BraillePlace

Braille Embosser User's Manual

Enabling Technologies

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INTRODUCTION

Even if you're experienced with Braille and computers, our embossers have lots of handy features that take only a few minutes to learn but make your work much easier and faster. That's why we hope to persuade everyone to read the short section called "Setting Up Your Embosser."

If you're new to Braille desktop publishing, "Your First Braille Document" describes the basic process of creating Braille in less than two pages.

To help you get the most out of your embosser both now and in the future, we've enclosed a CD-ROM that includes:

MANUAL.TXT   A text file version of the BraillePlace User's Manual suitable for use with most screen readers.
MANUAL.PDF   An accessible Adobe Acrobat version of the BraillePlace User's Manual.
Installing the ET Emboss Driver in Microsoft Windows.PDF

This Adobe Acrobat file contains the detailed instructions for installing the ET Emboss driver in Microsoft Windows.

\ETEmboss\   This subdirectory contains the drivers needed by the Microsoft Windows operating system to properly install your embosser.

README.TXT A text file providing the contents of the CD-ROM. This file may also contain special instructions for the user.

Glossary

Buffer:	Memory reserved to store data entered into the embosser. One page uses about 1K or 1000 characters of the buffer.
Configuration:	A collection of settings for a computer connection.
Default:	What you get if you don't change anything.
Emboss Head:	Mechanical element that makes the Braille dots.
Flash ROM:	Contains the embosser "firmware" (permanent programming) of its features and functions.
Interface:	Connection.
Interpoint:	Braille characters on both the front and back sides of a single sheet of paper.
Menu:	A stored collection of settings in the embosser's memory.
Multi-Copy:	Built-in function copies stored text up to 99 times.
NOV-RAM:	Nonvolatile memory. Stores menu settings while the power is off.
On-Line:	Ready to receive data from a computer USB, serial or parallel port.
Off-Line:	Ready to receive commands. Not ready to receive data from computer.
Parallel Port:	Connects the embosser to a computer with a Centronics type interface.
Parameters:	Settings.
Sequence:	A series of key strokes, usually followed by the Enter Key.
Serial Port:	Connects the embosser to a computer with a serial RS-232D Interface.
Top-of-Form Offset:	Top margin of Braille paper during embossing.
Tractor:	Moves the paper through the machine while printing.
USB Port:	Universal Serial Bus - Connects the embosser to a computer with this high speed connection.

SETTING UP BRAILLEPLACE

Moving and Stabilizing BraillePlace

The BraillePlace must be located on a solid floor with adequate room on all sides of the machine to allow for proper cooling and access to critical areas. The front and rear doors should be able to be opened fully and be removed if necessary to facilitate repairs to the machine.

Because of BraillePlace's size and weight, we included special roll-and-set casters that will allow the embosser to move easily when required, yet maintain complete stability while embossing. These roll-and-set casters can be easily adjusted, because they contain a hidden pad that can be either raised for easy movement, or lowered for complete stability.

Explore the casters carefully, and you'll see that, about an inch below the plate attaching the caster to the base of the BraillePlace, and parallel to the ground, is an orange wheel-like gear with notches all around the edge. Turning this gear on each individual caster raises and lowers the hidden stabilizing pad behind the caster's wheel that allows BraillePlace to either roll freely or stay absolutely still.

Use a lever or pry bar to lift each corner of BraillePlace slightly when adjusting these casters (this requires two people). The caster pad must lower until the caster's weight-bearing wheel is at least 1/16th of an inch (2 mm) above the floor for the pad to fully stabilize the wheel. The caster wheels should spin freely when BraillePlace's weight is resting on the pads, for maximum stability.

Do not lower the pads more than 1/8th inch (3 mm) past the bottom of the wheel. Also, use caution when rolling BraillePlace over high thresholds or other obstructions on the floor, so as not to damage the casters.

Installing Paper

Open the front door of the embosser. Remove the Braille paper from its box by turning the box upside down, and set the stack of paper neatly on the floor of BraillePlace's cabinet.

Inside BraillePlace's cabinet, towards the back, you will encounter two sets of paper tractors designed to firmly grip the holes on both sides of the paper; one set will be at the height of the door opening, and the other set will be lower.

Open these tractors by lifting on the inside edge. They will stay open until closed by hand. Thread the paper upwards from the top of the stack of paper into the embossing unit. Then, insert the paper well into the embossing unit so that the paper extends out the top, so you can get a sense of how the paper needs to flow in use.

Make sure the tractor holes are aligned with both sets of tractors, then secure the paper in both the top and bottom sets of tractors. A smooth and unobstructed paper path is very important.

Make sure the paper has a clear path to travel out the top of the BraillePlace to the collection tray hanging on the back of the embosser.

When you turn the power switch on, there is an approximate 16 – 30 second delay before the BraillePlace initializes and plays a tune that tells you it is ready to run. In addition, ET Speaks comes up talking automatically and tells you that the embosser is ready to run. This is confirmed by a visual display on the front panel, which displays the same messages as ET Speaks vocalizes them.

The Keypad

The keypad is a small 16-key keyboard in the top right front corner of the embosser's case. The keypad is how you tell the embosser what to do.

The keys are spaced 4 columns down by 4 rows across. The top three rows are laid out in calculator format with 7, 8 and 9 running from left to right on the top row, 4, 5 and 6 just below them, and 1, 2 and 3 next to the bottom. The key at the left of the very bottom row is 0. To the right of zero is the decimal point, and to the right of that, a key labeled E. The keys in the far right column are, from top to bottom, the OL, LF, FF and V key.

OL (On-Line/Off-Line)

The embosser must be on-line to receive and print data from a computer, and it (usually) must be off-line to receive commands from you.

Press OL to take the embosser from on-line (ready to receive and print data) to off-line (ready to respond to your commands). Press it again to return on-line. Note the audible difference in the on-line and off-line tones. If you press OL while embossing, the embosser will pause. Any data left in the buffer remains, and embossing will resume as soon as you press OL again.

