



**HARPO**

**Mountbatten Brailier  
Tutor**

**User Manual**



## Table of contents

Overview of Mountbatten Braille Tutor	5
Introduction	5
Unpacking the Mountbatten Braille Tutor	6
The top cover	7
Removing the shipping restraint	7
The reading table	7
Removing the paper bail	8
The wireless keyboard	8
Description of your new Mountbatten Braille Tutor	8
Mountbatten Braille Tutor wireless keyboard	9
One-handed keyboard mode	10
Using an external QWERTY keyboard	10
Power and battery	10
How to check battery status	11
How to check keyboard battery status	11
Powering On/Off Mountbatten Braille Tutor	11
Procedure to reset the MB Tutor	12
Loading paper	13
Loading Paper: Method 1	13
Loading paper: Method 2	14
Removing paper	14
Moving the paper sheet up and down	14
Speech options	14
Volume control	15
Loudspeakers and headphones/earphones	15
Embossing	15
Paper you can use for embossing	15
Using heavy cards or labels	16
Embossing speed	16
Using the keyboard for typing and controlling your device	16
Writing braille with Mountbatten Braille keyboard	16
How to move around the page	16

Erasing and correction	17
Keyboard Echo	17
Using the display while embossing	17
Menu and commands - how to use them	17
1. Regular commands.	18
2. Chorded commands	19
Learn and Advanced Mode	19
Switching between Learn and Advanced Mode	20
Complete Mountbatten Braille Tutor Menu	20
File menu	20
Display	20
Language	21
Page settings	21
Format	22
Forward translation settings	22
Back translation settings	23
Common translation settings	24
Speech	25
Keyboard	26
Emboss	26
Calendar	27
Games	27
Braille tables	27
System	27
Games	30
Keyboard Master	30
Explorer mode	30
Learning mode	30
Character contest mode	30
Word contest mode	30
Letter Relay Race	31
Calendar	31
Advanced features of Mountbatten Braille Tutor.	32

Speech control	32
BRAILLE WRITING	33
Braille translation	35
Forward translation - converting print to braille	36
Back translation - converting braille to print	39
Adding braille rules	41
Adding extra rules to the MB Tutor with the exception table	41
Braille exception table commands	42
Editor	43
Getting started	43
Entering the Editor	43
Help	43
Moving around within a file	43
Cursor commands	43
Editor chorded  commands	44
Keyboard commands	44
Menu commands	45
Exiting the menus and the Editor	45
Editor definitions and concepts	50
Mountbatten Brailier Tutor connectivity	52
Connecting to a PC using MB-Comm software	52
Found a new hardware wizard.	52
Starting MB-Comm.	53
Transferring files to/from Mountbatten Brailier Tutor	53
MB-Comm menus	54
File menu	54
MB Print Control	55
Device Menu	56
Connecting to iOS or Android devices	57
With the MBMimic, you can:	57
Active Users	57
Connecting to a Mountbatten Brailier	58
The Whiteboard	59



The Chat	59
Embossing on Mountbatten Braille	60
Transferring files from Mountbatten to MBMimic.	60
Connecting to printers	60
Connecting to the Internet	61
MB Tutor and Duxbury Translator	62
Updating your Mountbatten Braille Tutor	63
Updating Basic Mountbatten Braille Operating Firmware	63
Updating Advanced Features Software Firmware and Games	63
Updating from a file on USB pendrive:	63
Updating from the Internet:	63
Making braille graphics	65
Technical Specifications	66

## **This version of the User Manual is relevant to the Mountbatten Braille Tutor with firmware version 1.7.5**

To check any differences between your version and the one described in this manual, please check the log of changes published with the firmware releases. Please refer to the Mountbatten Braille web page at  
<https://www.mountbattenbraille.com>

# Overview of Mountbatten Brailier Tutor

## Introduction

The Mountbatten Brailier Tutor has features that make it a braille **writer**, braille **printer**, braille **notetaker**, braille-print **interface**, and a student-teacher or child-parent **communication tool**. **Still, the** essential function of this unique device is that the Mountbatten Brailier Tutor helps **with learning braille** and that it is the first valuable **IT experience** for kids. It does teach new **concepts** about layout (words, lines, paragraphs and pages), the relationship of braille to print, and phonetics to spelling. It also introduces **saving digital copies** and transferring text files between devices.

This new version of the Mountbatten Brailier, called the Tutor, focuses on student-teacher and child-parent interaction, giving many opportunities to share tasks, assignments, and text files and engage in fun learning activities.

You will discover that the unit has many extra features like **erase and correct, formatting**, and more. For more details, see the section "Embossing".

The **speech output** gives immediate feedback, helps you remember each character learned and lets a beginner braille user discover new characters. Synthetic speech reads words and sentences, too, even if entered with braille contractions.

**The embedded display** shows either the internal menu system or what the user is brailleing. The display helps sighted people (such as teachers and parents) to operate the unit even if they don't know braille. The braille can be entered in any **Grade** (Grade Zero computer braille, Grade 1 uncontracted braille, or Grade 2 contracted braille) – and the resulting embossed braille will be spoken back by the Mountbatten Tutor, as well as displayed in back-translated form as a standard print on display.

The **Mountbatten Wireless Keyboard** makes the braille machine convenient for everyone, including small children or persons with multiple disabilities (even while using it in a wheelchair). Another feature designed for people with disabilities is the **one-handed keyboard mode**. You don't need another extra device to use your unit with one hand - the keyboard can be switched to one-hand mode easily - with a single command or a menu option.

Inside the device is a Li-Ion rechargeable battery that lasts up to 30 pages of embossing or a few days of work when embossing only a smaller number of pages. The battery charges whenever you are connected to the mains through the Power Supply, and you may continue working while the battery charges.

The MB Tutor in Graphic Mode can make dot patterns and pictures.

Another crucial feature is the possibility of playing **braille-learning games** that help with computer skills. Some games – like **Keyboard Master**, are embedded in the device; others will be available for download on the Internet. Contact us for more games by visiting the Mountbatten website, [www.mountbattenbrailier.com](http://www.mountbattenbrailier.com).

