space + Dots 1 2 4 6

To insert text, type or paste the text at the cursor. You can insert any text into an open file using the braille keys (Dot 1 to Dot 8). The Editor adds the typed or pasted text.

To exit Editor, press Select, E or Select twice. The cursor disappears, returning you to the Reader in the file you were editing.

When you exit the editor or save the file from the context menu, the back translation from braille to text is performed as per the selected language. The translation process is indicated by showing a progress bar on display where the Dot 6 (6<sup>th</sup> pin) of the first 6 cells rises in sequence repeatedly. This operation cannot be canceled.

If you are exiting a new file, the editor automatically names the file with the first 40 characters of the translated text in the file. If a file already exists with that name, the Editor appends a number to it until it produces a unique name. To rename a file or to add an extension to the file name, highlight the file name in File Manager, and use the rename command. If there are Computer Braille characters that cannot be used in a filename, such as a forward slash (/) or an asterisk (\*), the characters are replaced with an underscore (\_). Once you exit, the new file name in the File Manager is selected. If you wish to rename the file, use the rename command (Space + R). If you want to give the file a specific name, write that name as the first line in the file.

Note: It is recommended that you exit the Editor before you perform a system update, reset the device, or remove the SD card. Exiting the Editor saves your work. Not exiting the Editor first could result in lost work.

### **16.1 Cursor Routing Buttons**

A cursor routing button is located above each braille cell for positioning the cursor.

While editing a file in Stand-Alone mode, press a cursor routing button to move the cursor to that braille cell. This makes the cursor navigation very convenient. Similarly, when connected in remote mode, press a cursor routing button to move the cursor to that point, or to select a link in a Web page or e-mail message.

### **16.2 Editor Commands**

To ...	Press	Additional information
Edit New File	Space + N	Creates a new file in the Editor, ready for input.

Edit Current File	Space + E	Opens the selected file for editing.
Switch to Last Edited File	Space + Dots 1 2 4 6	Opens the last edited file for further editing. The device displays the error message "-- File not found" if the file has been deleted.
Add a new line (Enter)	Dot 8	Pressing Dot 8 adds a new line (enters a carriage return) at the end of a paragraph and places the editing cursor in the first cell of the next paragraph.
Delete a character	Dot 7	Pressing Dot 7 deletes the character to the left of the editing cursor.
Exit Editor	Select twice OR Select, E	When you close a file, Editor saves and returns to the Reader or File Manager, depending on your earlier location. It automatically saves your work. If you have opened the file from File Manager, File Manager makes the new file the current item in the list. If you edit an existing file, Reader moves the reading position to the place where the cursor was.
Save current work	Select, S	The Orbit Reader 40 automatically saves files every 1 KB of data or about 1000 characters, as you edit. However, small file increments could be lost during certain situations such as SD card removal, system updates, or device resets. Pressing Select, S saves the file as you deem necessary.
Go to next or previous character	Left or Right Arrow	Pressing Left or Right Arrow moves the cursor to the previous or next character.
Go to next or previous word	Space + Left or Right Arrow	Pressing Space + Left or Right Arrow moves the cursor to the start of the previous word or next word. This is also used to navigate between digits.
Previous or next display	Pan Up or Down	Pressing Up or Down on the Panning rocker keys allows you to move to the previous or next display of braille. If you press the bottom part of the rocker key, the display pans forward. If you press the top of the rocker key, the display pans backward. The editing cursor is placed at the first cell. See <a href="#">Panning Keys</a> section for more information.
Previous or next paragraph	Up or Down Arrow	Pressing the Up or Down Arrow moves the editing cursor to the start of the previous or next paragraph. If the start of the previous or next paragraph is not on the display, then the display pans to the start of the previous or next paragraph to the first cell on the display. The editing cursor is placed in the first cell.

Start or end of paragraph	Space + Dot 7 + Left or Right Arrow	Pressing Space + Dot 7 + Left or Right Arrow moves the cursor to the start or end of the current paragraph. If the start or end is not on the current display, then the display pans to the start or end of the first cell of the display. The editing cursor is placed in the first cell.
Previous or next page	Space + Dot 7 + Up or Down Arrow	Pressing Space + Dot 7 + Up or Down Arrow moves the cursor to the previous or next page (1000 characters or form feed character).
Go to top or end of the document	Long press Up or Down Arrow	Long pressing Up or Down Arrow moves the cursor to the top or bottom of the document.
Find Next Braille	Dots 8 + Right Arrow	Pressing Dots 8 + Right arrow repeats a previous search forward from the point in the file where you are. If there is no text in the Find Edit buffer, the Editor uses the text at the cursor.
Find Previous Braille	Dots 8 + Left Arrow	Pressing Dots 8 + Left arrow repeats a previous search backwards from the point in the file where you are. If there is no text in the Find Edit buffer, the Editor uses the text at the cursor.

### 16.3 Editor Block Text Commands

The Editor block operations depend on a selection. The selection is the text between the cursor and the location mark.

Note: The size limit for a cut/copy/paste operation is 5 KB of data.

Adding a location mark does not change the content. Marks are used for copying/cutting a selection of text. To copy or cut using marks, press Select, M to place a mark. Only one mark can be placed/added at a time. Once the mark is placed, the text between the cursor and the mark can be copied (Select, C) or cut (Select, X). Once text is copied or cut, the mark is cleared.

To ...	Press	Additional information
Set or clear Location Mark	Select, M	The editor indicates a mark by raising both Dots 7 and 8 on the character where the mark occurs. To set or clear a mark in the file, press the Mark command. If there was already a mark at the cursor, the editor shows "-- Mark cleared" on the display and removes the mark. If there was no mark, it shows "-" Mark set" and adds a mark.
Copy	Select, C	The copy command places the selected text onto the clipboard for later use in this file or another file.

Cut	Select, X	The cut command removes the selected text from the document and places it onto the clipboard for later use. If you want to put that text somewhere else, move to the desired position, then use the Paste command.
Paste	Select, V	To paste the contents of the clipboard before the cursor, use the Paste command.

#### 16.4 Context Menu

The Context menu gives you quick access to the functions such as cut, copy, and mark for use in Editor.

While in Editor, press Select to open the Context menu. There are two ways to make a selection from the Context menu after it is open.

1. If you do not know the braille shortcuts, press the Up or Down Arrow key to scroll to your selection and press Select or Dot 8.
2. If you know the braille shortcut for the command (the braille letter associated with the function), press that letter.

Braille Shortcut	Function
E	Exit
M	Mark
C	Copy
V	Paste
X	Cut
F	Find
S	Save

You can also press Select twice to quickly exit the Editor. The first press opens the Context menu; the second press selects the first option in the menu, which is Exit.

### 17 Sounds and Vibration

The Orbit Reader 40 provides sound and vibration indications upon various user actions. The following table shows user actions and scenarios and their respective sound and vibration indications. These indications may also be turned off from the preferences menu. See System Sounds (Off), Navigation sounds (Off), Error sounds (Off) and Vibration (On).

#### 17.1 Sound and Vibration Indications

User scenarios	Sound Indication	Vibration Indication
Device Power On	Power ON Sound	Single long vibration
Device Power Off	Power OFF Sound	Two short vibrations

Navigating through any list. E.g., File list or menu items	Navigation sound	Single short vibration
Navigation limits. E.g., End of the file, End of the list in the menu	Navigation limit sound	Two short vibrations
Error/Failure/Timeout notifications. E.g., File saving error, pairing failure, pairing timeout	Error sound	Single long vibration
Progress/Busy notifications. E.g., copying file, scanning Bluetooth devices.	Busy sound	Single short vibration once in a second
Low battery indication (10%)	Low battery sound	Single long vibration once in a minute
Entering sleep mode	Tick sound	Single short vibration
Exiting sleep mode	Tick sound	Single long vibration
Change in device mode	Tick sound	Single short vibration
Charger insertion/removal	Tick sound	Single short vibration
End of line or paragraph	Line sound	Single short vibration
Battery status is 0%	NA	Two long vibrations (shutdown indication)

## 18 Remote Mode

In addition to using the Orbit Reader 40 as a portable reading tool and editor, it connects with host devices (i.e., computers, phones, tablets) to provide braille input/output to that device. The host device must be running software that supports braille.

Host Device	Screen Reader
Windows PCs	JAWS®, NVDA, Windows Narrator, System Access
Mac® computers and iOS® devices	VoiceOver
Android devices	BrailleBack, Braille TTY, Amazon VoiceView

When you use the Orbit Reader 40 as a display for other hosts, the screen reader on that host device provides translation and other braille settings. Refer to documentation for the specific screen reader you are using.

The only hotkeys used with Remote mode that are not sent to the remote device are as follows:

- Pressing Select + Up Arrow opens the Orbit Reader 40 Menus.
- Pressing Select + Left Arrow returns the Orbit Reader 40 to Stand-Alone mode.
- Pressing Select + Right Arrow returns the Orbit Reader 40 to Remote mode.
- Pressing Select + Down Arrow brings up an Edit box where you can type and submit up to 255 characters of text to the remote device. Press Dot 8 to submit or Select to cancel.

### ***18.1 Before you Connect***

Before you connect the Orbit Reader 40 to a host, it is important to set the device so that the screen reader(s) you use, recognize it. The Orbit Reader 40 is in the process of being registered with screen readers. Currently, to use the Orbit Reader 40, you must change the Emulation mode to VarioUltra40 in the Menu. Once the Orbit Reader 40 is supported by screen readers, it will no longer be necessary to use the Emulation mode.

To set the device to emulate VarioUltra40, select Emulation from the Orbit Reader 40 menu and select VarioUltra40. If you plan to connect multiple host devices and if any of your preferred screen readers does not support the Orbit Reader 40, you must use the same emulation setting for each device. Note that if you already have emulation set and you want to change the setting, you must disconnect the device from the host first. Temporarily turn off your screen reader's braille support before altering the setting.

If you have paired the Orbit Reader 40 with Emulation off, unpair it from Bluetooth connections before using it again.

### ***18.2 Using the Bluetooth Connection***

Bluetooth is a technology that wirelessly connects devices, such as the Orbit Reader 40, to host devices, such as phones, tablets and computers or to peripherals such as Bluetooth keyboards. For example, when using an iPhone with VoiceOver, you can control the iPhone with keys and buttons on the Orbit Reader 40, and you can read the entire interface in braille as you interact with it.

If the Orbit Reader 40 is on, when you turn on the host device, it connects automatically provided the Bluetooth option in the menu is set to Automatic. When the host device enters sleep mode or is turned off, the Orbit Reader 40 reverts to showing stand-alone content. When connected to another device through the USB port, the Orbit Reader 40 reconnects to screen reader on the other host device.

There are only two ways to wake up a host device:

- Pressing the Power button

- Receiving a notification

If you wish to connect to a screenreader application such as Voiceover or Brailleback, initiate pairing from the host.

See the Bluetooth section for the host device you plan to use:

<a href="#">Connecting iOS with Bluetooth</a>
<a href="#">Connecting Mac with Bluetooth</a>
<a href="#">Connecting Android with Bluetooth</a>
<a href="#">Connecting Windows with Bluetooth</a>

### 18.2.1 Connect to Multiple Hosts

It is possible to pair the Orbit Reader 40 with more than one device. For example, you can pair it with both your phone and tablet. The device you use must offer a braille interface.

To use Bluetooth with multiple devices, the screen reader on each of the devices should be set to work with the same emulation setting. In other words, if you have an iPad with software version prior to version 10.2, it will not recognize the Orbit Reader 40. Therefore, you should set Emulation mode to Varioultra that is compatible with the older version. If all the hosts you are using support the Orbit Reader 40 directly, turn Emulation mode off. If any of them does not support the Orbit Reader 40, set the Emulation mode for all to VarioUltra40.