LF (Line-Feed)

Not used.

FF (Form-Feed)

Off-line, FF advances the paper to the top of the next page.

V (View)

Advances the page, allowing you to read the line just embossed. Pressing V once more returns the paper to its original position. This feature is handy when you wish to verify the contents of a document that is currently being embossed.

E (Enter)

E is similar to the "enter" key on your computer keyboard and is used to finish and transmit commands.

Setting Top-of-Form

Top-of-form tells the embosser where the paper starts and where to begin the Braille. You need to tell the embosser to reset top-of-form whenever you change paper or adjust the top margin, which we call the top-of-form offset. The distance from the edge of the paper to where the Braille begins is adjustable in 0.1 inch increments by using the top-of-form offset setting (parameter 30.NNE) found in each of the machine's 16 menus. For 25 lines embossed on 11 inch paper we generally recommend a top-of-form offset of 4 or 0.4 inches. The default setting is 0. To change it to 4 enter the following:

OL	Takes the embosser off-line
0.1E	Enter menu number 1. If you are using a different menu, substitute the alternate menu number for the 1 in the sequence
30.4E	This will set a top-of-form offset value of 3 or 0.4 inches. This setting will remain until you change it, even after power is turned off
1.1E	This will install the change and reset the embosser

If you have paper loaded in the embosser, check to be sure the tractors are securely holding the paper and that the paper can flow smoothly into, through, and out of the embosser with no obstructions. Turn on the embosser and listen for the musical tune that signifies the embosser is ready to run.

To set top-of-form, enter the following on the embosser's keypad:

OL   Takes the embosser off-line

2E   Set top-of-form

An automatic sensor inside the embosser seeks the edge of the paper, so the paper should begin to move up and down until the sensor fixes the location of the paper's edge in the embosser's memory. After setting top-of-form, the embosser returns on-line automatically, signified by the two-note on-line tune.

IMPORTANT!   **The embosser's sensor *must* find the paper's edge to set top-of-form, which makes pages break in the right places. When you reset top-of-form in the middle of a printing session, remove any finished pages before issuing the 2E command. Every time you install a new batch of paper or clear a paper jam, remember to reset top-of-form with the OL, 2E sequence.**

The embosser will remember the top-of-form setting when you move the paper with FF or V.

Changing (and Restoring) Menu Settings

Because Braille embossers need to work with many different kinds of software and computer operating systems, the embosser has a built-in feature that remembers sixteen different groups of settings, exactly as if you were going to use sixteen different computers with one embosser.

Each group of settings is called a "menu." All the menus stay set and ready to use even when the power is off. Eight of the menus are preset at the factory with settings many of our customers have requested. The other eight are yours to create as you need them. You can change, create and save settings in all the menus, even the ones preset at the factory.

When you turn on your embosser for the first time, Menu 1 is the default (which means it has control until you change it). Menu 1 is for a parallel connection to an IBM-compatible computer.

Each of the sixteen menus has the same features, many of which will be familiar to most computer users (like right and left margins, word wrap, and page length), while others are unique to Braille environments.

When the embosser is OFF-LINE and in one of the menus, you can make ET Speaks tell you what the menu parameter is without changing anything.

For example: Should you change the right margin? You think you set it for 40 characters wide yesterday but you're not sure. Enter on the embosser's keypad:

OL	Takes the embosser off-line
0.1E	Enter Menu 1
14E	ET Speaks will read the current right margin setting, because 14 is the parameter assigned to the right margin
E	Press the E key if you do not wish to change the current setting. If you do wish to change the setting, enter the new right margin value now then press the E key. Each menu entry will be announced when the "E" key is pressed

When you have finished making all of your changes to the menu enter:

1.1E	Exit the menu

How to Change Menu Settings

Each user menu contains over thirty different settings that allow you to select different interface ports, change margin settings, and so forth. Although many of today's Braille translators allow you to select different sizes of paper and change margins in the translator itself, you may also change margin settings through the embosser's keypad if your translator does not have this capability.

For example, let's say you're using Menu 1 and you want to adjust the right margin for narrower Braille paper. First, place the right edge of the paper in the right tractors and adjust the left tractors to fit the width of your paper, being sure to keep the paper-out sensor covered. Then, enter the following on the embosser's keypad:

OL	Takes the embosser off-line
0.1E	Enter Menu 1
14.45E	Set the right margin at 45 Braille characters
15.16E	Set the left margin to begin embossing at cell 16
1.1E	Return on-line and use this menu as the current configuration

A complete list of the thirty-plus individual menu items is also in the Quick Reference Guide in the back of this manual.

Restoring Factory Settings

If you change too many menu parameters to keep track of, or if you're not the only person to use the embosser, you might want to reset the embosser back to the original factory settings. Although you will lose all changes you've made to the menus, you'll also be starting fresh.

OL	Takes the embosser off-line
0.0E	Enter the Service Menu
95E	Restore the factory default settings
1E	Reset the embosser

Connecting To Your Computer

Through the USB Port

We have supplied a USB-Parallel converter cable with your embosser. This cable will allow you to connect the embosser to one of your computer's USB ports.

Before you begin, select the USB port on your PC that you want to use for the connection. It does not matter which USB port you choose, so long as you make a note of which port you selected. Should you ever need to disconnect the converter, you must reconnect it to this same USB port.

Connect the USB-Parallel converter cable to the chosen USB port and to the embosser's parallel port. This is a plug and play device, and Windows will install the drivers for the converter automatically.