You can use the MB Tutor in lots of languages and in lots of ways. For language students, this can be very helpful!

Mountbatten Braille Tutor produces minimal **noise** while embossing, even on thick braille paper. To limit even that, you can write into the **Editor** and only emboss later; you can come back and make changes, save them again, and still not emboss until you're ready. So you can use the MB Tutor in a classroom without the noise of braille disturbing other people.

## **Unpacking the Mountbatten Braille Tutor**

Inside the outer carton, you will find the MB Tutor packed in a backpack with foam filling to support it inside the carton. We have packed everything you need to use the MB Tutor.

Please keep ALL the packaging. If you have to return the MB to us for service, or if you have to ship it somewhere, it **MUST** be packed in this original packaging so it doesn't suffer damage in transit.

When you receive your Mountbatten and unpack it, please check that you have received the following:

- The Mountbatten Braille Tutor main unit with Top Cover and Reading Table attached
- The Mountbatten Wireless Keyboard
- This User Guide
- Quick Start Guide - a "must read" for those who don't want to read the entire User Manual; a proper reading just after you get the unit delivered
- An AC mains Power Supply
- A power lead to connect the power supply to the wall socket appropriate for your country

Please get in touch with your distributor or us immediately to supply you with any missing items.

## The top cover



Fig. 1 Removing the top cover of the Mountbatten Braille Tutor

The top cover must be removed before you use your Mountbatten Braille Tutor.

*Remove the top cover by reaching over to the MB Tutor's rear and lifting the cover's rear part towards you. Place the cover to one side. The cover comes off very quickly. Under the Top Cover, you will find the Reading Table easily detached from the Cover (mounted with magnets).*

## Removing the shipping restraint

*Wait to switch the MB Tutor on! First, you MUST remove the shipping restraint, or you could damage your new MB Tutor. Remove and store it for future use.*

When you have the MB Tutor out of its box, sit it on the table before you, with the display towards you. The keyboard may stay away for a moment.

## The reading table



Fig. 2 Installing the Reading Table

The reading table can be optionally mounted in its narrow groove, as in the picture above. If you want to read more than three last embossed lines of braille, you will need the reading table to make the reading array reach the last embossed seven braille lines.

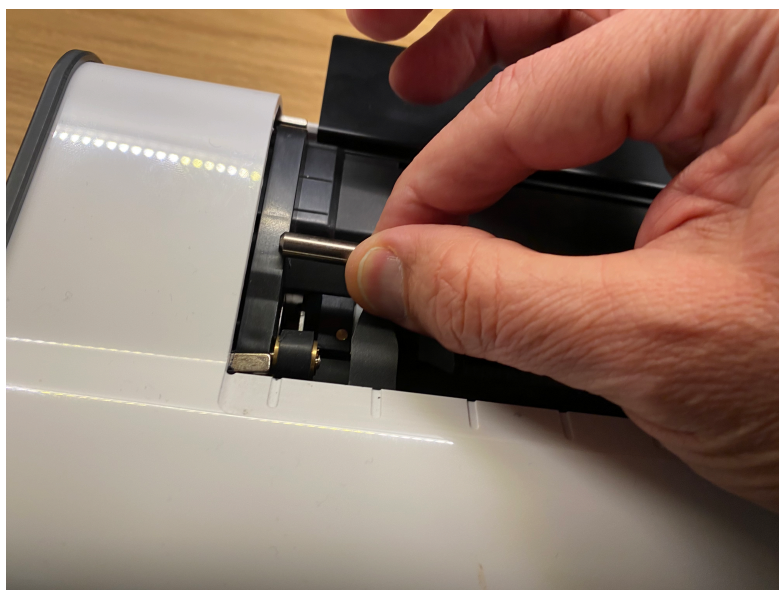


Fig. 3 Removing the paper bail

### **Removing the paper bail**

*The paper bail is only needed when the MB Tutor operates as a braille embosser. When using the MB Tutor as a braille writer, we recommend removing it because it is difficult to read the braille just written with the paper bail in place.*

First, lift the paper grip lever on the right to remove the paper bail. Then, slide the right-hand margin adjuster as far right as it will go (if the top cover with the reading table was just taken away, the right margin is already in its far-right position). The adjuster will only move if the paper lever has been lifted.

A small spring-loaded sleeve is on the left-hand end of the paper bail. Take this sleeve between your fingers and push it to the right, releasing the left side of the paper bail from its slot. You can then pull the paper bail towards the left to release it from the slot on the right. Lift the paper bail out and put it to one side.

We suggest you store the paper bail and the shipping lock in the carton to find them easily when needed.

### **The wireless keyboard**

The Mountbatten Tutor wireless keyboard is packed with the main unit in the inner box. It should be pre-charged when shipped, but for best performance, we advise putting it in front of the main unit magnetically docked, attaching the main unit to mains via the attached power supply, and charging for 12 hours. The device may be used during that time, but the keyboard should stay docked because it is charged in this position.

## **Description of your new Mountbatten Braille Tutor**

The Mountbatten Braille Tutor consists of the main unit and a detachable wireless keyboard. The main unit is a compact device with a leather carrying handle. It has an On/Off button in front (front left side) and connectors on the right and left panels. On the right

side – closer to the user, you will find a multi-purpose dial for adjusting volume, paper position, and embossing speed.

Mountbatten Braille Tutor connectors include:

On the right-hand side of the unit:

- Power Supply connector – use only with the accompanying Power Supply unit
- Slave USB connector (Type B, used to connect to a PC)
- Universal Type A USB master connectors (used to connect external QWERTY keyboard, USB drives, and other USB peripherals); because these connectors supply power, they are marked with this symbol indicating direct current:



- Headphone connector

On the left-hand side of the unit:

- The printer and other peripheral USB connectors are on the left side; because these connectors supply power, they are marked with this symbol indicating direct current:



## Mountbatten Braille Tutor wireless keyboard

**Mountbatten Braille Tutor wireless keyboard feels different from other braille keyboards you may have used. Practice a little with it, and you will find you can braille faster and for more extended periods than ever because of the ergonomic design.**

**The Mountbatten Braille Tutor keyboard is wireless. It continually charges when put into its docked position in front of the Mountbatten Braille, and the unit is connected to mains. Even when the unit is not connected to the mains, it charges your keyboard (when docked) but only when turned on - to save the main unit battery.**

When the keyboard gets discharged (when put away from the main unit for too long), it should be placed in front of the main unit so that the magnets connect the keyboard for charging (what we call "docking the keyboard"). It takes several minutes to start working if the keyboard is completely discharged.