While it is possible to pair a device with Emulation off and later pair to a second device with Emulation on, if you set the emulation differently between the devices, commands will fail to work correctly. Therefore, it is important to pay particular attention when the Orbit Reader 40 is set to be used with multiple devices. The first device appears to work, but it does not function correctly, because it still uses the Orbit Reader 40 commands instead of VarioUltra40 commands.

When connecting to host devices that do not support the Orbit Reader 40, set the device to emulate VarioUltra40. This will ensure the proper functioning of commands between the Orbit Reader 40 and host devices.

### 18.2.2 Manage Connections

You can quickly toggle the active connection between paired Bluetooth devices using the Manage connection menu item.

Access the list of connected devices by pressing hotkey command Space + Dots 1 2 7 and scroll through the list by pressing Up/Down arrow key. This list shows

the name of the paired Bluetooth device. An empty slot is shown by the message "Bluetooth device" followed by a number from 1 to 5.

The Orbit Reader 40 supports up to five simultaneous Bluetooth connections.

Press the Select key to make the displayed connection active. The Orbit Reader 40 displays the selected device's name with an underline. Press dot 7 to go back.

When you use Bluetooth, it is possible to interrupt the Orbit Reader 40's activities by a connected host device. Each time you wake up the host device, it takes over the Orbit Reader 40. This behavior makes it very convenient to interact with your host device in braille, but if you use the Orbit Reader 40 in Stand-Alone mode or connect it to a screen reader with USB, you may not want the interruption when your phone wakes up. To return the Orbit Reader 40 to what you were doing before the interruption, put the host back to sleep by tapping its Power button.

To prevent interruptions from occurring altogether, turn off Bluetooth in the Orbit Reader 40 menu or temporarily turn off notifications on the host device. When you are ready to resume using Bluetooth, either turn it back on from the Orbit Reader 40's menu or use the hotkey Space + Dots 4 7 from Stand-Alone mode on the Orbit Reader 40. (You can always return to Stand-Alone mode by pressing Select + Left Arrow on the Orbit Reader 40.)

**Note:** If the Orbit Reader 40 does not update the display after switching to a connection, unlock your host device so that it will detect the display and activate the connection.

### 18.2.3 Manage Bluetooth Connection Commands

To...	Press	Additional information
Activate Bluetooth device	Press Space + Dot 8 + Dot 1 to 5	Pressing Space + Dot 8 in conjunction with Dot 1 through Dot 5 quickly switches to one of the five Bluetooth connections.
Forget selected connection	Press Space + Dots 1 4 5	Pressing Space + Dots 1 4 5 deletes selected connection from the list, the Orbit Reader 40 displays "Delete success".
Forget all connections	Press Space + Dots 1 3 4 6	Pressing Space + Dots 1 3 4 6 deletes all connections from the list, the Orbit Reader 40 displays "Delete success".

## 18.3 USB

Universal Serial Bus (USB) is a technology that makes connecting devices with hosts easy. It provides some advantages over Bluetooth because it is both faster and charges the Orbit Reader 40 simultaneously.

The Orbit Reader 40 supports three kinds of USB connections (all with the same cable available in the box.)

1. Human Interface Device - Orbit (recommended)
2. Braille - HID
3. Serial
4. Mass Storage (for turning the Orbit Reader 40's SD card into a drive on your computer)

#### **18.3.1 Human Interface Device (HID) – Orbit**

When using the Orbit Reader 40 with a screen reader that supports HID Orbit, follow these steps:

1. Turn on the Orbit Reader 40. Orbit reader 40 displays the last braille you were reading.
2. Connect the USB cable to the host and to the Orbit Reader 40. "-- Charger connected" is displayed.
3. On the Orbit Reader 40, press Space + Dots 2 7. "-- HID Orbit" is displayed.
4. Start the screen reader. Orbit responds by displaying what the screen reader is showing. If your screen reader does not support HID, see [Serial](#) below.

To switch back to Stand-Alone mode, press Select + Left Arrow.

#### **18.3.2 Human Interface Device (HID) – Braille**

When using the Orbit Reader 40 with a screen reader that supports HID Braille, follow these steps:

1. Turn on the Orbit Reader 40. Orbit reader 40 displays the last braille you were reading.
2. Connect the USB cable to the host and to the Orbit Reader 40. "-- Charger connected" is displayed.
3. On the Orbit Reader 40, press Space + Dots 6 7. "-- HID Braille" is displayed.

Start the screen reader. Orbit responds by displaying what the screen reader is showing. If your screen reader does not support HID, see [Serial](#) below. Switch back to Stand-Alone mode, press Select + Left Arrow.

#### **18.3.3 Serial**

When using a screen reader that only supports Serial protocol, follow these steps:

1. Turn on the Orbit Reader 40. It displays the last read material.
2. Connect the USB cable. "-- Charger connected" is displayed.
3. On the Orbit Reader 40, press Space + Dots 3 7. "-- Serial USB" is displayed.
4. Install any necessary drivers. See the Orbit Reader 40 Resources page or screen reader manufacturer's support webpages.
5. Configure the screen reader. Refer screen reader section in this document or refer to your screen reader documents.

#### 18.3.4 Mass Storage

To use an SD card inserted in the Orbit Reader 40 as a drive on your computer, follow these steps:

1. Turn on the Orbit Reader 40. It responds with braille from your last activity.
2. Connect the Orbit Reader 40 with your computer using USB cable. "-- Charger connected" is displayed.
3. On the Orbit Reader 40, press Space + Dots 5 7. "—Media-device" is displayed. Depending on your settings, the computer also responds with a notification of a new drive that is now available.
4. Use your PC to read and write files on the new drive.

To switch back to Stand-Alone mode, press Select + Left Arrow. Do not switch back to Stand-Alone mode while file transfers are in progress.

Note: If you have hidden files enabled on your device, you may encounter the following files:

- .BKP-FILEHISTORY - This file contains information of the last read position of the last 100 files that were opened on the device.
- .BKP-RECENTHISTORY - This file contains information required for software to generate the recent file list.
- .LogFile - Log file containing software debug information.

Do not delete these files. You will only see them if you have hidden files enabled.

#### 18.4 Buffering Text Input to Remote Devices

If you are typing fast on a braille display, there will be times when the remote device lags behind, slowing down your ability to input text quickly. The Orbit Reader 40 has a Buffer mode that allows you to input text up to 255 characters and send them faster to a remote device, avoiding problems with the speed of input of translated braille.

Note: Buffering text works only when connected over Bluetooth.

To open an input field in the Buffer mode, press 'Select + Down Arrow'. Once open, a cursor indicates that you can start entering text. Press Dot 8 to send the entire block of text to an "edit text field" on the remote device. Note that nothing happens when you send a text with no edit box open. Press Select to cancel the action and exit the Buffer mode, without sending any text.

## 18.5 iOS Devices

You can connect to iOS devices using Bluetooth only.

### 18.5.1 Connecting iOS with Bluetooth

Connecting the Orbit Reader 40 to an iOS device provides both braille feedback and the ability to type and control the device with the Orbit Reader 40 keyboard and directional buttons.

You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu.

In default configuration (Just Works), the Orbit Reader 40 is ready to pair with iOS via Bluetooth. Follow these steps to pair with Bluetooth:

1. Turn on Bluetooth. Bluetooth can be turned on in the Menu or by pressing Space + Dots 4 7 on the Orbit Reader 40.
2. On the iOS device, go to Settings > Accessibility > VoiceOver > Braille unless using a version of iOS prior to 13, then go to Settings > General > Accessibility > VoiceOver > Braille
3. Look for the name of the unit in the list of possible braille displays. It will show VarioUltra40 plus the last four digits of the device serial number.
4. Activate the Orbit Reader 40 device in the list to pair.

Confirm code configuration shows a random number on both the Orbit Reader 40's braille display and on the host device. To confirm the request, ensure that the numbers match and then press Dot 8 on the Orbit Reader 40. Then press the Pair button on your iOS device.

Once you pair the unit, iOS starts sending braille to the Orbit Reader 40, and you can use the Orbit Reader 40 input and navigation keys to control your iOS device.

Note: VoiceOver must be on in order to send braille to the Orbit Reader 40.

For more information about iOS and braille displays, see [Braille Displays for iOS](#) on the Apple® Accessibility website.

### 18.5.2 iOS Resources

- [Apple Blind and Visually Impaired User Community](#)
- [Andrea's Head Wiki](#)

- [TechVision Tutorials](#)
- [Youtube Videos on iPad/iPhone and Braille](#)
- [Braille Displays for iOS](#)
- [Common braille commands for VoiceOver navigation using iPhone, iPad, and iPod® touch](#)

### 18.5.3 iOS Commands

iOS Navigation Commands	
Function	Keys
Move to previous item	Space + Dot 1 or Left Arrow
Move to next item	Space + Dot 4 or Right Arrow
Pan braille left	Space + Dot 2
Pan braille right	Space + Dot 5
Move to the first element	Space + Dots 1 2 3
Move to the last element	Space + Dots 4 5 6
Scroll right one page	Space + Dots 1 3 5
Scroll left one page	Space + Dots 2 4 6
Move to the status bar	Space + S (Dots 2 3 4)
Select previous rotor setting	Space + Dots 2 3
Select next rotor setting	Space + Dots 5 6
Move to previous item using rotor setting	Space + Dot 3
Move to next item using rotor setting	Space + Dot 6
Launch the Task Switcher	Space + Dots 1 2 5 twice quickly
Scroll up one page	Space + Dots 3 4 5 6
Scroll down one page	Space + Dots 1 4 5 6
Go to Notification Center	Space + Dots 4 6
Go to Control Center	Space + Dots 2 5

iOS Reading Commands	
Function	Keys
Read all, starting at the selected item	Space + R
Read all, starting from the top	Space + Dots 2 4 5 6
Pause or continue speech	Space + P
Announce page number OR number of rows displayed	Space + Dots 3 4

iOS General Commands	
Function	Keys
Activate the Back button if present	Space + B (Dots 1 2)
Activate the Delete key	Space + D OR Space + Dot 7

Activate the Return key	Space + E OR Space + Dot 8
Switch between contracted and uncontracted braille	Space + Dots 1 2 4 5
Activate the Home button (twice quickly to launch the task switcher)	Space + H (Dots 1 2 5)
Toggle speech on and off	Space + M
Activate the Tab key	Space + T (Dots 2 3 4 5)
Context menu	Space + Dots 3 5 6
Switch braille input	Space + Dots 2 3 6
Volume up	Space + Dots 3 4 5
Volume down	Space + Dots 1 2 6
Toggle screen curtain on/off	Space + Dots 1 2 3 4 5 6
Select all	Space + Dots 2 3 5 6
Cut	Space + X
Copy	Space + C
Paste	Space + V
Undo typing	Space + Dots 1 3 5 6
Redo typing	Space + Dots 2 3 4 6
Activate Eject key	Space + Dots 1 4 6
Toggle announcement history	Space + Dots 1 3 4 5
Keyboard Help	Space + Dots 1 3

iOS iPad Commands	
Function	Keys
Move to previous container	Space + Dots 1 7
Move to next container	Space + Dots 4 7

## 18.6 Mac Computers

The Orbit Reader 40 can be connected to a Mac in two ways. One is to connect using the USB cable available in the box. The second is to use Bluetooth for a wireless connection.