Many Windows applications require that a printer driver be installed. Select START, then CONTROL PANEL, from the Windows desktop. Next, look for an icon labeled PRINTERS, DEVICES AND PRINTERS, or some variation of these, and select it. Select Add Printer from the open window. Select Local Printer, then select the USB virtual printer port with the highest number from the list of available ports. Next, click the radio button labeled Have Disk. Insert the CD provided by Enabling Technologies that contains the ET Emboss printer driver. Follow the prompts displayed for your specific version of Windows. Please note that each version of the Microsoft Windows operating system has a slightly different format for installing printers. For more detailed instructions for installing the ET Emboss

driver please refer to the "Installing the ET Emboss Driver" instruction file contained on the distribution disc that came with your embosser.

Once the ET Emboss printer driver has been installed, go to your Braille translator's Embosser Setup and select the Windows Device, Send to Printer, or similar option that will allow you to select from a list of installed printer drivers. Select the ET Emboss printer driver from the dropdown list that appears, and click OK to close the Embosser Setup.

You are now ready to emboss your document. If embossing does not occur, make sure your embosser and the ET Emboss printer driver are both on-line. If these check out, right-click on the ET Emboss driver and select Properties. Click on the Ports tab and select a different USB virtual printer port. Click Apply, then OK, and try embossing the file again. Repeat these steps until your embosser embosses the file.

Through the Parallel Port

Connect a parallel cable from one of the parallel ports on your computer to the parallel port on your embosser. If you have been using a print printer, it is likely to be already connected to your computer's first parallel port, so look for the second parallel port to connect to the embosser. It doesn't matter which parallel port you use, so long as you remember which one it is. Turn on the computer and the embosser.

Many Windows applications require that a printer driver be installed. Select START, CONTROL PANEL, PRINTERS AND FAXES from the Windows desktop. Select Add Printer from the open window. Click the radio button labeled Have Disk. Insert the CD provided by Enabling Technologies that contains the ET Emboss printer driver. Follow the prompts displayed for your specific version of Windows. For more detailed instructions for installing the ET Emboss driver please refer to the "Installing the ET Emboss Driver" instruction file contained on the distribution disc that came with your embosser.

Next, install your Braille translation software package, such as the Duxbury Braille Translator, on your computer. Then open the program and select Global, Embosser Setup, click New if necessary, and select your embosser from the list of available embossers. Then select the port your embosser is connected to on your computer. For parallel connections this is usually LPT1. Your Braille translator will automatically send your finished Braille work directly to the embosser.

Menu 1 is already set to work with the embosser's parallel port and IBM PC-compatible computers. Assuming you have connected the computer and the

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embosser as described above, and fully installed your translation software, you can expect to get Braille out immediately.

If not, check to make sure the cables are tightly attached, the software is transmitting to the correct port, and the embosser is on-line.

Through the Serial Port

If you need to set up a serial connection, first connect a null modem serial cable to the embosser's serial port and to one of the serial ports on your computer. Since computers usually have more than one serial port, make a note of which one the embosser is using. You'll need this information to set up your translation software and adjust your computer's settings, if necessary.

If you are connecting via a serial port to your computer, use Menu 2:

OL	Takes the embosser off-line
0.2E	Enter Menu 2
3.9600E	Set the embosser to 9600 baud
1.0E	Make this the power-on default
1.1E	Exit menu and reset embosser

Set your computer for: 9600 baud, no parity, eight data bits, one stop bit and hardware handshaking.

If you are connecting via the serial port to a Notetaker, first set your Notetaker for: 9600 baud, no parity, eight data bits, one stop bit and hardware handshaking. Then change the embosser settings to match:

OL	Takes the embosser off-line
0.2E	Enter Menu 2
3.9600E	Set the embosser to 9600 baud
1.0E	Make this the power-on default
1.1E	Exit Menu 2 and reset embosser

Assuming you have connected the computer and the embosser as described above, and fully installed your translation software, you can expect to get Braille out immediately. Please proceed to the section titled **Installing Drivers in Microsoft Windows.**

Installing Drivers in Microsoft Windows

Your CD-ROM contains the ET Emboss printer driver, which is compatible with 32-bit versions of Microsoft Windows XP and higher. For installing drivers in Microsoft Windows please see the document titled "Installing the ET Emboss Driver in Microsoft Windows.PDF" included on this CD-ROM.

If you are using a 64-bit version of the Microsoft Windows operating system, please install the generic / text only printer driver in place of ET Emboss. The generic / text only printer driver may be installed through the Add Printer wizard. Simply follow the installation procedure as if you were installing ET Emboss, with just one minor change. When you get to the screen where you would normally select Have Disk, select Generic from the Manufacturers column and Generic / Text Only from the Printers column. Then, follow the prompts to complete the installation.

IMPORTANT! When downloading a file or during embossing, DO NOT TURN THE POWER OFF to stop BraillePlace.

INSTEAD, ONCE EMBOSSING BEGINS, PRESS THE E KEY TWO TIMES. Pressing the E key two times empties the BraillePlace's memory and terminates the print job in a way that clears the memory of any file fragments from the previous job.

Advancing Paper

If the embossing test was successful, you now have some pages to remove from the embosser.

Enter the following commands on the embosser's keypad to remove the finished document and prepare for the next:

OL	Takes the embosser off-line
FF	Advance a full page. The embosser may finish the last fraction of a page. Tear off the finished pages. Then:
2E	Reset top-of-form and send the embosser back on-line, ready for the next job

If embossing did not start as you expected, first rule out the obvious: Is everything plugged in, turned on, and directed to the port connected to the embosser? Is the embosser on-line? If these all check out, refer to the F.A.Q.

section later in the manual. We've included solutions to the most frequent complications our customers encounter.

YOUR FIRST BRAILLE DOCUMENT

Many people think that a Braille embosser automatically prints "in Braille" from your computer files by substituting Braille letters for print ones. Although publishing in Braille gets easier all the time, it's not quite that simple yet.

The Braille alphabet evolved from a French military code designed for night reading and is based on a six-dot "cell." One "cell" stands for one letter, as you might expect, but not all the time.