### Key descriptions and layout

The key names are used throughout this manual to describe commands and provide general operating information. See the **graphic insert** for reference.

P1 .. P8	=	Perkins keys 1..8
Esc	=	Escape keyboard (upper-left key)
TAB	=	Tab key (below Escape key)
BS	=	Backspace key (upper-right key)
Ent	=	Enter key (below Backspace key)

SP = Space (long key in the lower part of the keyboard)

**Command Key** (round key in the middle of the keyboard **4-way manipulator** in the lower-right part of the keyboard)

As you may notice, the keys are placed similarly to any **regular PC keyboard**. That introduces essential computer concepts that the young user will use in the future.

To navigate the page up and down, you may use the 4-way manipulator. As you can see from the above description - there is no manual paper advance knob or wheel in the unit. You need to use the electronic 4-way manipulator or manually release the paper by lifting the paper lever. After setting the paper lever back to the operating position, the unit will assume it is now at the beginning of a page.

Additionally, when Space is pressed, the dial to set the volume (on the right side of your unit) will **move the paper in small steps**. This helps adjust the vertical paper position more finely.

### One-handed keyboard mode

One-handed mode is meant for persons with multiple disabilities who can't use both hands to press multiple keys at the same time – the regular way of using a Perkins-type braille keyboard. Press the space after the dots that build each character when this mode is on. For example:

*To type the letter u, you do not have to press dots 1, 3, 6 together. You can press the dot keys separately in any order. For example, using one finger, press dot 3, then dot 1, then dot 6. Then press space to emboss the character.*

To turn the one-handed mode on, use the Menu/Keyboard/One hand mode or enter the {ku} command. For more information on entering commands, please see the "**Menu and commands - how to use them**" section below.

To return to standard two-handed keyboard use, remember to use Command, dot 1, dot 3, space, dot 1, dot 3, dot 6, space, and enter; or go into the Menu/Keyboard/One hand mode and press Enter to toggle back to normal mode.

### Using an external QWERTY keyboard

An external USB computer keyboard can be connected to either one of the USB connectors on the right side of your Mountbatten Braille Tutor. It is a convenient tool for communication between blind MBT users and persons who don't know Braille. Typing characters on the QWERTY keyboard in a standard setup will produce braille on paper. And you can also braille with contractions (when you turn **forward translation** on). Read about using a PC keyboard in the Using a PC Keyboard section in Advanced features of MB Tutor/Forward Translation Settings.

### Power and battery

The MB Tutor has an internal rechargeable battery. A universal power supply is provided, which, when plugged into the mains, will recharge the battery; simultaneously, it gives power to the unit. It connects to the MB Tutor through the round connector on the right-hand side of the unit that is closest to the back.

You cannot over-charge the battery, and leaving the unit permanently charging will not damage it. Still, to maintain exact information on the charge level, you should discharge the battery from time to time. You typically get a full day out of the battery for regular classroom use. When you do this, please recharge Tutor overnight so it is ready for the next day's work (unless you find out that your battery is good for several days, which happens quite often if you don't emboss too many pages while working on it).

## How to check battery status

Whenever the Mountbatten is switched on, the battery status is spoken. You may check it manually by pressing the M chord (Space + D134 = Press all four keys together: Space, dot 1, dot 3, and dot 4).

The MB Tutor will also tell you the percentage of the battery charge and whether it is charging. If the battery is flat, embossing will stop.

*Note:* The causes of a flat battery are:

- The battery hasn't been charged. Connect to power for 4 - 8 hours.
- The wrong power supply is being used (all MB-Tutor units are supplied with a proprietary power supply 110v – 220v Output 15-19VDC 5.5Amp, 90W).
- The power cable could be broken.
- There could be no power coming through the wall outlet.
- The battery is damaged and needs replacing (the expected life is four years, but after two years of use, its health may worsen and lose some of its capacity).

## How to check keyboard battery status

The keyboard battery status can be checked by pressing the K chord (Space + D13 = Space, dot 1, and dot 3). The system will read the battery charge as a percentage of full charge. The keyboard itself will answer with a series of lower and higher pitch beeps that have the following meaning:

- lower pitch beeps sounding first:
  - 4 short - the battery is charged at more than 80%
  - 3 short - the battery is charged at more than 50% but less than 80%
  - 2 short - the battery is charged at more than 20% but less than 50%
  - 1 long - the battery is charged less than 20%
- higher pitch beeps sounding after the lower pitch beeps:
  - single short - wireless charging
  - double short - charging through USB cable
  - long beep - battery fully charged

The keyboard beeps will sound even if there is no connection to the main unit.

## Powering On/Off Mountbatten Braille Tutor

To power on, it takes a short press of the On/Off button in front of the main unit – near the left edge. It is marked with this symbol:



The main operation starts in a few seconds.

The advanced functions (synthetic speech, games, calendar, Internet connectivity, and other unit management features) start automatically within 2 - 3 minutes. You will hear "Advanced Mountbatten Braille Tutor functions are available now" when the full functionality is on.

To power off, you must press and hold the On/Off switch for at least half a second (shorter presses will be ignored). If the power off command is accepted, you will hear a "bye, bye" prompt followed by a series of short sounds/beeps signalling that the system is closing. After the successful close, you will hear three consecutive short sounds with decreasing pitch, and the device will turn off.



In case of any problems with stopping one of the internal systems, the power management unit inside the Mountbatten will force-switch off. If you need to force-switch off the system manually, keep the On/Off switch pressed for 10 seconds. Using this method too often is not good, as some internal systems may sometimes fail to save some data.