### 18.6.1 Connecting to a Mac over USB

The simplest way to connect the Orbit Reader 40 to a Mac is to connect using a standard USB-A to Type-C USB cable. Currently, to use the Orbit Reader 40, you must set the Emulation mode to VarioUltra40 in the Menu. Then switch the Orbit Reader 40 to the HID protocol by picking HID in the USB option on the menu. Next, run VoiceOver by pressing the Apple CMD key + F5. Then, attach the small end of the USB cable to the Orbit Reader 40 with the bumps facing

down and the big end to Mac. VoiceOver automatically recognizes and starts using the display.

### 18.6.2 Connecting to a Mac over Bluetooth

The default configuration for pairing with a Mac through Bluetooth is ‘Just Works’. If Bluetooth has been turned off, it can be turned on in the menu or by pressing Space + Dots 4 7 on the Orbit Reader 40. You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu.

If the Orbit Reader 40 is in default connection, follow these steps to pair the device with a Mac:

1. Turn on Bluetooth. Bluetooth can be turned on in the menu or by pressing Space + Dots 4 7 on the Orbit Reader 40.
2. When VoiceOver is on, open VoiceOver Utility by pressing VO-F8
3. Click the Braille category, click Displays, and then click the Add (+) button
4. Select VarioUltra40 on the list. VoiceOver filters the devices it detects to list only the Bluetooth braille displays that are within range of your computer and that appear to match a VoiceOver braille display driver.
5. Activate the VarioUltra40 device in the list to pair.

The Confirm code configuration shows a random number on both the Orbit Reader 40's braille display and on the host device. Follow steps 1 through 3. The Mac shows you a dialog with a security code. To confirm the request, compare the numbers in the Bluetooth dialog on the Mac with the code shown on your display. If they are the same, select ‘Yes’ in the dialog on Mac. If the numbers do not match, select ‘No’, and try the next the Orbit Reader 40 on the list. Pairing requests can be accepted by pressing Dot 8 or rejected by pressing Dot 7 from the Orbit Reader 40 device. The purpose of this procedure is to allow more than one Orbit Reader 40 device to be paired in the same room at the same time without pairing the wrong device.

If the Orbit Reader 40 does not work with VoiceOver, it is possible that you are not using the latest Mac OS. In that case, you have two choices:

1. Put the Orbit Reader 40 in VarioUltra40 Emulation mode. Then connect it as a VarioUltra40,
2. Check for updates. We suggest you update to the latest operating system.

If the Orbit Reader 40 is not listed, make sure you have turned on Bluetooth in the Menu.

### 18.6.3 Controlling the Orbit Reader 40 from a Mac

To control how VoiceOver treats the display, follow these steps:

1. Open the VoiceOver Utility by pressing Command + F8 while VoiceOver is running.
2. Scroll down to the Braille option.
3. Select the Braille Display tab.

To turn on contracted braille, check the Contracted Braille box.

For the Mac documentation on connecting and using braille displays, see Apple's [VoiceOver Info Guide](#).

## **18.7 Android Devices**

You can connect Android devices using Bluetooth only.

### **18.7.1 Connecting to Android devices over Bluetooth**

In the default configuration, the Orbit Reader 40 is ready to pair with Bluetooth. You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu. If Bluetooth has been turned off, it can be turned on in the menu or by pressing Space + Dots 4 7.

1. Turn on Bluetooth. Bluetooth can be turned on in the menu or by pressing Space + Dots 4 7 on the Orbit Reader 40.
2. Turn on the Android device. Android and BrailleBack produce a tone to indicate successful communication.
3. Currently, to use the Orbit Reader 40, you must change the Emulation mode to VarioUltra40 in the Menu. Once the Orbit Reader 40 is supported by BrailleBack, it will no longer be necessary to use the Emulation mode
4. Set up the Android device.

To set up your Android device, follow the [Install and enable BrailleBack](#) instructions found on the Google™ Android Accessibility Help webpage.

### **18.7.2 Input and Output Text with BrailleBack**

To input text with your braille keyboard, first, enable the keyboard in your Android settings under Language and Input. If you try to use the keyboard before completing this step, you will receive a prompt to change your settings.

To edit a text field, focus and activate the text field. You can then use the Up and Down Arrow keys to move in the text field. You can switch between grade 1 and grade 2 input with shortcut space + g.

By default, Android is set to display English Computer Braille.

To set BrailleBack to display Unified English Braille (UEB) - grade 2 braille, follow the steps below:

1. Press H to open the Home screen.
2. Arrow to and select Apps > Settings > Accessibility > BrailleBack > Settings.

3. Select "Braille type".
  - o Android generates a dialog screen which indicates the type of braille being displayed and provides two choices: Literary braille or Computer Braille.
  - o Computer Braille is checked by default.
4. Arrow to "Literary braille" and select to check this item.
  - o When you check "Literary braille," you are returned to the BrailleBack Settings screen.
5. Arrow to "Literary braille table" and select.
  - o Another dialog screen opens with a selection of output translation tables.
6. Select English (UEB) - grade 2.
  - o You are returned to the BrailleBack Settings screen.

### 18.7.3 BrailleBack Commands

Function	Keys
Back	Space + B
Home	Space + H
BrailleBack help	Space + Dots 1 2 3
Notifications	Space + N
Recent Apps	Space + R
Enter (in Edit field)	Space + Dot 8
Backspace (in Edit field)	Space + Dot 7

### 18.8 Fire OS Tablets

You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu. To pair the Orbit Reader 40 with VoiceView on your Fire Tablet, follow these steps

1. Swipe down from the top of the screen with two fingers and double tap on Settings.
2. Find the Accessibility settings and double-tap. Then double-tap on VoiceView Screen Reader.
3. Navigate to Braille and double-tap. Then double-tap Pair Bluetooth Braille Display.
4. Make sure your Orbit Reader 40 and Bluetooth is on, and then double-tap on Scan.
5. You should see the Orbit Reader 40 followed by the serial number. Double-tap on it to pair.

For additional information, go to the "Use a Braille Display with Your FireTablet":(<https://www.amazon.com/gp/help/customer/display.html?nodeId=201829370>) webpage on the Amazon Help and Customer Service site.

## 18.9 Windows PCs

Before connecting the Orbit Reader 40 with a PC, you must first decide how you wish to connect: via Bluetooth or USB. This is a personal choice. USB charges the device as you use it, so it is a good choice when your battery is low. Bluetooth does not use wires, so it is a good choice when you are on the go.

### 18.9.1 Connecting to Windows over USB

If your screen reader does not support HID, switch to the Serial protocol on the Orbit Reader 40 with the hotkey or selecting Serial from the USB option in the menu.

For Windows versions 7 and newer, the serial interface requires the installation of two drivers: one for the USB and one to make the USB port appear like a COM port. The only exception is Windows XP. Because it is Serial only, it can just be plugged in. The second driver is required because many screen reading programs handle braille displays like a serial device. The COM port assignment driver shows the assigned port number used to communicate with the display. Take a note of the COM port number for later use. If you need to look at it later, go to Device Manager while the display is connected and look in the section for Ports: COM and LPT. One of the COM ports is assigned to the Orbit Reader 40. You need to use that number when you set up your screen reader. Once the display is connected to the device you wish to use, configure the software to use the Orbit Reader 40.

### 18.9.2 Connecting to Windows over Bluetooth

When connecting the Orbit Reader 40 with Bluetooth, you must first choose a pairing configuration.

The default configuration is ‘Just Works’. If the Orbit Reader 40 is in default connection, follow these steps to pair the device:

1. On the PC, perform a Bluetooth search.
2. Select the Orbit Reader 40 from the list of Bluetooth devices.

Confirm code configuration shows a random number on both the Orbit Reader 40’s braille display and on the host device. Follow steps 1 and 2; then, to confirm the request, compare the numbers in the Bluetooth dialog on the Windows PC with the code shown on your display. If they are the same, select ‘Yes’. If the numbers do not match, select ‘No’, and try the next Orbit Reader 40 on the list. Pairing requests can be accepted by pressing Dot 8 or rejected by pressing Dot 7 from the Orbit Reader 40 device. The purpose of this procedure is to allow more than one Orbit Reader 40 device to be paired in the same room at the same time without pairing the wrong device.

The device pairs with the Orbit Reader 40 and an incoming Bluetooth virtual serial port is set up on the PC.

Next, check the Ports list in the Windows Device Manager to find the COM port number assigned to the outgoing Bluetooth serial port. Make a note of this number.

In your screen reader on the PC, set the active Braille display COM port to use as the relevant Bluetooth serial port COM number.

### 18.9.3 Non-Visual Desktop Access (NVDA)

Currently, the Orbit Reader 40 is not directly supported by NVDA. You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu. Go to the NVDA Preferences menu and select Braille Settings from the list. From the braille display drop-down menu, select "Baum/Humanware/APH/Orbit Displays" and click OK.

Note: NVDA works in HID only, not Serial.

NVDA turns 'On' braille output when it is configured for the display. To turn 'Off' braille support, select "No Braille" from Braille Display options in the Braille Settings menu.

#### 18.9.3.1 NVDA Commands

Function	Key
Move up one line	Up Arrow
Move down one line	Down Arrow
Move left one character	Left Arrow
Move right one character	Right Arrow
Enter	Select

### 18.9.4 Job Access with Speech (JAWS)

Currently, the Orbit Reader 40 is not supported directly by JAWS. You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu.

Note: The JAWS version "2021.2012.57 / January 19, 2021" does not support VarioUltra40. Please use releases prior to this.

To use the Orbit Reader 40 with JAWS, you need to install a specific driver for VarioUltra40. JAWS driver is available at the following link.

[JAWS driver.](#)

When connecting the Orbit Reader 40 to JAWS via USB, it must be set to use the HID protocol by pressing Space + Dots 2 7.

To connect the Orbit Reader 40 via USB, follow these steps:

1. Start or restart JAWS.
2. Insert + J to bring up the JAWS menu.
3. Press Enter on Options.
4. Down Arrow to Braille and press Enter.
5. Tab to Add and press Enter.
6. Arrow Up or Down to BAUM VarioUltra 40 and press Space to check the box and select it.
7. Tab to the Next button and press Enter.
8. Select USB.
9. Tab to the Next button and press Enter.
10. Select BAUM VarioUltra 40 as a primary device.
11. Tab to the Finish button and press Enter.
12. Restart JAWS.

Alternative Steps for connecting over Bluetooth:

1. Press Space + Dots 4 7.
2. Follow steps 1-7 of the USB connection.
3. Select the COM port where the Orbit Reader 40 is connected (check device manager for COM port or use COM port you saved from previous steps).
4. Follow steps 9-12 of the USB connection.

To turn off braille support, follow these steps:

1. Insert + J to bring up the JAWS menu.
2. Press Enter on Options.
3. Down Arrow to Braille and press Enter.
4. Up Arrow to No Braille Display.
5. Tab to Ok and press Enter.
6. Restart JAWS.

**Note:** For a longer description of any of the following commands, turn JAWS keyboard Help ‘on’ by pressing Insert + 1 and type the command. Quickly type the command twice to get an even longer description. Press Insert + 1 again to exit the JAWS keyboard Help mode.