More often, words have been shortened and punctuated according to rules unique to Braille. The two main rule systems are uncontracted Braille and contracted Braille. Uncontracted Braille uses official Braille punctuation and capitalization but spells out every text letter of every word. Contracted Braille uses official Braille punctuation, capitalization, and nearly 200 contractions to save space.

Most documents for adult readers, as well as most signs in public buildings, are in contracted Braille. The contractions are understood by Braille readers everywhere and are abbreviations of common words and letter combinations. For example, "you" in contracted Braille is the letter "Y".

Unless you're a Braille reader or a certified Braille transcriber, there is no way you could possibly know these rules. That's why you need a software package called a "translator." Translation software reads your computer files and literally "translates" them into correctly contracted, punctuated, and formatted Braille pages, ready to "print" on your Braille embosser. Newer translators even contain their own word processors so you can create, edit, spell check, print, translate, and emboss your documents inside the translator, just as you would in Microsoft Word or WordPerfect. Others produce Braille by reading common types of word processing files, typically in ASCII text format, and creating new ready-to-emboss Braille files. Translators are very easy to use and typically create the finished Braille computer files (even long ones) in seconds.

Once you're ready to emboss the Braille you've created, you can roughly estimate the finished size of most Braille projects if you keep in mind that even with Braille contractions AND the larger dimensions of standard Braille paper, 1 print page usually equals 2 to 3 Braille pages.

Margins and Line Length

One of the first things to check out in your translator is how to adjust the line length. Today's translators make it easy to format the Braille correctly in whatever dimensions you select, but first you have to know what your constraints are.

First, BraillePlace has a 45 character maximum line width.

Thus, the lines of your documents cannot exceed 45 characters. Braille lines usually contain 40 characters.

Next, standard Braille paper is 11.5 inches wide; Braille (using standard Library of Congress spacing) is approximately 4 cells per inch wide.

Narrower paper needs a narrower line, so adjust your translator accordingly if you are using smaller paper, such as letter size or A4, which can fit about 30 Braille characters on a line.

Many translators, such as the Duxbury Braille translator, have the ability to control your embosser's margins remotely, so you may never need to set margins on the embosser through the embosser's keypad.

If your translator does not control your embosser's margins, you'll have to set the embosser's margins to match the line length that you have specified in your translator's Embosser Setup. Otherwise, your interpoint pages may be staggered. Please see "Changing (and Restoring) Menu Settings" for information on setting the embosser's margins through the keypad.

Please note that when using narrow paper (letter size or A4), you must move the paper to the right to keep the paper sensor covered. Therefore, if you are using a Braille translator, such as the Duxbury Braille Translator, that controls your embosser's margins remotely, you must leave your translator set up for wide paper, but decrease your line length and increase your binding margin. We recommend starting off with a line length of 30 characters and a binding margin of 15 characters. Emboss a sample interpoint page and refine your line length and binding margin as needed to achieve the desired result.

If your translator does not control your embosser's margins remotely, set your line length to 30 characters and your binding margin to 0. On the embosser, start by setting your right margin to 45 and your left margin to 16. Then, emboss a document and make adjustments as needed. For instructions,

please refer to the section entitled "Changing (and Restoring) Menu Settings" earlier in this manual.

MULTI-COPY

Multi-Copy allows you to download up to 4 megabytes of text (about 4,000 single-sided or 2,000 double-sided Braille pages) from your computer into a reserved portion of memory called the Multi-Copy buffer. The embosser will copy whatever is in the Multi-Copy buffer from 1 to 99 times without reloading the text from the computer.

IMPORTANT! Stay ON-LINE while using Multi-Copy.

Run a single test copy of your file first, to be sure margins, paper size, page breaks, etc., are correct. Whatever menu is active when you start Multi-Copy is the one that continues to control the embosser once you start making multiple copies, so make any necessary adjustments to the menu before starting Multi-Copy.

When your file is ready for multiple copies, remain on-line, and enter the following on the embosser's keypad:

> 4.NNE   "NN" stands for any number from 1 to 99

For example, if you want 10 copies, you would enter 4.10E on the keypad, while on-line. If you want 99 copies you would enter 4.99E, while on-line.

You enter the 4.NNE command on the BraillePlace's keypad BEFORE you send the document from the computer. BraillePlace is always ready to run multiple copies using the last file it receives after 4.NNE is entered on the keypad.

Other Controls in Multi-Copy

V stops printing and advances the paper out of the embosser, so the Braille which was just printed can be read. Press V again to move the paper back and resume printing.

ET Speaks will count off copies as they emboss so you can monitor how the job is progressing. You can also view the number of copies on the visual display. If you'd rather not hear ET Speaks count off copies, you can turn this feature off within the menu you're using with 25.3E.

GRAPHICS

Braille graphics are made using special software packages. For more information on producing tactile graphics using your embosser, contact your Enabling Technologies representative.

ET SPEAKS SPEECH FEEDBACK

As you've noticed if your embosser is equipped with ET Speaks, your embosser automatically voices all the keypad entries you make and all its own status messages with no intervention necessary from you.

Change Speech Settings in the Embosser Menus

For embossers equipped with ET Speaks, all sixteen menus have the following additional settings to modify the speech:

>25.0E   Turns the speech OFF
>25.1E   Turns the speech ON (the default)
>25.3E   Speech ON but without counting the copies as they emboss in Multi-Copy

Example: You use an IBM-compatible computer and have your embosser connected to the USB-Parallel converter that we supplied, or to one of the computer's parallel ports. You want to turn the speech off. To do this, turn on the embosser. Then, on the embosser's keypad, enter:

>OL   Takes the embosser off-line
>0.1E   Enter Menu 1. (Menu 1 is the factory menu preset for the embosser's parallel port. This is probably the menu you have been using)
>25.0E   Turn speech off
>1.1E   Save these menu changes and exit to go on-line

The embosser will now work with "speech off" in Menu 1, unless (or until) you change it.