### **Procedure to reset the MB Tutor**

If you think settings are mistakenly set and don't know how to reset them to normal, it is advisable to go to the System menu and choose "Restore all settings." This will restore the last saved configuration (it is a good practice to keep one that fits your needs and works well for your type of work).

If this doesn't work for you, there are two simple methods for resetting your Mountbatten Braille Tutor:

1. Soft reset - if your device becomes non-responsive, but you want to retain all settings and restart the machine, press the middle button of the four-way manipulator (Command button) for at least 5 seconds. This will make the device start all over but without changing the settings.
2. Hard reset - this method requires a ballpoint pen or another implement with a sharp tip to press a hidden button that can be found on the right-hand side of the unit between USB type A and USB type B connectors. Pressing this button restarts the machine, even for a major glitch in the system. It does not make it forget settings, however.

## Loading paper

There are two methods for loading paper. Try each way to find the one that suits you best.



Fig. 5: The four steps for loading paper into the MB Tutor.

### Loading Paper: Method 1

The first method is very similar to loading paper into a typewriter.

1. Lift the Paper Lever and slide the right-hand margin to the position that suits the paper size. Lay the paper flat on the Reading Table. Ensure the paper is positioned underneath the small rollers on the left and right margins and under the **embossing head**.
2. Slide the paper into the unit. Some people grasp either side of the form and push it in. Others prefer to slide it in by pressing on the Reading Table and pulling the paper towards you.
3. When the paper is fully inserted, align the top of the page to the groove - behind the paper bail (if that is still in place).
4. Check that the paper is placed straight against the left-hand margin. In case it isn't - slide the right margin to the left until it rests against the right edge of the paper under the small roller wheel. Flip the Paper Lever to the down position. The embossing head will now move to the right margin adjuster and back to check the paper size.

The machine is now ready for embossing.

### **Loading paper: Method 2**

The second method involves inserting the paper from the rear of the MB Tutor.



Fig. 6: Loading paper from the back of the MB Tutor

First, lift the Paper Lever. Check if the right-hand margin is set to the position that suits the paper size. Then locate the Paper Input Slot at the rear of the Mountbatten Braille Tutor and insert the top of the page into it. Push the paper in until it appears on top of the Reading Table. Align the form, adjust the Right Margin Adjuster as needed, and move the Paper Lever to the down position.

### **Removing paper**

Lift the Paper Lever and pull the form back and out of the MB Tutor to remove the paper.

For users who cannot pull the paper out of the back of the Mountbatten Braille Tutor, it is possible to eject the page from the keyboard. There are three ways to do this:

- P-chord - Page eject. Press p and space together: dots 1, 2, 3, 4, and space.
- NP - Force a new page command issued with the Command key, the command NP, and then the Enter key.
- The menu command "Force new page" in the **Emboss** menu.

Your Mountbatten Braille Tutor will say "Page Eject," and the paper will be rolled out of the machine, ready to be collected.

### **Moving the paper sheet up and down**

To move the paper ahead (up) or backward (down) while a sheet is installed and the paper lever down, you may press the space key on your keyboard and move the volume dial. Alternatively, use the space key and four-way manipulator up and down.

### **Speech options**

All models of the series of Mountbatten Braille Tutor have speech output to support braille learning. There are two different types of speech output available in MB Tutor:

- *Recorded Speech* is a synthetic voice recorded digitally; all prompts are stored in the machine. It is a high-quality voice that is easy to understand and is intended for the early learner. Only vocabulary that has been recorded can be spoken.
- *Synthetic speech* has an unlimited vocabulary, and the speech parameters such as pitch and rate can be adjusted to suit the user.

The powerful speech options in the MB Tutor enable a wide range of features that assist in learning braille and using braille as the communication medium of choice.

Speech can be used:

- to re-enforce the learning of braille,
- to enable silent note-taking (no embossing),
- to facilitate word processing of files in memory,
- to speak all contractions with unlimited vocabulary.

## **Volume control**

Mountbatten Braille Tutor has a dial on the right side. Moving it away from yourself will increase the volume of all sounds from the Tutor's loudspeaker (or from headphones if attached). While you turn it, you will hear MB speak "louder."

Remember not to press any key on the Tutor's keyboard while turning the dial. Pressing specific keys while turning the dial has other functions described later.

To lower the volume, you need to turn the dial towards yourself. While you turn it, you will hear MB speak "softer." You will listen to an announcement when you reach the minimum, not accidentally leaving the unit mute.

There is an alternative method for volume control: press and keep the Tab key on the keyboard pressed and turn the wheel on the four-way manipulator right to increase volume or left to decrease.

## **Loudspeakers and headphones/earphones**

Mountbatten Braille Tutor uses high-quality speakers to produce its speech and other sounds. You may use headphones or earphones to maintain privacy and not disturb people nearby. To connect headphones, you need a 3.5 mm audio jack connector at the end of the cord. Connect it to the socket next to the volume dial. When you plug it in, the loudspeakers will get turned off.

# **Embossing**

## **Paper you can use for embossing**

Writing braille onto paper makes noise. Mountbatten Braille Tutor is relatively quiet compared to other braille devices. There is no way to avoid noise altogether with a braille writer. However, there are strategies and procedures to help minimise it.

The first strategy is to use lighter paper because it is quieter and more affordable. Braille is produced adequately on more lightweight paper, lasts well, and is readable with good-quality dots.

The MB Tutor has been designed to work best and most quietly with regular office paper. This is 80 gsm or 20 lbs paper sold for use in photocopiers and printers.

The strike force set up in the factory is correct for this paperweight and equally suitable for thick braille paper as used with other braille writers or embossers.

### Using heavy cards or labels

You can select the number of times the embosser hits each dot to emboss on a thick material like cardboard and plastic labels. In some cases, if you are using a heavy card or a plastic label with adhesive backing, you may need to use the multi-strike setting to make good braille. You can choose from a single strike (default) up to 4 strikes on each dot.