#### 18.9.4.1 Jaws Commands

Function	Keys
JAWSBackspace	Dot 7
BrailleEnter	Dot 8
BraillePriorLine	Select + Dot 1

BraillePanLeft	Select + Dot 2
BrailleNextLine	Select + Dot 3
BrailleToggleCursor	Select + Dot 4
BraillePanRight	Select + Dot 5
RouteBrailleToActiveCursor	Select + Dot 6
SayPriorSentence	Select + Dots 1 2
BrailleShiftTab	Select + Dots 1 3
TopOfFile	Select + Dots 1 4
BrailleEscape	Select + Dots 1 5
SayPriorParagraph	Select + Dots 2 3
RouteJawsCursorToPc	Select + Dots 2 4
BrailleToggleMode	Select + Dots 2 5
BrailleEnter	Select + Dots 2 6
StartMenu	Select + Dots 3 4
BottomOfFile	Select + Dots 3 6
JAWSDelete	Select + Dots 4 5
BrailleTab	Select + Dots 4 6
BrailleBottom	Select + Dots 5 6
SelectALink	Select + Dots 1 2 3
SelectAFrame	Select + Dots 1 2 4
KeyboardHelp	Select + Dots 1 2 5
MenuBar	Select + Dots 1 3 4
OpenListBox	Select + Dots 1 3 5
MuteSynthesizer	Select + Dots 1 3 6
MinimizeAllApps	Select + Dots 1 4 5
StartJAWSTaskList	Select + Dots 2 3 4
BrailleToggle8DOTS	Select + Dots 2 3 5
BrailleToggle8DOTS	Select + Dots 1 3 5
SelectaHeading	Select + Dots 2 3 6
JawsWindow	Select + Dots 2 4 5
CloseListBox	Select + Dots 2 4 6
CloseDocumentWindow	Select + Dots 2 5 6
HotKeyHelp	Select + Dots 3 5 6
PreviousDocumentWindow	Select + Dots 1 2 3 4
BrailleAutoAdvance	Select + Dots 1 2 3 5
SetBrailleVerbosity	Select + Dots 1 2 3 6
BrailleGrade2Translation	Select + Dots 1 2 4 5
BrailleGrade2ExpandCurrentWord	Select + Dots 1 2 5 6
NextDocumentWindow	Select + Dots 1 3 4 5
BrailleTurnMarkingOff	Select + Dots 1 3 4 6
SaySystemTime	Select + Dots 1 3 5 6

BrailleAltTab	Select + Dots 2 3 4 5
ReadBoxInTabOrder	Select + Dots 2 3 4 6
ListTaskTrayIcons	Select + Dots 2 3 5 6
WindowKeysHelp	Select + Dots 2 4 5 6
BrailleNextLine	Down Arrow
BraillePanLeft	Left Arrow
BrailleEnter	Select
BraillePanRight	Right Arrow
BraillePriorLine	Up Arrow

### 18.9.5 System Access

To connect the Orbit Reader 40 to System Access, the device must be connected by a standard USB-A to Type-C USB cable and set in HID protocol mode. You must set the Orbit Reader 40 to emulate VarioUltra40 on the menu.

1. Press Select + Up Arrow to open menu
2. Down Arrow to the USB selection
3. Right Arrow to select HID
4. Press Select
5. Press Dot 7 to return to the last location

Another way to quickly switch to HID mode is to use the shortcut keys Space + Dots 2 7.

After running System Access in HID mode, connect the USB cable and wait for 30 seconds. System Access will announce when the Orbit Reader 40 gets connected.

## 19 File transfer over Bluetooth

You can transfer a file from the Orbit Reader 40 to any paired Bluetooth device over Bluetooth except for iOS and Mac.

### 19.1 Send a file from the Orbit Reader 40

Go to a file in the file manager and browse to the file you wish to send. Press Space + Dots 2 3 4 5 7 command to send the file to the Bluetooth device.

The Orbit Reader 40 opens the list of paired devices. Scroll through device names from the list using Up and Down arrow keys and press Select.

It shows the progress message “Sending, XXX, YY%”, where XXX is a file name, YY is the percentage. Once the file transfer is completed, it shows the message “File transfer complete”. You can cancel the file transfer by pressing Dot 7. It shows the message “File transfer aborted”. In case, the host device cancels the file transfer, it shows the message “File transfer canceled”.

In case of any error in the file transfer, it shows the “File transfer error”.

### **19.2 Receive a file on the Orbit Reader 40**

When the Orbit Reader 40 receives a file transfer request from the host Bluetooth device, it shows the notification “XXX, YYY, ZZZ”, where XXX is a file name, YYY is the device name and ZZZ is the size of the file.

Press Dot 8 to accept the file receive request or Dot 7 to reject it.

It shows the progress by displaying “Receiving XXX, YY%”, where XXX is the file name and YY is the percentage received. Once the file transfer is completed, it shows the message “File transfer complete”. You can cancel the file transfer by pressing Dot 7. It then shows the message “File transfer aborted”. In case the host device cancels the file transfer, the Orbit Reader 40 shows the message “File transfer canceled”.

In case of any error in the file transfer, the Orbit Reader 40 shows the message “File transfer error”.

The Orbit Reader 40 stores the received file in the “Bluetooth” directory available at the root of the SD card. You cannot change this directory.

## **20 Calculator**

The Calculator can perform the four fundamental arithmetic operations.

Press Space + C (Dots 1 4 7) keys from the stand-alone mode to open and close the calculator application. It shows the message “Calculator” for 2 seconds and starts blinking the cursor on the first cell of the display when the calculator is launched.

You can now start typing digits (0 to 9), mathematical operators (+, -, \*, /), decimal point, and equals sign. The Calculator gives an error indication in the form of vibration or audio on inserting invalid input.

While entering the expression, you must enter using the language that is set as “read/write language”.

When you type any digit or operator, it moves the cursor to the next cell. Press Dot 7 to remove the last digit/operator. Once the entire display is full, you can review the previous display by pressing Left/Right keys or pan keys. (Total number of input digits and operators is limited to 255 entries for a single operation and maximum 15 digits are allowed per operand).

Press Dot 8 key to perform the calculation and display the answer. It stops blinking when the answer is shown. On pressing Dot 8 key on the answer, it repeats the previous operation on the answer.

Dot 8 at the last cell indicates the answer is longer than 40 digits. Press Pan keys to review the remaining answer.

To review the last 10 operations, press Space + Panning keys.

Exit the Calculator to go to previous or other modes or preference menu. The calculator application exits automatically when you turn off the device or it goes into sleep mode.

## **20.1 Basic calculator functions**

### **20.1.1 Addition**

Type any digits, then press ‘+’ sign to add the addition operator and then type digits again. For example, 4+2

### **20.1.2 Subtraction**

Type any digits, then press ‘-’ sign to add the subtraction operator and then type digits again. For example, 4-2

### **20.1.3 Multiplication**

Type any digits, then press ‘\*’ sign to add the Multiplication operator and then type digits again. For example, 4\*2

### **20.1.4 Division**

Type any digits, then press ‘/’ sign to add the division operator and then type digits again. For example, 4/2

Press Dot 8 key to display the answer.

Press Space + Dot 7 to clear the last operand typed into the display (CE – Clear Entry) and press Space + Dot 7 8 to clear the display and any partial calculation (AC – All Clear)

The Calculator shows the following errors messages:

1. Divide by zero: “Cannot divide by zero”
2. Zero divided by Zero: “Result is undefined”
3. Pressing Select key without entering the second operand: “Syntax error”

## **20.2 Memory operations**

The memory operations allow you to store and recall the results of calculations.

The calculator memory is set to 0 until you press M+ (Space + Up) or M- (Space + Down). Each time you press M+, the number on the display is added to the number stored in the calculator memory. Each time you press M-, the number on the display is subtracted from the number in the calculator memory. To recall the number in the calculator memory, press MR (Space + Left). To clear the memory, press MC (Space + Right).

### **20.3 Calculator Commands**

<b>Functions</b>	<b>Keys</b>
Open/Close Calculator	Space + C (Dots 1 4 7)
Addition	*Select + Up arrow / (Dots 3 4 6)
Subtraction	*Select + Down arrow / (Dots 3 6)
Multiplication	*Select + Right arrow / (Dots 1 6)
Division	*Select + Left arrow / (Dots 3 4)
Backspace	Dot 7
Clear Entry	Space + Dot 7
All clear	Space + Dots 7 8
Decimal point	Dots 4 6
Pi key: Displays the value of pi	Dots 1 2 3 4
M+ (Memory Plus)	Space + Up arrow
M- (Memory minus)	Space + Down arrow
MR (Memory recall)	Space + Left arrow
MC (Memory clear)	Space + Right arrow
History navigation	Space + Panning key

\* shortcut only available when Read/write language is set to Computer Braille

## **21 Calendar**

The Orbit Reader 40 includes a calendar.

Press Space + Dots 1 4 8 to open or close the calendar. When you open the calendar for the first time, you are placed in the first week of the current month.

It shows the current month and year followed by the name of the days first. For example, “MM YYYY Su Mo Tu We Th Fr Sa” where MM is the month number from 01 to 12 and YYYY is the year. The week starts on Sunday and ends with Saturday and today’s date is indicated by underlining it with Dots 7 8.

Press Up and Down arrow keys to navigate the calendar by weeks. Pressing the Down arrow key navigates to the next week and pressing the Up Arrow key navigates to the previous week.

The calendar is shown in a tabular format. You may find blank spaces where the first day starts in the middle of the week. For example, the first week of January 2020 is shown, “Jan 2020 1 2 3 4”.

Please note that the Letter sign, capital sign and number sign shall not be displayed along with month, year, and weekdays titles if the System language selected is to be other than the English Computer Braille.

## **21.1 Appointments**

You can also add and view appointments for a specific day. Press the Right arrow key to navigate to any day of the week.

### **21.1.1 View, Edit and Create appointments**

Press the Left or Right arrow keys to move the cursor to your desired day where you wish to view or add the appointment. Alternatively, you can press Space + Dots 1 2 4 5, which opens an edit box displaying the current date in one of the following formats DD/MM/YYYY, MM/DD/YYYY or YYYY/DD/MM. Type in the date on which you wish to set an appointment and press Select. While entering the date, you must enter it using the language that is set as “System language”. You can use the Left and Right arrow keys to jump between the date fields that you wish to type in.

Once the date is entered, Press the Select key to jump directly to the appointment for the date.

Alternatively, you can press the Down arrow key to jump to the week display for the date entered and then press Select key to view the list of appointments starting from the current day. It shows “No appointment” if you have no appointment set on that day. The format of the appointment is “DD/MM/YYYY HH:MM (Or MM/DD/YYYY depending on the format selected from menu) Notes”. For example, “09-03-2020 09:30 Dentist”.

Press the Up or Down arrow keys to view appointments. Press Dot 7 to go back to the calendar.

Press Select key to view the appointment list. From appointment list, either press “select” to edit the appointment or press Space + Dots 1 3 4 5 (Space + n) to

create a new appointment. It starts blinking cursor on the first item. Press Left/Right arrow key to move your cursor to date and time field and press Up/Down arrow key to change the date/time.

Go to the note field at the end of the date and time field and start typing the note for that particular appointment and press Dot 8 to add the appointment.

Press Space + Dot 1 4 8 to exit Calendar.

#### **21.1.2 Modify/Delete an appointment**

You can also modify the existing appointment. Press Select key on any day. It shows the list of existing appointments and press Select key to get the cursor on the first field of that appointment and you can change any field by pressing Up/Down arrow key.

Dot 8 to confirm the modifications.

#### **21.1.3 Delete appointment**

You can also delete the existing appointment. Press Select key on any day. It shows the list of existing appointments and Press Space + Dots 1 4 5 to delete that appointment.

An alarm rings at its programmed time and day of the appointment. Press Dot 7 to acknowledge the ringing alarm.

### **21.2 Calendar Commands**

The following are the command for the calendar application.

To...	Press	Additional information
Go open/close calendar	Space + Dots 1 4 8	Open/close the calendar in Stand-alone mode
Go to Previous or Next Week	Up or Down Arrows	You can navigate in the calendar by weeks. Pressing Down arrow key goes the next week and pressing Up arrow key to goes to the previous week.
Add a new appointment	Space + Dots 1 3 4 5	Add new appointment in the list
Delete appointment	Space + Dots 1 4 5	Delete existing appointment from the list
Go to Date	Space + Dots 1 2 4 5	Enter and jump to a date to set appointment

## 22 Key Lock Command

The Key Lock command prevents accidental key presses. The command is to hold Dots 7 8 for two seconds or more. Pressing and holding these same keys again, unlocks the keys. You can also unlock the keys by turning the device off and then on again.