To turn the speech back on, do all the steps above, except instead of 25.0E (which turned the speech off) enter 25.1E to turn speech on.

Change Speech Characteristics in the Service Menu

All our embossers come with a special Service Menu that contains various testing and maintenance functions, like restoring factory defaults, running dot test patterns, and so forth. Embossers equipped with ET Speaks have additional functions in the Service Menu to enable you to change some of the speech features. The Service Menu's keypad code is OL then 0.0E.

50E	Set ET Speaks' volume (0E lowest to 9E highest)
51E	Set ET Speaks' speed (0E slowest to 9E fastest)
52E	Set ET Speaks' tone (0E bass, 1E mid-range, 2E treble)
53E	Set ET Speaks' frequency (0E lowest to 9E highest)
54E	Set ET Speaks' pitch (0E lowest to 99E highest)
55E	Set ET Speaks' intonation, which is how much expression should be implied by punctuation (0E least to 9E most)
56E	Set ET Speaks' articulation, which is the amount of distinctive separation between words (0E least to 9E most)
57E	Set ET Speaks' reverb (0E none to 9E most)
58E	Set ET Speaks' pause between words (0E shortest to 9E longest)
62E	Set touch tone volume (1E to 9E)
63E	Set sound effects volume (1E to 9E)
64E	Reset speech to original factory settings
1E	Exits the Service Menu

Example: You want to maximize the reverb to see what it sounds like. Enter these commands on the embosser's keypad:

OL	Takes the embosser off-line
0.0E	Enter the Service Menu
57E	Select Reverb as the setting to change
9E	Set Reverb to the maximum
1E	Exit the Service Menu

Back to normal? Repeat all commands above EXCEPT replace 9E with 0E.

TECHNICAL SPECIFICATIONS

Printing

Speed: 300 characters per second. Line width: 45 maximum. Lines per page: 27 maximum. Printing method: Impact. Paper feed: Sprocket. Character matrix: 6 dot. Character set: USA. Printing direction: Bidirectional. Paper width: Adjustable (1.5 to 13.25 inches). Page length: Selectable (1.0 to 12 inches). Paper weight: 20 lb. to 100 lb. Text buffer: 4 megabytes.

Default spacing (Library of Congress): Dot spacing: Alpha 0.090 inch. Dot height: 0.020 inch. Character spacing: 0.240 inch. Line spacing: 6 dot 0.400 inch. Graphics spacing: standard resolution 0.075 inch horizontal by 0.080 inch vertical, high resolution 0.060 inch horizontal by 0.080 inch vertical. Other spacing formats selectable: Regular (Library of Congress), California sign, Jumbo, Regular with relaxed line spacing, Petite (Japanese), and Petite with relaxed line spacing for interline printing, Marburg Medium Braille.

Actual printing speeds may vary based on paper grade setting, page layout and data format.

Physical Description

Width: 39 inches (99.1 cm). Depth: 30 inches (76.2 cm). Height: 58 inches (147.3 cm). Shipping weight: 950 pounds (431.30 kg).

Environmental

Temperature: Operating or Storage 35 F to 100 F (2 C to 37.8 C). Humidity: Operating or Storage 10% to 95% (noncondensing).

Electrical

Line voltage: 220-240 VAC, 50/60 Hz, single-phase, 20A. Fuse rating: 250V, 10A slow blow (2).

Interface

Port 1: Centronics compatible parallel. Port 2: Asynchronous Serial EIA RS-232D,DTE. Port 3: ET Speaks, Serial.

Service

MTBF (excluding print head): 50,000,000 characters. Print head life: 100,000,000 characters.

Accessories

Standard: Line cord, 3 wire (USA). USB-Parallel cable.
Optional: Special interface cables. Special line cords.

Special Features

1. Fully configurable print format
2. Fully configurable communications
3. Sixteen independently selectable configuration menus plus a special service menu
4. Configuration stored in nonvolatile RAM
5. Computer Braille
6. Six or eight dot Braille codes
7. 4 megabyte text buffer
8. Multi-Copy makes up to 99 copies in a single command sequence
9. Paper-out detector
10. Special view feature allows reading the current page
11. Word wrap formatting
12. All modular construction
13. Dynamic Braille Scaling allows size adjustment in Braille cell size and spacing from Regular Library of Congress (default) to California Sign, Jumbo, Regular with Relaxed Line Spacing, Petite (Japanese), Petite Relaxed (Japanese Interline) and Marburg Medium Braille sizes

QUICK REFERENCE GUIDE

Keys

OL	On-Line/Off-Line (toggle)
LF	Not used
FF	Form-Feed
V	View (toggle)
0-9	Numeric entry
Decimal	Numeric entry
E	Enter

Tones

Various sounds indicate the status of the embosser. Try out the tones (it won't hurt anything) by typing the sequences below on the embosser's keypad while off-line:

1.0E	Power on self test OK
1.1E	Funeral Dirge--Power on self test failed
1.2E	Good sequence tone
1.3E	Bad sequence tone
1.4E	Buffer over-run tone (serial data)
1.5E	Low to high tone (on-line)
1.6E	High to low tone (off-line)
1.7E	Console bell tone
1.8E	Paper-out tone
1.9E	Enter key tone
1.10E	Internal sensor tone (currently not implemented)
1.11E	Multi-Copy buffer over-run tone

To Stop Embossing

DO NOT TURN THE POWER OFF! Instead, once the embossing begins, press the OL key to take the embosser off-line and pause embossing at the current location in the document. To resume embossing at the current location in the document, press the OL key again.

To delete the current document in memory, stay ON-LINE and press the E key. BraillePlace will ask you to press OL to resume embossing or the E key to

cancel. Press E to confirm that you wish to cancel the document, and BraillePlace will delete it from memory.