***The commands and menu items that serve a purpose described in subsequent sections will be presented in tables for clarity and ease of finding the command description. To issue a command, press the Command key for one second until the device says "Command". Then braille or type the command abbreviation, e.g. "MS", then space and finally, any parameter, e.g. "3", and press the Enter key.***

***Note that numbers in commands can be either in dropped (Nemeth) notation or UEBC preceded by a Number Sign. For example, to enter "3", use either dots 2 5 Enter OR Number Sign (dots 3 4 5 6) then dots 1 4 Enter.***

Menu item	Command	Description
Emboss/Multi strike emboss	MS [n]	Multi-strike feature. Set strikes per dot to "n". Useful for braille on heavy materials such as plastic Braille labels. n = 1 to 4. Default = 1

### Embossing speed

With the new Mountbatten Brailier Tutor, you can set embossing speed by pressing the Esc key and turning the volume dial. Alternatively, Use the Esc key and four-way manipulator up and down.

This adjustment cannot be performed while the machine is embossing.

## Using the keyboard for typing and controlling your device

### Writing braille with Mountbatten Brailier keyboard

Mountbatten Brailier Tutor has an eight-dot keyboard for languages and braille tables that use 8-dot braille or 6-dot braille. 8-dot braille is sometimes used for technical materials. Use the six braille keys in precisely the same way as you would type on a regular braille writer. Whatever you type will be embossed on paper. If you need eight keys for eight dot braille - use all 8. You must use 6 or 8 dots to set language with the appropriate braille table.

The keyboard has a buffer if you type faster than the data is transferred to the main unit. If the keyboard is overloaded with inputs and the memory limit is exceeded, the keyboard will make a loud error beep. This situation will not disable the keyboard but reset the queue of keys waiting to get processed. This way, the user may continue using the keyboard without needing a reset.

### How to move around the page

A simple pressing combination of keys offers unparalleled ease of movement around the page. This is of particular importance for setting out math problems and columns.

4-way Down	or Space-Enter	=	Move a line down the page in the same column
4-way manipulator Up		=	Move a line up the page in the same column
P-chord (Space+P letter)		=	Page Eject
Tab		=	Move the head to next tab position
Space		=	Move one position right
BS		=	Move one position left and erase character at that position (the erasure happens after you type next character - see below)

### Erasing and correction

Your Mountbatten can erase or correct mistakes. The quality of the corrections is approximately the same as for the 'fingernail method' and depends on the quality of the paper used.

#### *Erasing*

BS = moves one space to the left and prepares for the last character erasure; the next character will replace the one already there

BS+Space = replaces a character with a space

BS+Correct Dots = replaces a character with your desired character

#### Keyboard Echo

When you use braille, the Tutor will speak the letters being brailled; it can also translate braille to text (depending on which grade is set) to say words.

Letters On entering text, each character is echoed as it is joined.

Word On entering text, the last word entered is echoed when the space, carriage return, or linefeed is joined.

Line Each line you type in is spoken after entering a new line character, or MB Tutor performs an automatic new line.

Sentence Each sentence you type in is spoken after entering sentence punctuation (like a period, exclamation mark, question mark, etc.).

You may set any combination of the above echo options, including none.

### Using the display while embossing

While you braille, the display simultaneously shows the ASCII text equivalent of the braille characters (symbols that represent braille contractions) in the upper line of the display. The lower line of the display shows the normal print equivalent of what you are brailing. When you navigate the page, the display cursor will keep showing where the braille head is placed and whatever text and braille are at that position. If you navigate to a point in the upper line and braille new characters, you will see both braille and display overwritten with the new characters.

In the Menu, all commands and options will be spoken and displayed on the display.

### Menu and commands - how to use them

Mountbatten Brailier Tutor is a sophisticated system with many options and features that can be switched on or off using the menu system or commands. While using the menu,

you get information about the equivalent command. The possibility of entering the commands manually is left for users who know the old models of Mountbatten Braille and are fluent in typing commands. Nevertheless, the menu covers most of the commands that exist, and the menu shows the state of the command directly if it is a toggle or a number value (see below).

You need to use the four-way manipulator to enter and browse the menu. The manipulator has a Command key in the middle. This key is used to:

- enter the MB menu (short press - shorter than a second) - you will hear "Main menu" and the name of the currently selected menu;
- enter a command manually (long press - longer than 2 seconds) - you will hear "Command";
- while in the menu - enter a submenu or issue a command under the cursor.

The four-way manipulator may be used to navigate the menu:

- up/down to choose between the menu items on the list;
- left to escape a menu level to a higher one;
- right to enter a submenu;
- the command key in the middle of the four-way manipulator is used to choose one of the items on a list (e.g., list of files, etc.) or to issue a command.

Around the Command key, you will find a ring turned left or right. This ring can quickly move to an item lower in a menu or list (by turning the ring right) or higher (by turning it left). Combined with some modifier keys, the ring may have other functions, like changing volume, etc.

Additionally, the Braille keyboard keys 7 and 8 jump to the first and to the last item in the current menu.

Apart from these two ways of entering commands, you can use keys in combination with space. They are called Chorded commands (see below).

### **1. Regular commands.**

Regular commands can be found in the menu or entered manually: begin with the Command key and finish with the Enter key.

For example, to turn the Word Wrap command on, you may

- enter the menu by short-pressing the Command key, scroll down to the Emboss menu item (with the manipulator's down-key or the ring's down-key), find the Word-Wrap command, and press the Command key or Right Arrow key on the manipulator.
- Alternatively, long-press the Command key, type WW, and then hit the Enter key.

Your Mountbatten will say "on" or "off" depending on the original setting. Some commands, like Word Wrap, are "toggle" commands, meaning they toggle between an on and off state each time they are invoked. These commands are identified as toggles after the command description.

During browsing the menu, you will see the format of each command at the end of each menu item. For example, you will see {WW} after the "Word wrap toggle" menu name.

After the command format, you will find the command's state. You will see either an (OFF) or (ON) for the exemplary WW - a toggle.