## 23 System Alerts

System alerts, such as — “Battery low” are indicated by periodic cycling of Dot 8 in the last cell of the device.

Alerts are seen by invoking the Menu or the Editor Context Menu. Pressing Select causes the next alert to appear if there is any. The alert is removed from the alert list once it has been displayed.

If no more alerts are in the list, the first Menu or Editor Context Menu item appears. Pressing Dot 7 clears all pending alerts and puts you back on the first Menu or Editor Context Menu item.

If the alert message length is longer than 40 characters, you can navigate through the message using Panning keys. If you are already in Menu or Editor Context Menu when an alert appears, you can review the alert by pressing Space key.

## 24 Using an external Bluetooth keyboard

You can pair and use external Bluetooth QWERTY keyboards to fully control and operate Orbit Reader 40. You can also use the external keyboard and the onboard Perkins-style braille keypad simultaneously.

### 24.1 Pairing and connecting

Follow the steps below to pair and connect Orbit Reader 40 with the external keyboard.

1. Turn on the OR-40.
2. Turn on the Bluetooth keyboard and put it in discoverable mode.
3. On the Orbit Reader 40 press **[Space] + [Dots 2 4 7]** to scan for Bluetooth devices
4. Scroll through the list of devices using the Up and Down keys and go to the Bluetooth keyboard.
5. Press **[Select]** to initiate pairing with the keyboard.
6. It may simply get paired or The Orbit Reader 40 may show a 5-digit numeric pairing key on the display.
7. If the Orbit Reader 40 displays the pairing key, enter these digits on the Bluetooth keyboard and tap the ‘Enter’ key.

8. If the Orbit Reader 40 successfully pairs with the keyboard it will show “Bluetooth keypad connected” and it automatically connects with the keyboard, else it will show “Pairing failed” or “Pairing timeout”
9. Press **[Dot 7]** to exit from the list of scanned devices.

Please note that a QWERTY keyboard can be used only when US computer Braille (8 dot) language is chosen as the read/write language.

## **24.2 Commands**

All key commands are also available from the Bluetooth keyboard. In the following keyboard commands, if you are using an Apple keyboard, replace the Windows Key with the Options Key, and the Alt key with the Command key

### **24.2.1 File Manager commands**

To	Press
Create New File	Ctrl + N
Create New Folder	Ctrl + O
Delete File/ Folder	Delete
Rename File/ Folder	Ctrl + R
Cut File	Ctrl + X
Copy File	Ctrl + C
Paste File	Ctrl + V
Mark File	Ctrl + M
Protect (or unprotect) file	Ctrl + P
Edit current file	Ctrl + E
Edit Last Edited File	ALT + TAB
Move to first file	Ctrl + Home
Move to Last File	Ctrl + End
Move back to previous folder/File	Up Arrow
Move to next folder/file	Down Arrow
File properties navigation left	Left arrow
Exit folder listing and return to file	Back space
File properties navigation right	Right arrow
Open current file/folder	Enter
Open the preference menu	Windows + P

### **24.2.2 Reader Commands**

To	Press
Go to Previous or Next display	UP arrow/Down arrow
Go to Previous or Next Character	Left/Right Arrows
Scrolls the previous or Next word into view	Ctrl + Left or Right Arrow

Go to Previous or Next Page	Page Up + Page Down
Move to the top of the file	Ctrl + Home
Move to the bottom of the file	Ctrl + End
Exits the file and shows the folder contents again	backspace
Open menu	Windows + P
Set/Clear Bookmark	Ctrl + M
Go to Previous or Next Bookmark	Shift + Left or Right arrow
Previous binary search (Move by %)	Window + Down
Next binary search (Move by %)	Window + UP
Open Find Edit box	Ctrl + F
Find next braille	Alt + Down arrow
Find previous braille	Alt + Up arrow
Moves to the previous paragraph	Ctrl + UP
Moves to the next paragraph	Ctrl + DOWN
Open new file	Ctrl + N
Edit current file	Ctrl + E
Return to last edit file	Alt + Tab
Increase the reading speed by 1 second	Ctrl + Alt + Up arrow
Decrease the reading speed by 1 second	Ctrl + Alt + Down arrow
Increase the reading speed by 0.1 second	Ctrl + Alt + Right
Decrease the reading speed by 0.1 second	Ctrl + Alt + Left
Start/Stop Braille Pacer	Space

#### 24.2.3 Editor Commands

To	Press
Create New file	Ctrl + N
Edit current file	Ctrl + E
Return to last Edit file	Alt + Tab
Enter context menu	F1 or Esc
Copy	Ctrl + C (from within context menu)
Paste	Ctrl + V (from within context menu)
Cut	Ctrl + X (from within context menu)
Add new line	Enter
Delete character	Backspace
Find	Ctrl + F (from within context menu)
Exit editor	Ctrl + E (from within context menu)

Save current work	Ctrl + S (from within context menu)
Go to next or previous character	Left or Right Arrow
Go to next or previous word	Ctrl + Right/Left arrow
Start or end of paragraph	Alt + Left/Right arrow
Go to next or previous paragraph	Ctrl + UP/DOWN
Go to next or previous page	Page up/down
Go to next, previous or next full display	Alt + Up/down arrow
Go to top or end of document	Ctrl + Home/End
Set or clear Location Mark	Ctrl + M (from within context menu)
Enter	Enter
Back space	Backspace
Switch to profile 1	Alt + F1
Switch to profile 2	Alt + F2
Switch to profile 3	Alt + F3
Switch to profile 4	Alt + F4

#### 24.2.4 Edit box commands

To	Press
Insert a character at the caret	Any alpha numeric character
Move Left or Right One Letter	Left or Right Arrow
Move to Start or End of Text	Up or Down Arrow
Backspace	Backspace
Accept typed text	Enter
Close the edit box	Esc

#### 24.2.5 Menu Navigation commands

To	Press
Open Menu	Windows Key + P
Move to the previous menu item	Up arrow
Move to the next menu item	Down arrow
Move to the previous menu choice for current item	Left arrow
Move to the next menu choice for current item	Right Arrow
Select the item	Esc
Dismiss the alert	Esc
Exit the menu	Backspace

#### 24.2.6 Mode switching commands

To	Press

Return to Reader	F10
Connect via HID	Ctrl + H
Connect via Serial	Ctrl + I
Connect via Bluetooth	Ctrl + B
Connect via Mass storage	Ctrl + J
Emulation mode switching	UP + DOWN arrow key
Switch to remote mode	Ctrl + Right arrow
Switch to local mode	Ctrl + Left arrow

#### 24.2.7 Calendar commands

To	Press
Open / close calendar	Ctrl + L
Go to previous or next week	UP/ DOWN key
Add an appointment	Ctrl + Alt + Q
Save an appointment	ESC
Delete an appointment	Ctrl + Q
Acknowledge appointment	Backspace
Acknowledge ringing alarm	Backspace
Snoozing ringing alarm	Space
Go to Specific Date	Ctrl + G

#### 24.2.8 Calculator commands

To	Press
Open/Close Calculator	Ctrl + T
Addition	Plus
Subtraction	Minus
Multiplication	Multiplication
Division	Division
Equals/Answer	Enter
Backspace	Backspace
Clear Entry	Ctrl + K
All clear	Ctrl + Delete
Decimal point	Ctrl + Dot key
Pi key: Displays the value of pi	Ctrl + slash key
M+ (Memory Plus)	Ctrl + Up arrow
M- (Memory minus)	Ctrl + Down arrow
MR (Memory recall)	Ctrl+ Left arrow
MC (Memory clear)	Ctrl + Right arrow
History navigation	Ctrl + Y/Ctrl + Z

### 24.2.9 iOS commands

To	Press
Move to previous item	Left arrow
Move to next item	Right Arrow
Pan braille left	Alt + Ctrl + Left Arrow
Pan braille right	Alt + Ctrl + Right Arrow
Move to the first element	Ctrl + Home
Move to the last element	Ctrl + End
Scroll right one page	Alt + Page Down
Scroll left one page	Alt + Page Up
Move to the status bar	Alt + S
Select previous rotor setting	Ctrl + 2
Select next rotor setting	Ctrl + 4
Move to previous item using rotor setting	Ctrl + 1
Move to next item using rotor setting	Ctrl + 3
Launch the Task Switcher	Windows + T
Scroll up one page	Page Up
Scroll down one page	Page Down
Go to Notification Center	Windows + N
Go to Control Center	Windows + A
Item chooser	Alt + I
Escape Current context	Ctrl + ESC
Previous container	Windows + W
Next container	Windows + S
Read all, starting at the selected item	Alt + R
Read all, starting from the top	Ctrl + R
Pause or continue speech	Ctrl + P
Announce page number OR number of rows displayed	Alt + P
Activate the Back button if present	Windows + U
Activate the Delete key	Windows + D
Activate the Return key	Windows + R
Switch between contracted and uncontracted braille	Windows + G
Activate the Home button (twice quickly to launch the task switcher)	Windows + H
Toggle speech on and off	Windows + M
Activate the Tab key	Windows + Tab
Context menu	Windows + C
Switch braille input	Windows + I

Volume up	Windows + F11
Volume down	Windows + F10
Toggle screen curtain on/off	Windows + L
Select all	Ctrl + A
Cut	Ctrl + X
Copy	Ctrl + C
Paste	Ctrl + V
Undo typing	Ctrl + Z
Redo typing	Ctrl + Y
Activate Eject key	Windows + E
Toggle announcement history	Ctrl + H
Keyboard Help	Windows + K
Tab	Ctrl + Tab
Shift Tab	Ctrl + Shift + Tab
Show/ Hide the Keyboard	Alt + K
Select Left	Ctrl + O
Select Right	Ctrl + J
Text Search	Ctrl + F
Output Text style	Alt + F
Play/Pause Music	Ctrl + Q
Translate	Windows + Z
Next Output Mode	Ctrl + G
Next Input Mode	Ctrl + B
Delete	Backspace
Return	Backspace
Toggle mute	Windows + J
Start help	Ctrl + F11
Scroll up page	Ctrl + I
Scroll down page	Ctrl + K
Simulated long press	Ctrl + D
Single letter Quick Nav	Windows + O
Toggle Quick Nav	Windows + Q
Change an Item's label	Windows + X
Start dictation when in text field	Ctrl + T

#### 24.2.10 Brailleback commands

To	Press
Back	Alt + B
Home	Alt + Home
BrailleBack help	Alt + H

Notifications	Alt + N
Recent Apps	Alt + R
Enter (in Edit field)	Alt + Enter
Backspace (in Edit field)	Alt + Backspace

#### 24.2.11 JAWS commands

To	Press
Move display to the left	Left Arrow
Move display to the right	Right Arrow
Move display up one line	Up Arrow
Move display down one line	Down Arrow
Pan left one braille window	Alt + Left Arrow
Pan right one braille window	Alt + Right Arrow
Top of active window	Windows + num 1
Bottom of active window	Windows + num 0
Route braille to active cursor	Ctrl + Alt + R
Say current line	Ctrl + Alt + L
Say current word	Ctrl + Alt + W
Say current character	Ctrl + Alt + C
Previous document window	Ctrl + Alt + P
Next document window	Ctrl + Alt + N
Beginning of file	Ctrl + Alt + S
End of file	Ctrl + Alt + E
Page Up	Ctrl + Page Up
Page Down	Ctrl + Page Down
Home	Ctrl + Alt + Home
End	Ctrl + Alt + End
Up Arrow	Ctrl + Alt + Up Arrow
Down Arrow	Ctrl + Alt + Down Arrow
Previous word	Ctrl + Alt + Left Arrow
Next word	Ctrl + Alt + Right Arrow
Previous character	Shift + Left Arrow
Next character	Shift + Right Arrow
Backspace (acts as shift key when typing braille characters)	Alt + Backspace
Enter	Alt + Enter
Tab	Tab
Shift + Tab	Shift + Tab
Delete current character	Delete
Select all	Alt + Q
Select to top of document	Shift + Home