Top-of-Form Reset

Do this after you change menu settings or add paper.

OL	Takes the embosser off-line
2E	Set top-of-form. Embosser resets automatically

Menus

Enter a Menu

OL	Takes the embosser off-line
0.NE	Go to menu N (1 through 16)

Menu Settings & What They Do

1.0E	Make this menu the power-on default
1.1E	Exit and make this menu current
2.0E	Selects serial port
2.1E	Selects parallel port
3E	Selects baud rate. From the keypad, the 8 key increases the setting, the 2 key decreases the setting, and the E key stores the displayed value as current. Also, you can key in baud rates directly (3.57600E = 57,600, 3.38400E = 38,400, 3.19200E = 19,200)
10.NE	Word wrap (0 = off, 1 = on)
12.NE	Paper-out detector (0 = off, 1 = on)
14.NNE	Set right margin to N (range: 2 – 45)
15.NNE	Set left margin to N (range: 1 – 44)
17.NNE	Set lines per page to N (range: 1 – 27)
18.NNE	Set page length in inches (range: 1 - 12)
23.NE	Recognize escape sequences (0 = off, 1 = on) 23.1 required for graphics
25.NE	ET Speaks (0 = off, 1 = on, 3 = on, but without the copy countdown in Multi-Copy) Default is ON
30.NNE	Top-of-form off-set, in tenths of an inch (range: 0 - 99; typical setting is 3 or 4)

33.NE	Interpoint on and off (0 = interpoint on, 1 = single-sided {bank 1 only}, 2 = single-sided {bank 2 only})
35.NE	Dynamic Braille Scaling: 0=Regular (Library of Congress), 1=California sign, 2=Jumbo size, 3=Regular size, relaxed line spacing, 4=Petite (Japanese), 5=Petite with relaxed line spacing for interline printing, 8=Marburg Medium
37.NNE	Set page width in inches (range: 1 – 11)
38.NE	Vertical page centering (0 = off, 1 = on)
45.NE	Carriage return and line feed ignore mode

   0 = Allow carriage returns and line feeds
   1 = Ignore carriage returns
   2 = Ignore line feeds
   3 = Ignore both carriage returns and line feeds

Exit a Menu

E	Exits but remains off-line
1.1E	Exits and makes this menu current

Restore Menus to Factory Defaults

OL	Takes the embosser off-line
0.0E	Go to the Service Menu
95E	Restore the factory default settings
1E	Reset the embosser

Multi-Copy

Reminder: Stay on-line while using Multi-Copy.

First, enter on the keypad: 4.NNE. "NN" (1 to 99) means the number of copies you want to emboss. Then, download your document from your computer.

Other Controls in Multi-Copy

3.2E	Reset/cancel Multi-Copy after this page embosses
3.3E	Reset/cancel Multi-Copy after this document embosses
3.4E	Suspend Multi-Copy after current document embosses. If you allow the document to finish completely, you can even turn the power off and resume the same Multi-Copy job the next time you turn the power on
3.5E	Resume Multi-Copy with next copy after 3.4E entry (above)

SERVICE MENU

This menu contains special functions often used in the testing, aligning, and troubleshooting of the embosser by service personnel.

You enter the service menu by going off-line with the OL key, then typing 0.0E. Some of the functions exit automatically when they are completed, and these are labeled "Auto" in the right most column. The others will remain active until you press any key to stop them. Leave the Service Menu by pressing the E key, which brings you back to the off-line level.

SEQUENCE	FUNCTION	EXIT
1E	System reset	AUTO
2E	Print checkerboard test pattern	AUTO
3E	Print 6 dot pattern (equal signs)	E KEY
0E	Embosses one page interpoint equal signs	
1E	Embosses one page of bank 1 equal signs	
2E	Embosses one page of bank 2 equal signs	
4E	Carriage motor on high power	E KEY
5E	Paper motor on high power	E KEY
6E	Top-of-form sensor test	AUTO
7E	Paper-out sensor test	AUTO
8E	Home sensor test	AUTO
9E	Print 1 copy BraillePlace brochure	AUTO
15E	Speak and display BraillePlace firmware version	AUTO
19E	Print 10 copies BraillePlace brochure	AUTO
29E	Print 20 copies BraillePlace brochure	AUTO
39E	Print BraillePlace brochure continuously	E KEY
49E	Embosser simulated exercise test (carriage moves, no embossing). Embosses 10 copies of one each of the following tests: 2E, 3E (bank 1), 3E (bank 2), 9E and a blank page for a total of 50 pages of simulated embossing	AUTO
73E	Anti-skew test mode (technicians only)	E KEY
77E	Update BraillePlace firmware (technicians only)	E KEY (abort)
85E	Display and speak total pages embossed	AUTO
86E	Emboss pin delay (0E – 99E) (technicians only)	AUTO
87E	Paper motor delay (0E – 10E) (technicians only)	AUTO
88E	Carriage motor delay (0E – 10E) (technicians only)	AUTO
89E	Variable solenoid on time (technicians only)	AUTO
90E	Set horizontal emboss delay (technicians only)	AUTO
91E	Carriage motor global delay (0E – 99E) (technicians only)	AUTO

92E   Set vertical emboss delay (0E – 72E) (technicians only) AUTO
93E   Carriage jog mode (0 = off, 1 = on. On jogs the carriage to move the embossed Braille out of the way of the die cups when the paper is advanced after embossing) (technicians only) AUTO
95E   System reset for factory defaults AUTO

Parameters 50 through 64 refer to ET Speaks:
50E   Set ET Speaks' volume (0E lowest to 9E highest)
51E   Set ET Speaks' speed (0E slowest to 9E fastest)
52E   Set ET Speaks' tone (0E bass, 1E mid-range, 2E treble)
53E   Set ET Speaks' frequency (0E lowest to 9E highest)
54E   Set ET Speaks' pitch (0E lowest to 99E highest)
55E   Set ET Speaks' intonation, which is how much expression should be implied by punctuation (0E least to 9E most)
56E   Set ET Speaks' articulation, which is the amount of distinctive separation between words (0E least to 9E most)
57E   Set ET Speaks' reverb (0E none to 9E most)
58E   Set ET Speaks' pause between words (0E shortest to 9E longest)
62E   Set touch tone volume (0E lowest to 9E highest)
63E   Set sound effects volume (0E lowest to 9E highest)
64E   Reset speech to original factory settings

For Factory-Trained Technicians Only

The Service Menu routines below are specifically for the use of factory-trained technicians in adjusting the performance of BraillePlace at the production site.