**Note:** Where numbers are needed in command, they can be entered as described below:

- when entering commands using the menu - you will be presented a list of choices,



- when entering commands manually, you need to use the Number sign plus character or as a "dropped" or "lower" character (for example, a dropped "A" letter is dot 2 - one dot lower than the original letter; dropped "C" is dots 2 and 5).

**Note:** You may enter commands with an external QWERTY keyboard attached through USB. To do it, wrap the command text with curly brackets: "{" and "}" characters. The curly brackets are used in this manual to delimit commands too. To enter the MB Tutor menu using a QWERTY keyboard, press the Windows key.

## 2. Chorded commands

Chorded commands use the space bar pressed with the designated letter key combination.

There is only a limited number of chorded commands, and they can be used at any time.

Some chorded commands have their alternatives - regular commands listed in the "Command" column in the table below.

Chorded Command	Command	Function	Additional description
Chord B	<b>BT</b>	<b>Backtab</b>	
Chord C	<b>CR</b>	<b>Carriage return</b>	feed the paper down one line without returning the head to the initial position
Chord E		<b>End</b>	
Chord F	<b>LF</b>	<b>Line feed</b>	
Chord H	<b>HP</b>	<b>Help</b>	
Chord I	<b>IN</b>	<b>Indent</b>	move to the next tab stop (same as Chord T)
Chord P	<b>NP</b>	<b>Page eject</b>	
Chord R	<b>RL</b>	<b>Reverse Line</b>	this command feeds the paper up one line without returning the head to the initial position
Chord T	<b>TB</b>	<b>Tab</b>	move to the next tab stop (same as Chord I)
Chord Z		<b>Stop the speech</b>	Stops the speech (while speaking)

## Learn and Advanced Mode

Your MB Tutor has two modes: Simplified Mode and Advanced Mode. When your MB Tutor arrives, it is in Simplified Mode to let the new user start with the basic functionality of the device, not to have the advanced features con in the way while the user learns.

While in Simplified Mode, the menu will consist of these four items only on the main level:

- File - the menu with commands that will allow for reading or saving text from files in various locations,



- Display - with commands for determining how much text will be seen on the visual display of the MB Tutor,
- Speech - here you can set up the voice used by the device - synthetic vs. recorded speech, echo settings, etc.,
- More options - this menu contains all advanced features and toggles that in advanced mode are in the root of the menu.

### Switching between Learn and Advanced Mode

To switch to the advanced mode, go to Menu and find More Options -> System -> Simplified Mode off. When in advanced mode you can switch to simplified mode by using Menu -> System -> Simplified Mode on.

Below, in the Complete Mountbatten Braille Tutor Menu section, you will see the detailed structure of the Advanced Mode structure. If you need to use the advanced commands in the Simplified Mode, remember that they are hidden under the More Options Menu.

## Complete Mountbatten Braille Tutor Menu

Below, you will find all menu items and submenus of MB Tutor. In a later section, you will find a detailed description of all commands (issued with the Command key) and equivalent menu options.

### File menu

Options in this menu serve to select a file from the device's memory to be either embossed, sent to a connected device (a tablet or smartphone), or opened in the editor. After invoking the Append to a file option, you will get a list of files in the current memory. With the Set current memory... setting, you may switch between available devices: the internal memory of the Mountbatten Braille Tutor and a USB memory connected to the upper USB socket on the right side of the Tutor's housing.

The available positions are:

- Create new file
- Append to a file
- Close current file
- Emboss...
- Open in Editor...
- Set current memory...

### Display

The MB Tutor display may be set to show text entered in three font sizes. Depending on font size, it may show eight lines of text (four lines of text showing sign by sign what you

enter in braille and four lines of text converted by Grade 1 or Grade 2 rules, depending on what is set in Forward translation settings), four lines (two lines in braille and two text) or three lines (two lines in braille and one line of text).

- Small fonts (8 lines)
- Standard fonts (4 lines)
- Big fonts (3 lines)

## **Language**

If you want to change the device's language, go here and choose one from the list. A default braille table for that language is automatically selected when selecting a language.

## **Page settings**

- Set left margin
  - Set left margin to column 0 .. 12
- Set right margin
  - Set the right margin to column 0 .. 12 counted from the right edge of the paper
- Set left margin to the head position
- Set right margin to the head position
- Reset left margin
  - Set the left margin to column 0
- Reset right margin
  - Set the right margin to the last available for the loaded sheet of paper column
- Set top margin
  - Set the braille page Top Margin to line 0 .. 10
- Set bottom margin
  - Sets the Bottom Margin of the Braille page to line 0 .. 10 counted from the bottom edge of the page.
- Reset top margin
  - Set top margin to 0 lines
- Reset bottom margin
  - Set the bottom margin to 0 lines
- Line spacing
  - Sets Line spacing to 0.5 .. 3 in increments of 0.5 (default is 1.0)

## Format

- Centred emboss toggle

This feature will make all braille lines centred between margins as set by the user. The embossing will occur after either a hard end of the line (Enter key) or when the unit decides the remaining text will be moved to the following line.

- Right justified emboss (this option is a toggle)

The embossing will occur after the line is closed by either a hard-end(Enter key) or when the unit decides the remaining text will be moved to the following line.

## Forward translation settings

Forward translation means that you can send a regular text to MB Tutor, and it will convert it to braille with all contractions and other rules set by the user and emboss it on paper or store it as a braille file in memory. The text sources can be from a regular PC keyboard, a wirelessly connected mobile device, or a computer.

- Emboss forward translation toggle

Turns the forward translation to braille on and off

- Basic translation toggle

Once Forward Translation has been turned on (using the above menu option), you can select a mode called Basic Forward Translation, which helps work with very early braille learners and the whole of class activities. In Basic mode, each word is embossed after pressing the space key. This function automatically switches to uncontracted braille (grade 1). Default = OFF.

**Note:** If Forward Basic translation is on, the MB Tutor will ignore "hyphens" and many other Forward translation commands and settings, including formatting commands.

- Set forward translation grade

Choose 1 or 2.