Select to bottom of document	Shift + End
Select previous page	Shift + Up Arrow
Select next page	Shift + Down Arrow
Select beginning of line	Windows + Home
Select end of line	Windows + End
Select previous line	Ctrl + Up Arrow
Select next line	Ctrl + Down Arrow
Select previous word	Ctrl + Left Arrow
Select next word	Ctrl + Right Arrow
Select previous character	Windows + Right Arrow
Select next character	Windows + Left Arrow
Copy to clipboard	Alt + C
Cut to clipboard	Alt + X
Paste clipboard	Alt + V
Undo	Alt + Z
Start menu	Windows
Toggle menu bar	Alt + M
Escape	Alt + Esc
Alt Tab	Alt + Tab
Minimize all applications	Alt + A
Toggle keyboard help	Alt + F1
Toggle type keys mode	Alt + F2
JAWS cursor	Alt + F3
PC cursor	Alt + F4
Route JAWS cursor to PC cursor	Alt + F5
Say all to bottom	Alt + F6
Toggle grade 2 translation	Alt + F7
Toggle grade 2 translation of current word	Alt + F8
Display last flash message	Alt + F9
JAWS find	Alt + F10
JAWS find next	Alt + F11
JAWS find previous	Alt + F12
Toggle active cursor follows braille	Shift + F1
Toggle braille follows active cursor	Shift + F2
Cycle through braille modes	Shift + F3
Display six-dot braille	Shift + F4
Display eight-dot braille	Shift + F5
Toggle cursor shape	Shift + F6
Restrict braille cursor	Shift + F7
Toggle characters and attributes	Shift + F8

Braille color marking	Shift + F9
Select attributes to be displayed	Shift + F10
Set 8 characters per space	Shift + F11
Set unlimited characters per space	Shift + F12
Toggle 8/unlimited characters per space	Windows + F1
Cycle table reading options	Windows + F2
Cycle table header options	Windows + F3
Graphics labeler	Windows + F4
Adjust JAWS options	Windows + F5
JAWS window	Windows + F6
Announce time	Windows + F7
Show script file name	Windows + F8
Ctrl + A - Ctrl + Z	Caps lock + a-z
F1 - F10	F1 - F10
Ctrl + F1 - Ctrl + F10	Ctrl + F1 - Ctrl + F10

#### 24.2.12 NVDA commands

To	Press
Scroll braille display back	Alt+ 2
Scroll braille display forward	Alt + 5
Move braille display to previous line	Alt + 1
Move braille display to next line	Alt + 3
Navigation	Arrows key
Route to braille cell	Arrows key

#### 24.2.13 Mac Commands

To	Press
Move to previous item	Alt + Ctrl + Up
Move to next item	Alt + Ctrl + Down
Move up	Ctrl + 1
Move down	Ctrl + 3
Go to first item	Ctrl + Home
Go to last item	Ctrl + End
Start Interacting	Windows + I
Stop Interacting	Windows + C
Item Chooser	Windows + Esc
Find	Windows + F
Go to Menu bar	Alt + S
Open Shortcut Menu	Windows + A
Escape	Windows + B

Scroll left one page	Alt + Page Up
Scroll right one page	Alt + Page down
Scroll up one page	Page up
Scroll down one page	Page down
Speak page number or rows being displayed	Alt + P
Select previous rotor setting	Ctrl + 2
Select next rotor setting	Ctrl + 4
Perform action for item	Windows + F9
Increase Volume	Windows + F11
Decrease Volume	Windows + F10
Read page starting at the top	Ctrl + R
Read contents of the VoiceOver Cursor	Alt + R
Read text attributes	Alt + T
Select all	Ctrl + A
Select left	Ctrl + L
Open VoiceOver Utility	Ctrl + U
Toggle Screen Curtain on and off	Windows + L
Pause or continue speech	Ctrl + P
Toggle speech on or off	Windows + M
Open VoiceOver Help	Alt + Home
Keyboard Help	Windows + K
Create custom label	Alt + G
Toggle QuickNav	Ctrl + Page up
Pan braille to the left	Alt + Ctrl + Left Arrow
Pan braille to the right	Alt + Ctrl + Right Arrow
Toggle announcement history	Ctrl + H
Translate	Tab
Map Braille key to Delete key	Windows + D
Map Braille key to Return key	Windows + R
Map Braille key to Tab key	Windows + Tab
Switch between contracted and uncontracted braille	Windows + G
Go to Desktop	Ctrl + 5
Keyboard Help	Ctrl + 6
Toggle Speech On or Off	Ctrl + 7
Map Braille key to Shift key	Ctrl + 8
Map Braille key to toggle Shift key	Ctrl + 9

Map Braille key to Command key	Alt + 6
Map Braille key to toggle Command key	Alt + 7
Map Braille key to Control key	Alt + 8
Map Braille key to toggle Control key	Alt + 9
Map Braille key to Option key	Alt + 0
Map Braille key to toggle Option key	Windows + 2
Map Braille key to Fn key	Windows + 3
Map Braille key to toggle Fn key	Windows + 4
Map Braille key to Delete key	Windows + 5
Map Braille key to Return Key	Windows + 6

#### 24.2.14 Other commands

To	Press
Initiate the Bluetooth device scanning	Alt + S
Access the list of connected devices	Alt + L
Delete selected connection	Alt + D
Delete all connections	Alt + Delete
Select Bluetooth device	ESC
Clock settings	Windows + C
Edit Box or Buffer Edit mode	Windows + B

## 25 Reboot the Device

If the Orbit Reader 40 suddenly does not respond to button presses, and you know that the battery is not fully discharged, then you may try rebooting the device by pressing the lower Right Panning key + Dot 8. There is no indication of the reset event. The unit is in power-off condition after reset and needs to be powered on before it can be used.

## 26 Device Upgrade Procedure

### 26.1 Device Firmware Upgrade

New versions of the firmware for the Orbit Reader 40 are released from time to time, containing improvements, bug fixes, and new features. This section describes the procedure for updating the Orbit Reader 40 firmware.

There are two ways to upgrade the firmware of the Orbit Reader 40: either using a Windows PC and a USB cable or using an SD card containing the update file.

The USB upgrade method requires a Windows PC, but the upgrade process is simple and quicker, but the SD card upgrade method only requires a computer to download the update file and put it on the SD card; then no computer is required to perform the actual upgrade.

There are two parts to the upgrade procedure:

1. Download the firmware package
2. Upgrade the Orbit Reader 40

The process for downloading the firmware package is common to either upgrade method.

### 26.1.1 Download firmware package

To download a Firmware Upgrade Package for the Orbit Reader 40:

1. Go to the Orbit Research Support webpage  
(<http://www.orbitresearch.com/support/orbit-reader-40-support/>)
2. For the most current version, select Download Most Recent Firmware.  
(<http://www.orbitresearch.com/support/orbit-reader-40-support/orbit-reader-firmware-download/>).
3. Select OR-40 Firmware Upgrade Package vB1.00.00.XXrYY.
4. Save the zip file to your PC.

When the download is complete, follow these steps:

1. Open the folder on your computer where the firmware zip file was downloaded. This is usually your Downloads folder.
2. Right-click on the file and choose "Extract all" OR select the file by arrowing to it, pressing the application key and choosing "Extract All" from the Context menu.
3. Follow the dialog steps to extract the zip file to a folder of your choice.

When finished, your chosen folder should contain a folder named after the version of the release, for example, OR-40\_XX.XX.XX. Make a note of the location of this folder for use in the next section of this document.

For information about bugs, fixes, and additions to the software, see the latest version's Release Notes on the Orbit Research Firmware. Download the webpage at <http://www.orbitresearch.com/support/orbit-reader-40-support/orbit-reader-firmware-download/>

### 26.1.2 Using the Windows PC Upgrade Utility

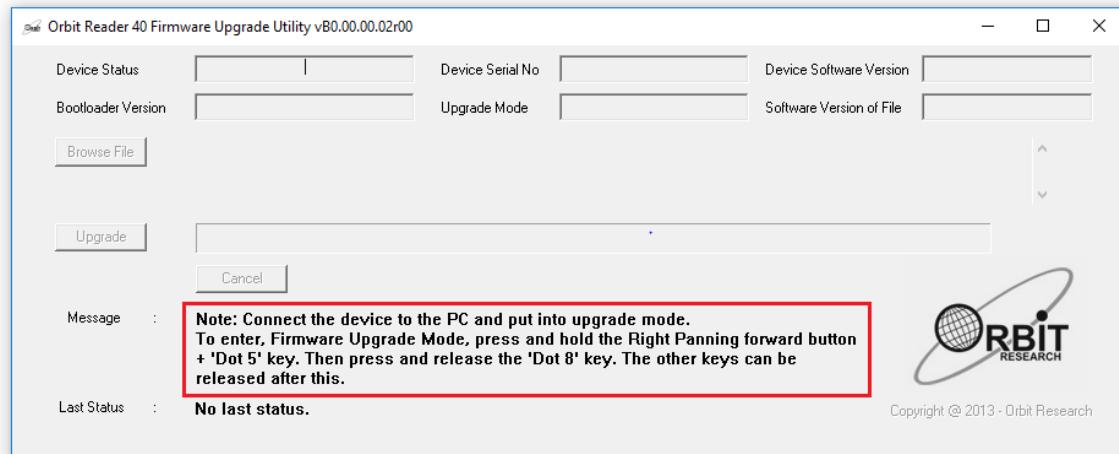
The following is required to perform the upgrade to the Orbit Reader 40 with a PC:

1. The Orbit Reader 40 unit
2. Standard USB-A to Type-C USB cable
3. A PC running Windows XP or later
4. The Orbit Reader 40 Upgrade Utility file found in the Orbit Reader 40 folder (see Download firmware package).

5. Orbit Reader 40 Release Bin files found in the Orbit Reader 40 folder (see Download firmware package).

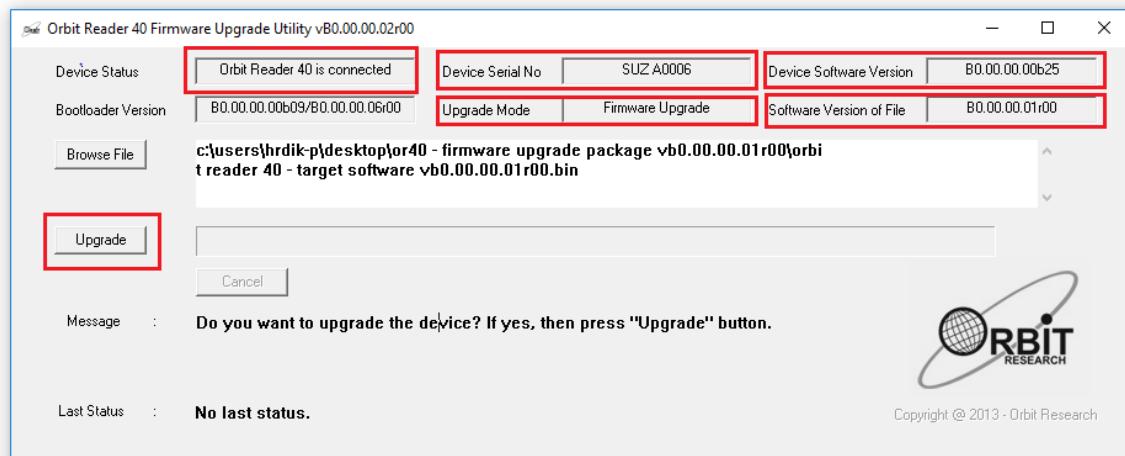
To upgrade the firmware, follow these steps:

1. Make sure the Orbit Reader 40 is turned off.
2. Connect the Orbit Reader 40 to the PC using the USB cable.
3. In the Release folder on your PC, run the Orbit Reader 40 Firmware Upgrade Utility. If you receive an error message, see the [Troubleshooting](#) section. Assuming no errors, the program displays the message, “Note: Connect the device to the PC and put it into upgrade mode. To enter, Firmware Upgrade Mode, press and hold the Right Panning forward button + ‘Dot 5’ key. Then press and release the ‘Dot 8’ key. The other keys can be released after this” in the message field.