IMPORTANT! These functions should only be performed by factory-trained technicians. They make substantial changes to the performance of BraillePlace.

73E   Anti-skew test mode prints pages of equal signs (full cells) with gradually increasing settings. Starts by setting parameter 92 (below) to a value of 0, prints a page, and repeats up to a value of 72 to show the results of all possible settings. During the test, if one of the pages appears optimal, abort the balance of the test by holding down the E key until embossing stops. Following this test, reset parameter 92 to a value corresponding to the test page with the best results, from 0 to 72

77E   Update BraillePlace firmware. Use this routine to install updates to BraillePlace's internal firmware from your computer

89E   Variable solenoid on time (20 = 2.0 ms to 40 = 4.0 ms; default is 36 or 3.6 ms)

20 = 2.0	21 = 2.1	22 = 2.2	23 = 2.3	24 = 2.4
25 = 2.5	26 = 2.6	27 = 2.7	28 = 2.8	29 = 2.9
30 = 3.0	31 = 3.1	32 = 3.2	33 = 3.3	34 = 3.4
35 = 3.5	36 = 3.6	37 = 3.7	38 = 3.8	39 = 3.9
40 = 4.0				

The functions below increase the emboss paper delay (90E) and carriage delay (92E) which slows the embosser down. Finish direct numerical entries with the E key.

90E   Paper anti-skew (range 0 fastest to 72 slowest)
92E   Carriage anti-skew (range 0 fastest to 72 slowest)

IMPORTANT! Use extra care when adjusting these settings, as 86E, 87E, 88E, 89E, 90E, 91E and 92E are the only parameters that DO NOT RESET to factory defaults with 95E.

Loading Updated Firmware

The internal command software (or firmware) can be updated without the need to replace any hardware chips or components. You can install the newest version into BraillePlace's permanent memory via a direct parallel or serial connection from the computer to the embosser.

Prior to attempting any firmware update, the BraillePlace must be connected to your computer system and be capable of receiving and embossing a Braille file in its entirety with no errors.

Contact Enabling Technologies' Customer Support Group to obtain the latest installation instructions and firmware for your specific embosser.

WARRANTY, SUPPORT & SERVICE

Enabling Technologies Company warrants all parts and workmanship of the BraillePlace to be free of defects for a period of 90 days and parts for a period of one year (365 days) from date of delivery. This warranty is extended only to the original purchaser who must return such defective part(s) to Enabling Technologies Company immediately upon customer's discovery of the defect in question. Return shipment of such defective part(s) must be prepaid by customer.

This warranty does not extend to defects resulting from improper use or unauthorized service by purchaser. Also, the warranty is invalid if any of the instructions accompanying the product are not carefully followed.

This limited warranty is made in lieu of all other warranties, expressed or implied, and is limited to the repair or replacement of the product. No warranty, expressed or implied, is extended concerning the completeness, correctness, or suitability of the Enabling Technologies Company equipment for any particular application. There are no warranties which extend beyond those expressly stated herein.

For support and service within the United States, contact our Customer Support Group toll free at 1 (800) 777 3687 or 1 (772) 225 3687. For customers outside the United States contact your local Enabling Technologies distributor. You may also contact us via email at: support@brailler.com.

FREQUENTLY ASKED QUESTIONS

We get some of the same questions repeatedly, so we've included them below. If you have a problem not covered here, call our Customer Support phone number at 1 (800) 777 3687 or 1 (772) 225 3687. You may also contact Customer Support by e-mail at Support@brailler.com. We will be equally pleased to help you OR to learn from your experience.

Q. I'm having trouble entering menu commands. You refer to the letter "N" when you talk about some of the key sequences, but there is no N key on my keypad.

A. "N" is a general term that represents a user-supplied number in a key sequence. Whenever you see N listed as part of a key sequence--for example, 14.NNE--replace the N(s) with actual numbers (e.g., 14.32E).

For a complete list of menu parameters and their available options, please see the Quick Reference Guide in this manual.

Q. My embosser's margins won't stay set and/or change sporadically. What could be the problem?

A. Some translators, such as the Duxbury Braille Translator, control your embosser's margins remotely by sending out special escape codes each time you emboss a document. If your translator controls your embosser's margins remotely, use your Global and/or Document Embosser Setup to set your characters per line, lines per page, and so on, rather than setting your embosser's margins through the keypad.

Q. Where's my last page? It's missing!

A. This problem occurs with interpoint embossers because interpoint embossers process two pages at once. Your last page is probably an odd-numbered page, and it could still be in the buffer of the embosser. Free your last page by pressing the OL key followed by the FF key.

Q. I have an interpoint embosser. How do I switch it to single-sided mode?

A. Some Braille translators allow you to control whether your embosser embosses on one or both sides of the page. Therefore, you should consult your translator's documentation for instructions on how to disable interpoint embossing.

If you have disabled interpoint embossing in your translator, and your

embosser is still embossing on both sides of the page, you'll need to manually select single-sided mode on the embosser. To do this, assuming Menu 1 has control of the embosser, enter the following on the embosser's keypad:

> OL--Takes the embosser off-line
> 0.1E--Enter Menu 1
> 33.1E--Select single-sided mode
> 1.1E--Save changes, exit, and return on-line

Q. I have an interpoint embosser. I switched to single-sided mode, but now I want to go back to embossing in interpoint Braille. How do I do that?