- Literal mode toggle

They are used for making columns and tables in braille. When it is on, each time you start a new print line, you will create a new line in braille.

- Set hanging indent

Creates a Hanging Indent. You can choose from 0, 1, 2, 3, 4, and 5 values.

- Suppress blank lines

Suppresses blank lines and adds a two-cell indent for new paragraphs.

- Automatic indent set

The current Braille column is stored when turned on, and subsequent braille lines are indented to that column.

- Multiple space removal toggle

Replace all multiple spaces and tabs in the text with single spaces in the braille.

- Fraction mode toggle (Nemeth)

Causes text fractions to be translated to Nemeth braille fractions using a lower numeral sign for the denominator. A Nemeth mathematical separation sign is used after the braille fraction if it is immediately followed by punctuation.

- Upper case input toggle

Used when translating capitalised or upper case text. When on, prevents double capital sign before words all in upper case.

- Hyphens at end of line toggle

When on, it will break braille words at the end of a line. The default is off.

- Lists on

Turns lists (or tables) on. Thanks to this command, you can divide the text into two columns.

- Lists off

Turns lists (or tables) off.

- Table with two equal width columns

Allows the creation of simple lists or tables. This will produce a table of two columns, each 50% width.

- Store forward settings

It saves all settings you may have set with the above commands (or more manually entered commands) to the internal memory.

- Restore forward settings

Restores previously saved settings from the internal memory.

- Restore default forward settings

Restores default, set by the factory settings. If you think some settings are not correctly set - this is the fastest way to "return to normal."

## **Back translation settings**

Back translation means that braille notation typed on MB Tutor or saved in a file will get converted into regular text and sent to an external device or printed (in black-print on an attached printer).

- Set back translation grade

Changing the braille Grade or Code Used. Default = 2.

- Automatic indent set

Causes all subsequent print lines to indent to the current cursor position.

- Centre toggle

It causes text to be centred between the left and right margins. Default = off.

- Justify toggle

When on, it causes printed text to align with both margins. This may cause extra spaces to be inserted into the text. Default = off.

- Right align toggle

When on, it causes printed text to align to the right margin. When off, the text aligns to the left margin. The right alignment takes precedence over Justify. Line length & horizontal margins may not be altered while the Right align is on, and tabs are converted to single spaces. Default = off.

- Upper case toggle

Locks output text into the upper case when on and returns to normal echo of keystrokes when off. Default = Off.

- Fraction mode toggle (Nemeth)

Causes Nemeth braille fractions to be translated to text fractions using the slash character to separate numerator & denominator. Requires the Mathematical braille separation sign (Dot 6) between the fraction & any subsequent punctuation. Default = Off.

- Literal mode toggle

Each new line in Braille will produce a new line in print. When off, a new line in Braille is ignored in the print copy (to avoid the print being broken). Default = off.

- Multiple space removal toggle

Remove hard spaces. It causes multiple spaces and tabs in your braille to be converted to single spaces and tabs in print.

- Line spacing set

Sets the printer line spacing to 1 .. 10. Default = 1.

- Store back translation settings

It saves all settings you may have set with the above commands (or more manually entered commands) to the internal memory.

- Restore back translation settings

Restores previously saved settings from the internal memory.

- Restore default back translation settings

Restores default, set by the factory settings. If you think some settings are not correctly set - this is the fastest way to "return to normal".

### **Common translation settings**

Some translation settings are universal - refer to both forward and back translation, hence Common translation settings.

- UEB mode toggle

Use UEB Braille Code (Unified English Braille). Unified English Braille Code (UEBC, formerly UBC, now usually simply UEB) is an English language braille code standard developed to permit the uniform representation of the wide variety of literary and technical material in use in the English-speaking world today.

## Speech

Go to this menu to decide how your Mountbatten Brailier Tutor speaks while you type, operate menus, or edit files. The Tutor can communicate in two ways: using recorded speech or synthetic speech. You will find options to change it in this menu. While you use synthetic speech, whatever you type can be read as letters, words, or complete sentences. This feature is called "echo". In this menu, you can set how Tutor echoes what you type and what else it will read.

- Echo options

- Letter echo

Each character you are going to type in will be spoken. Works both for recorded and synthetic speech. Default ON.

- Word echo

Each word you type in will be spoken after entering a space, punctuation, or new line after the word. It works for synthetic speech only. Default = ON.

- Line echo

Each line you type in will be spoken after entering a new line character, or MB Tutor will perform an automatic new line. It works for synthetic speech only. Default = ON.

- Sentence echo

Each sentence you type in will be spoken after entering sentence punctuation (like a period, exclamation mark, question mark, etc.). Works for synthetic speech only. Default = OFF.

- Synthetic speech

When using natural-sounding synthetic speech that reads letters and words or complete text, you must set this on. This feature is ON by default but is available only after a minute from turning your Mountbatten Brailier Tutor on - the synthetic speech engine needs to start first.

- Recorded speech

This kind of speech is well suited to the menus and messages the Tutor expresses but will not read words or sentences you type. This kind of speech works immediately after you start your Tutor. Before the synthetic speech machine starts, it will speak even if it is off (for

the first minute or so after you start the unit).

- No speech

Nothing will speak - neither menus, typed characters or words, nor messages.

- Speak prompts only

Only menus and messages will be announced with voice.

- Speak all keys

This command makes all keys spoken either with synthetic or recorded speech, depending on which was previously chosen.

## **Keyboard**

- One hand mode

This feature serves those users who suffer from a condition that prevents them from brailleing with two hands. It is described above - in the One hand keyboard mode section.

## **Emboss**

- Emboss ON/OFF toggle

Turn the embossing function off and on. Default = ON.

- Word wrap toggle

Word wrap. The word is not embossed when word wrap is ON until the space key is pressed. If the word cannot fit on the line, it is moved to the beginning of the following line. Thus, any word is embossed only after it is completed for the machine to determine whether it fits a line. Default = OFF.

- Emboss commands

Emboss command names as they are entered on the keyboard or their equivalents, even if selected in a menu. It can help track mistakes. Default = OFF.

- Force new page

This command ejects a page of paper loaded into the machine.