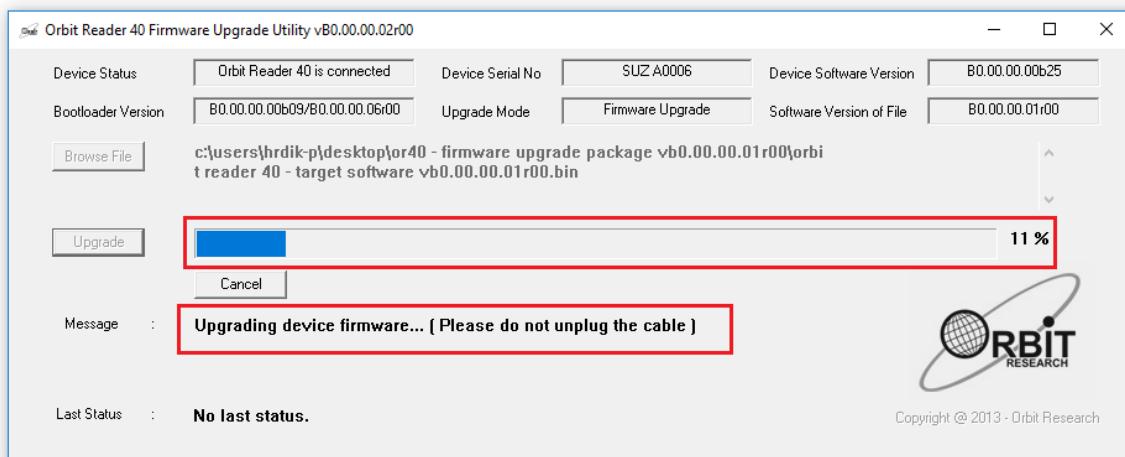


4. Press and hold down the Right Panning forward button + Dot 5, then press Dot 8. The utility shows the message “Orbit Reader 40 is connected” in the Device status field. It shows the message “Do you want to upgrade the device?” in the message field at the bottom of the dialog.
5. Release Dot 8 first, then release the Right Panning key and Dot 5. This switches the Orbit Reader 40 to Upgrade mode. You should hear a tone on your PC.
6. The utility shows the device serial number and the software version of the device at the top right corner of the window. If the serial number is blank, repeat steps 4 and 5.
7. Activate the Browse button found in the dialog.
8. Browse and select the firmware bin file from your PC. The file is in the folder you unzipped previously.

9. Once the file is selected, the dialog shows the software version of the selected file. A dialog box will also display the information that the current file selected is firmware binary.



10. Activate the Upgrade button. The utility starts upgrading the device. The device will emit a single vibration pulse at 2 second interval.



11. Do not unplug the cable. Wait for the message “Device upgrade has been completed” on the upgrade utility or until the Orbit Reader 40 reboots and shuts down.
12. The Orbit Reader 40 is upgraded. Turn on the Orbit Reader 40 to start using the device.

To check for a successful upgrade of the Orbit Reader 40, press Select + Up Arrow to open the Orbit Reader 40 Menu and arrow to "Ver" in the list. The version number of the firmware release should match the number shown in the upgrade utility.

### 26.1.3 Using an SD card to Perform the Upgrade

The following is required to perform the upgrade to the Orbit Reader 40 from an SD card:

1. Orbit Reader 40 unit
2. Orbit Reader 40 Release Bin files found in the Orbit Reader 40 folder of the download package (see Download the Firmware Package).
3. Your SD card should have a FAT32 file system

To upgrade the firmware, follow these steps:

1. Copy the binary file “Orbit Reader 40 - Target Software vB0.00.00.XXrYY.bin” from the download package to the root folder of the SD card. Use either the Orbit Reader 40 Mass Storage Mode or remove the SD card and put it in a card reader. When completed, insert the SD card into the Orbit Reader 40. Make sure that your SD card contains only one binary file. Remove the other binary files from the SD card.
2. Turn off the Orbit Reader 40. The unit should be turned off before the upgrade is started.
3. Press and hold the Right Panning forward button + Dot 4, then turn on the Orbit Reader 40; it will show the message “Preparing...”. Now you can release all the keys. Typically, it will take about 40 to 50 seconds to prepare.
4. The device will emit a single vibration pulse at 2 seconds interval.
5. Once preparation is complete, the Orbit Reader 40 should show the message “Upgrading firmware..”. Progress is shown by blinking 2 cells of dot 6 at the end of the message.
6. Typically, it will take 2.5 to 3 minutes to upgrade the firmware. Do not remove the SD card during the upgrade.
7. When the upgrade has completed, the Orbit Reader 40 will show the message “Upgrade complete” for a few seconds and then the device will automatically reset itself and turn off.
8. The Orbit Reader 40 is upgraded. Turn on the Orbit Reader 40 to start using the device.

To check for the successful upgrade of the device, press Select + Up Arrow to open the Orbit Reader 40 Menu and arrow to "Ver" in the list. The version number of the firmware release should match the number in the name of the bin file.

## 26.2 Audio Firmware Upgrade

The audio section of the Orbit Reader 40 contains separate firmware which can be updated independently. Some device firmware upgrades may require the audio firmware to also be upgraded, but this is not always the case. The

firmware release notes for the device firmware will specify when an audio firmware upgrade is required. Care should be taken to ensure that compatible versions of the audio and device firmware are loaded on to the unit, else the audio functions may not work as expected.

### 26.2.1 Download the Audio Firmware Package

To download an Audio Firmware Upgrade Package for the Orbit Reader 40:

1. Go to the Orbit Research Support webpage  
<http://www.orbitresearch.com/support/orbit-reader-40-support/>
2. For the most current version, select Download Most Recent Audio Firmware from <http://www.orbitresearch.com/support/orbit-reader-40-support/orbit-reader-40-audio-download/>
3. Select OR-40 Audio Firmware Upgrade Package vB1.00.00.XXrYY.
4. Save the zip file to your PC.

When the download is complete, follow these steps:

1. Open the folder on your computer where the firmware zip file was downloaded. This is usually your Downloads folder.
2. Right-click on the file and choose "Extract all" or select the file by arrowing to it, pressing the application key and choosing "Extract All" from the Context Menu.
3. Follow the dialog steps to extract the zip file to a folder of your choice.

When finished, your chosen folder should contain a folder named after the version of the release, for example, OR-40\_XX.XX.XX. Make a note of the location of this folder for use in the next section of this document.

### 26.2.2 Upgrade the Audio Firmware

The procedure to upgrade the audio firmware is same as the procedure for upgrading the device firmware (see the section Device Firmware Upgrade).

Please make sure that audio firmware version you have downloaded is compatible with the firmware version installed on your device. You will be able to find this information from the release notes in the audio firmware package or the device firmware package.

When upgrading using the Windows upgrade utility, you will need to browse and locate the audio firmware binary (.bin) file instead of the device firmware binary file. After you select a valid audio firmware binary file, the upgrade utility will show "Audio Upgrade" in the "Upgrade mode" field.

Similarly, when upgrading through the SD card, you will need to copy the audio firmware binary file to the root directory of the SD card instead of the device firmware binary file. Please be sure to remove the device firmware binary file

from the root directory of the SD card while performing the audio firmware upgrade.

The rest of the process remains the same.

### **26.3 Troubleshooting**

1. In case the unit freezes up or does not accept any commands at all, you can perform a recovery operation by following the steps suggested below.
  - a. Try a different key combination to upgrade (see below).
  - b. Make sure that you have the binary file “Orbit Reader 40 - Target Software vB0.00.00.XXrYY.bin” into the root directory of the SD card.
  - c. Press and hold the Right pan lower + Dot 4 keys + the Power button and wait for the message “Preparing...”. If you do not get any message within 4 or 5 seconds, press and release the Dot 8 key and then release the other keys.
  - d. Wait for about a minute. The Orbit Reader 40 should start upgrading and show the message “Upgrading firmware”.
  - e. Typically, it will take 2.5 to 3 minutes to upgrade the firmware.
  - f. The Orbit Reader 40 shows the “Upgrade complete” message after completion of a successful firmware upgrade for 5 to 8 seconds and then the device will automatically reset/shut down itself.
2. If the Orbit Reader 40 does not show the message “Preparing”, make sure you had pressed the keys in the correct sequence. Press and hold the Right pan lower + Dot 4 keys and without releasing them, press the power key to turn on the device.
3. If you are not sure at what stage of the upgrade process you are, you can always start from the first step. Just reset the Orbit Reader 40 by pressing Dot 8 and the Right pan down key.
4. While upgrading through the SD card, make sure you have either the device firmware binary or the audio firmware binary only in the root directory. Do not copy both files to the SD card at the same time.
5. Please make sure your audio firmware is compatible with the device firmware version. You will be able to find this information from the release notes in the audio firmware package or the device firmware package.

## **27 Localization**

The following are the steps to be followed for configuring a language other than English.

1. Go to our website at <http://www.orbitresearch.com/support/orbit-reader-40-support/orbit-reader-localization-download/> and download the file for your language.
2. If the desired language file is not there, you can request it by writing to us at [techsupport@orbitresearch.com](mailto:techsupport@orbitresearch.com).
3. Copy the file on the SD card that you are using with the device. The file can be copied externally through a card reader or putting the device into Mass Storage mode.
4. Go to the Preference menu item “Add language” to check the file you copied. If you have multiple language files in the SD card, you can scroll through them using Left/Right Arrow key.
5. Go to the file of your choice and press Select to load file to internal memory.
6. It may take some time for the file to be loaded. The unit shows busy indication through audio tones and displaying “busy” on the display.
7. You can load multiple languages following the same process (If you encounter “Memory full” error while adding languages, you need to remove some languages before you can load new languages. Please refer to the [“Remove language”](#) section for more details on how to remove languages.)
8. Go to the Profile settings for the profile of your choice among profile 1, 2, 3 or 4 in preference menu.
9. Go to the sub-menu called “system language” and press Select. If you have multiple language files in the internal memory you can scroll through them using Left/Right Arrow key.
10. Go to the file of your choice and press Select. Press dot 7 to exit the system language setting.
11. Now Go to the Read-write menu item which is next to the sys lan
12. Go to the file of your choice and press Select. Press dot 7 to exit the read-write language setting.
13. Press dot 7 to exit the menu.
14. Press Select + Dot 1, Select + Dot 2, Select + Dot 3 or Select + Dot 4 to activate the profile 1, profile 2, profile 3 or profile 4, respectively.