A. First, check to make sure that your Braille translator is set up to format documents in interpoint Braille. Specific instructions on how to do this can be found in your translator's documentation.

If adjusting your translator's settings does not automatically re-enable interpoint on the embosser, you must re-enable it manually. To do this, assuming Menu 1 has control of the embosser, enter the following on the embosser's keypad:

> OL--Takes the embosser off-line
> 0.1E--Enter menu 1
> 33.0E--Enable interpoint mode
> 1.1E--Save settings, exit, and return on-line

Q. How to I switch from wide to narrow paper, and vice versa?

A. Leave the right tractors in their current position and move the left tractors to fit the width of your paper (be sure to check that the left tractors are lined up vertically before you lock them in place.). Set the desired line length in your Braille translator, and set a binding margin to equal the embosser's unused cells. For example, if you set a line length of 0, set a binding margin of 15, so that the rest of the embosser's 45 cells are dedicated to the binding margin.

If your braille translator does not control your embosser's margins, you will need to set your BraillePlace's margins to ensure that the text is correctly positioned on the page. For more information, see "Changing (and Restoring) Menu Settings" and "Margins and Line Length" earlier in this manual.

Q. Could I have a bad USB-Parallel cable? The embosser makes the right tones, the computer sends data--but nothing happens!

A. USB-Parallel cables don't fail often. If nothing happens when you try to emboss, make sure your translator is set to send your translated documents through the ET Emboss printer driver. Also, make sure that your embosser is on-line and that the ET Emboss printer driver status shows "Ready". If the ET Emboss driver status shows "Offline", right-click on the ET Emboss printer driver and select "Use Printer Online".

Q. When I try to emboss a document, I receive one of these error messages, "Error -1" or "Embossing failed due to an error at line XXXX of the file dxemb_job.c: The system cannot find the file specified."

A. This is a communications error that is specific to the Duxbury Braille Translator. It usually occurs when DBT is not configured to emboss through the correct port. To resolve the problem, check the Global Embosser Setup to be sure that the correct port is selected. For parallel ports, this is usually LPT1; for serial ports, this is usually Com1. For USB-Parallel connections, you must install and configure the ET Emboss driver according to the separate instruction file included on the CD-ROM that shipped with your embosser. Then, select the Windows Device or Send to Printer option in DBT's Global Embosser Setup and select ET Emboss from the list of available printers.

Q. Could it be that this Braille embosser doesn't understand contracted Braille? The words have no contractions, and the punctuation doesn't look right.

A. The embosser prints exactly what the computer sends. Most Braille translators have both a Print and an Emboss command. Be sure that your file is translated into Braille, and that you are using the translator's Emboss command.

Q. How do I cancel an emboss job?

A. You can abort the print job by pressing the E key on the embosser. When embossing stops,
DO NOT TURN THE POWER OFF! Next, check any Windows printer drivers, including ET Emboss, that are mapped to the port to which your embosser is connected. If any jobs are in the print queue, clear these. Once the print queue is empty, press the E key again to delete the current document in memory.

Q. What causes the embosser to skip a blank page after each full page?

A. In some Braille translators, when you select single-sided mode for your interpoint embosser, the translator will add an extra formfeed after each page of text to keep the text on one side of the page. If your embosser is also set to single-sided mode, this results in a blank page between each page of text. To resolve this issue, leave your translator in single-sided mode, but set your embosser back to interpoint mode.

Also, this problem may result if the number of lines per page in your translator's embosser setup is equal to or exceeds the number of lines per page set on your embosser. Leave your embosser set to the default number of lines per page for your selected page size, and set your translator for the actual number of lines you want to produce on each page.

Q. The Braille starts too high on the page. How can I move it down?

A. For instructions on adjusting the top margin, which we call the top-of-form offset, please see the section titled "Setting Top-of-form" earlier in this manual.

Q. My embosser won't find top-of-form. What could be the problem?

A. In order for your embosser to find top-of-form, the top-of-form sensor must detect the paper. Make sure that your paper is positioned to cover both the top-of-form sensor and the paper-out sensor. If you are using narrow (or A4) paper, install the paper, close the tractor doors, and move the paper to the right by gently pushing on either the upper or lower set of tractors until the right tractors are positioned to within a quarter of an inch of the right edge of the die plate. (The paper should lie flat--with no bowing--between the two sets of tractors.) Then, lock all four tractors in place, and set top-of-form using the OL, 2E key sequence.

If all these check out and you are still having problems setting top-of-form, your top-of-form sensor may not be properly detecting the paper because it may be dirty from accumulated paper dust. If you suspect that your top-of-form sensor is dirty, please ask your trained technician to clean the top-of-form sensor. Your technician may contact our Customer Support Group for advice, if needed.

Q. My embosser stops embossing after half a page and makes a high/low beeping sound. What's happening, and how can I get it to stop?

A. Your embosser has stopped embossing because it is having trouble detecting your paper. If the embosser were to continue to emboss without paper installed, damage to the embosser could occur. If the embosser is having trouble detecting the paper, there may be some reason why the paper sensor is being uncovered during embossing. Check your paper path. The stack of paper should be taken out of the box and stacked on the floor of BraillePlace's cabinet. The tractors should be positioned so that the paper covers the paper-out sensor, and the paper must lie flat between the two sets of tractors. Finally, the two sets of tractors must be lined up vertically so that the paper flows smoothly into and out of the embosser; it should not bunch up.

If all these check out and you are still having problems, your paper sensor may not be properly detecting the paper because it may be dirty from accumulated paper dust. If you suspect that your paper sensor is dirty, please ask your trained technician to clean the paper-out sensor. Your technician may contact our Customer Support Group for advice, if needed.