## 28 Troubleshooting

### 28.1 Orbit Reader 40 does not power on or seems to freeze

If the Orbit Reader 40 does not power on or seems to freeze, try these options in the following order:

Option 1: Plug in the device

1. Plugin the unit with the supplied AC wall connector and cable to ensure that the battery is charged. This is the most reliable power source.
2. Let the unit ‘charge’ for at least an hour or more.
3. Hold the Power button for at least two seconds. If the unit is on, it should turn off. If it is off, it should come on.

#### Option 2: Check SD card

1. Remove the SD card.
2. Hold the Power button for two seconds.

#### Option 3: Unplug the device

1. If the unit is plugged in, unplug the power cord.
2. Hold the Power button for at least two seconds.

#### Option 4: Reset device

1. Press the Reset command (Dot 8 + right-bottom Panning key). **Note:** On reset, the unit is unresponsive, and there is no change to the display.
2. Hold the Power button for at least two seconds.

#### Option 5: Remove the battery

**Note:** Use this option as the last resort.

1. Call customer service for guidance on safely removing the battery.
2. Leave it out for a few minutes.
3. Reconnect it, then try the options again.

If none of the options works and the device does not come on, contact Customer Service at [techsupport@orbitresearch.com](mailto:techsupport@orbitresearch.com).

## **28.2 Exercising the Pins**

If you experience issues with the pins, you may exercise the pins following the steps described below

1. Power On the unit.
2. Enter into test mode (Press and hold space key + tap power button 5 times).
3. The unit shows the unit serial number.
4. Press the space key, this will toggle all pins up or down.
5. Make a note of pins that are misbehaving if any

6. Press the Select + down arrow key, this will automatically toggle all the pins up and down. This may also help to recover the pins if they are stuck due to nominal dust in the pin movement path.
7. Allow the exercise to run for 4-5 minutes only and press select to stop the process
8. Restart the device and check if the stuck pins have recovered

### **28.3 Generating a debug log**

If you encounter any unexpected behaviour with system software, you can generate log and share it with us to help us diagnose the issue. The debug log can be generated by following the steps described below.

1. Charge the unit till the battery level is above 10%.
2. Power On the unit.
3. Insert the SD card into the SD card slot of the unit.
4. Make sure you are in local mode. Press Select + left to go into the local mode.
5. Press Dot 1 3 4 6 7 8 key.
6. A file named ".LogFile\_[Unit serial number].txt" (e.g. .LogFile\_SUA00051) will be generated in the SD card.
7. Press Space + Dot 7 + Dot 5 key to switch unit to mass storage/media device mode or simply attach the SD card.
8. Copy ".LogFile\_[Unit serial number].txt" to PC and email to us at [techsupport@orbitresearch.com](mailto:techsupport@orbitresearch.com).

## **29 Battery Use and Replacement**

The Orbit Reader 40 includes a rechargeable Lithium-Ion capacity battery. It charges fully in about three hours under optimal conditions. A full battery charge lasts about three days of typical use. You can check the battery status in the Menu.

When the battery in Orbit Reader 40 gets to 10% capacity, Dot 8 of the 40th cell on the display starts blinking and sound and vibration indications are also provided.

The battery in Orbit Reader 40 should last several years. Gradually, the battery begins discharging faster than usual as its capacity declines. When the duration of time that the battery holds charge becomes inconveniently short, it is time for a replacement.

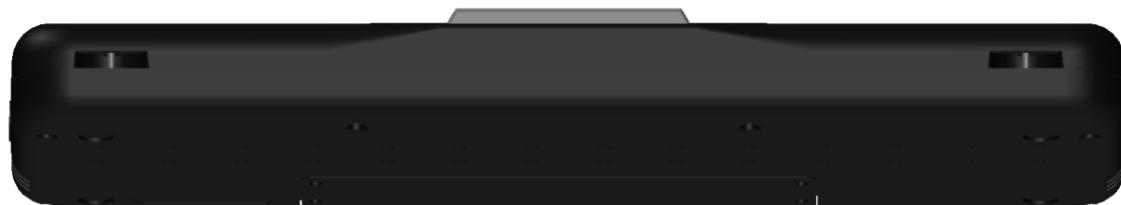
To replace the battery, follow these steps:

1. Obtain a replacement battery. Use only the battery designed for the Orbit Reader 40. Batteries are available from our website or by calling us.
2. Remove the battery door screws.
3. Remove the battery door.
4. Carefully unplug the connector. Do not pull the wire. Use the connector instead.
5. Insert a new battery.
6. Replace the cover and screws.

To dispose of batteries properly, call the recycling center at 1-800-822-8837.

### 30 Attaching a Strap

The Orbit Reader 40 has a provision for attaching a shoulder strap. It has two holes on the front of the device, one near each corner. The holes allow the attachment of rings or strings to which a strap can be attached.



## 31 Orbit Reader 40 Cleaning Tips

Due to exposure to natural elements such as dust and oils, the Orbit Reader 40 should be cleaned periodically.

The following are some tips to keep your Orbit Reader 40 clean:

- Cleaning should be performed with the unit switched off and with all pins in the down position.
- Use a vacuum cleaner with a soft tip attachment to remove dust from the pin area.
- Use a lint-free cloth to wipe the cells.
- The cloth may be moistened with water.
- Avoid using the following:
  - Paper towels, cotton swabs or materials that can release fibers
  - Alcohol or ammonia-based cleaners
  - Canned or compressed air

## 32 General Specifications

Dimensions (WxHxD)	3.78 x 1.28 x 11.61 inch (96 x 32.5 x 295 mm)
Weight	1.65 lbs. (750 grams)
Braille Cells	40 eight-dot braille cells; Refresh rate < .75 sec
Braille Input Keys	8-key Perkins style keypad, with space bar
Additional Keys	Power on/off button 4-way cursor keys and select key 2 panning keys, rocker type
Supported File Formats	.txt, .brl, .brf, .bra
OS Support	Windows: NVDA, JAWS, Dolphin Supernova, System Access, Microsoft Narrator Mac OS X: Voiceover iOS: Voiceover Android: Brailleback Fire OS: VoiceView Chrome OS: ChromeVox Linux/Unix: BRLTTY
Bluetooth Connections	Up to 5 simultaneous connections
Interfaces and Ports	1x USB Type C port, for host interface, firmware upgrade, and battery charging

	1x USB Standard-A port for connecting USB flash drives Bluetooth 5.0, Class 2
Flash Media Slot	1x SD card (4GB to 32GB capacity)
Battery	User-replaceable, rechargeable Lithium-Ion battery
Battery Life on a full charge	3 days of typical use
Charging Method	PC charger: Charge over USB Port – 5V, 500 mA Max Wall charger: Charge over USB Port – 5V, 1000 mA Max; USB BC1.2 compliant charger required
Environmental Conditions	Operating Temperature: 5 °C to 45 °C Operating Humidity: 10% - 70% relative humidity Storage Temperature: -15 °C to 70 °C Storage Humidity: 5% - 90% relative humidity

## 33 Appendices

### 33.1 Appendix A - Computer Braille Chart

ASCII Code	Character	Dot Combination
33	!	2-3-4-6
34	"	5
35	#	3-4-5-6
36	\$	1-2-4-6
37	%	1-4-6
38	&	1-2-3-4-6
39	'	3
40	(	1-2-3-5-6
41	)	2-3-4-5-6
42	*	1-6
43	+	3-4-6
44	,	6
45	-	3-6
46	.	4-6
47	/	3-4
48	0	3-5-6
49	1	2
50	2	2-3
51	3	2-5
52	4	2-5-6
53	5	2-6
54	6	2-3-5

55	7	2-3-5-6
56	8	2-3-6
57	9	3-5
58	:	1-5-6
59	;	5-6
60	<	1-2-6
61	=	1-2-3-4-5-6
62	>	3-4-5
63	?	1-4-5-6
64	@	4-7
65	A	1-7
66	B	1-2-7
67	C	1-4-7
68	D	1-4-5-7
69	E	1-5-7
70	F	1-2-4-7
71	G	1-2-4-5-7
72	H	1-2-5-7
73	I	2-4-7
74	J	2-4-5-7
75	K	1-3-7
76	L	1-2-3-7
77	M	1-3-4-7
78	N	1-3-4-5-7
79	O	1-3-5-7
80	P	1-2-3-4-7
81	Q	1-2-3-4-5-7
82	R	1-2-3-5-7
83	S	2-3-4-7
84	T	2-3-4-5-7
85	U	1-3-6-7
86	V	1-2-3-6-7
87	W	2-4-5-6-7
88	X	1-3-4-6-7
89	Y	1-3-4-5-6-7
90	Z	1-3-5-6-7
91	[	2-4-6-7
92	\	1-2-5-6-7
93	]	1-2-4-5-6-7
94	^	4-5-7

95	_	4-5-6
96	`	4
97	a	1
98	b	1-2
99	c	1-4
100	d	1-4-5
101	e	1-5
102	f	1-2-4
103	g	1-2-4-5
104	h	1-2-5
105	i	2-4
106	j	2-4-5
107	k	1-3
108	l	1-2-3
109	m	1-3-4
110	n	1-3-4-5
111	o	1-3-5
112	p	1-2-3-4
113	q	1-2-3-4-5
114	r	1-2-3-5
115	s	2-3-4
116	t	2-3-4-5
117	u	1-3-6
118	v	1-2-3-6
119	w	2-4-5-6
120	x	1-3-4-6
121	y	1-3-4-5-6
122	z	1-3-5-6
123	{	2-4-6
124		1-2-5-6
125	}	1-2-4-5-6
126	~	4-5
127		4-5-6

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Warranty obligations for the Orbit Reader 40 are limited to the terms set forth below:

Orbit Research warrants this hardware product against defects in materials and workmanship under normal use for a period of ONE (1) YEAR from the purchase by the original purchaser ("Warranty Period"). If a hardware defect arises and a valid claim is received by Orbit Research LLC within the Warranty Period, at its option and to the extent permitted by law, Orbit Research will either:

Repair the product free of charge (or) replace it with a product that is manufactured from new or serviceable used parts and is at least functionally equivalent to the original product.

A replacement product or part assumes the remaining warranty of the original product or thirty (30) days from the date of replacement or repair, whichever provides longer coverage. Parts provided in fulfillment of its warranty obligation must be used in products for which warranty service is claimed.

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2. Damage caused by operating the product outside the permitted or intended uses described by Orbit Research LLC
3. Damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of Orbit Research
4. A product or part that has been modified to alter functionality or capability without the written permission of Orbit Research
5. The serial number has been removed or defaced

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## **OBTAINING WARRANTY SERVICE**

Please access and review the online help resources referred to in the documentation accompanying this hardware product before seeking warranty service. If the product is still not functioning properly after making use of these resources, please send an e-mail to: [techsupport@orbitresearch.com](mailto:techsupport@orbitresearch.com), for instructions on how to obtain warranty service. You must follow ORBIT RESEARCH warranty procedures.

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Your product will be returned to you configured as originally purchased, subject to applicable updates. You will be responsible for reinstalling all other software programs, data, and passwords. Recovery and reinstallation of software programs and user data are not covered under this Limited Warranty.

### **33.3 Appendix C - FCC Information**

#### **FCC Notice**

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:

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

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.

#### **FCC Caution**

To ensure continued compliance follow the installation instructions and this device must be installed with a computer or peripheral device certified to comply with Part 15 of the FCC rules for the Class B limits. Use shielded interface cables only. Use the power adapter that is supplied with the device to charge its internal battery pack.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## **34 Further Information**

For the latest information, specifications, troubleshooting tips, software upgrade instructions, care and use information, warranty information, and more detailed

instructions, visit the Orbit Reader 40 website at  
<http://www.orbitresearch.com/support/orbit-reader-40-support/>

For further questions or concerns not covered in this User Guide, please contact the distributor from where you purchased your Orbit Reader 40.