- Graphics mode toggle

Graphics mode. In graphics mode, the space between the dots is reduced, giving the appearance and feel of lines instead of dots. There is much scope for creativity, and experimenting with braille graphics can reinforce spatial awareness of the page and finger sensitivity to braille dots. Default = OFF.

- Multi strike emboss

Multi-strike feature. Set strikes per dot to 1 .. 4. Useful for brailleing on heavy materials such as plastic braille tags. Default = 1

- Right margin bell toggle

Right margin bell. The bell rings five positions from the right-hand margin. Default = on.

- Set end of page bell line

Set the page bottom warning bell to ring "n" lines before the end of the page.

## **Calendar**

This menu serves to connect to a Google Calendar online and edit calendar entries. As a prerequisite, the MB Tutor needs to be connected to the Internet over a Wi-fi connection.

Login to your Google Calendar to make it available.

## **Games**

This menu will show all games that are installed on your machine. Currently, we provide two games with a brand new Tutor - you can update your device with more games as they are released. The pre-installed games include:

- Keyboard Master - lets the user learn how to write and read braille, braille letters, and braille typing skills.
- Letter Relay Race - fun to play along with the device with other persons, allows for vocabulary development and improves spelling skills.

See the Games section for more details.

## **Braille tables**

This menu displays a list of Braille tables available for use. Please choose one with the Command key.

## **System**

In this menu, you will find functions essential for the device, like turning it off or connecting it to the Internet.

- Simplified Mode

This option toggles the simplified and advanced modes. In simplified mode, the menu consists of the most valuable four items, and all the other advanced options are hidden under the More Options submenu.

- Close Mountbatten

This option will turn the device off. Stopping all internal processes will last for a better part of a minute. You will hear beeps while the Tutor switches off. As an equivalent to this command, you may press and keep pressing for 5 seconds the on/off switch until you hear "bye-bye" from the Tutor.

- Emboss version information



This will emboss all essential information on the unit - including its serial number, model, memory, etc.

- Date and time settings

This menu serves to read and set the date and time of the device.

- Remote control

Here, you may decide if remote control may be used. It is meant for future use.

- WiFi settings

Here, you may set a wireless network password to connect your unit to the Internet. Please see the "Connecting to the Internet" Section.

- Save current settings

It saves all settings that you may have set to the internal memory.

- Restore saved settings

Restores previously saved to internal memory settings.

- Restore default settings

Restores all settings to factory default.

- Developers

It is meant for developers only; please don't use this menu.

- Update device

If you have obtained an update file set on a USB drive, place it in the upper USB socket on the right side of your unit and select this menu option.

The system will update your unit and restart. The update may include various parts of the system (like the audio module, display module, etc.) and may take several minutes (in the case of an audio update, even up to an hour). See Updating your Mountbatten Braille Tutor Section below.

- Update advanced module

If you have obtained an update file set on a USB drive, place it in the upper USB socket on the left side of your unit and select this menu option. You will be presented with a choice to use the Internet to update the advanced features. Your device must be connected to a local network with Internet access.

The update (either from USB or the Internet) may take several minutes. See Updating your Mountbatten Braille Tutor Section below.

- Device information

Displays basic information on the unit - including its serial number, firmware and bootloader version.

- Reset to factory settings

Resets the unit and erases all data from the device - a good thing to do when you remit the device to a new owner.

# Games

Mountbatten Brailier Tutor comes with a couple of pre-loaded games. Both games address braille writing:

## Keyboard Master

This game has four modes. It suits beginners and advanced braillists to test and improve fast writing. Go to the game settings in the game menu to choose the mode.

You will hear a help message explaining your task in any mode. This message will expire after you listen to it once or twice. You can press TAB to hear it again. You can also go to settings and switch help messages off.

### Explorer mode

If you are still getting familiar with the braille keyboard, please start with Explorer mode. This mode is for getting you to know the keyboard. Press any key, and the program will tell you what the key does. Try Perkins (braille dot) keys and any other keys on the MB Tutor keyboard. To exit this mode, double-tap any key.

### Learning mode

This mode is for practising your writing skills. You must write specific dots (e.g., dot 3) or those corresponding to a letter. If you make a mistake, you will hear what you've just pressed, and the request will be repeated. It will get skipped if you make three mistakes in reply to the same request.

### Character contest mode

This mode will test your typing skills. Your task is to press keys that correspond to a requested letter. If you type the wrong letter, the game continues - no information about pressed keys will be spoken.

### Word contest mode

Word contest mode is suitable for practising your braille skills. You will be asked to write words that contain letters from a letter group.

A letter group is a concept based on the fact that the first ten letters of the alphabet, a–j, use the upper four dot positions. The following ten letters, k–t, are identical to a–j, respectively, apart from the addition of a dot at position 3. There are three groups like this, plus punctuation, etc.

To choose a group you want to use, please go to Settings.

While you play, whenever you press the tab key, the program will tell you what you have typed so far. Press enter if you are unsure what was requested or how to spell the given word. The program will spell it for you.

Please use backspace to erase the last letter whenever you make a mistake. You are allowed to use the backspace key one time in each game.

## **Letter Relay Race**

This game is fun to play with the device or with other people. The game aims to guess and write (in Braille) words with the first letter equal to the last of the words entered by the preceding player. Mountbatten Brailier Tutor may be one of many players (not only when you play one-to-Tutor), and it checks the correctness of whatever word is entered by any of the players. If the word is correct, you will receive several points in proportion to the length of the word. You will get a penalty for misspelt words. The game lasts several rounds. The player who earned the most points wins.

If you didn't hear the last word, you might ask to repeat it by pressing Spacebar.

Good luck.

## **Calendar**

Mountbatten Brailier Tutor has a Calendar functionality that allows synchronisation with Google Calendar. A student learning braille can learn how to schedule his day or week, share the schedule with classmates and emboss his plan for a week.

To synchronise with Google Calendar, you need to connect MB Tutor with the Internet over Wi-Fi and log in to Google.

## Advanced features of Mountbatten Braille Tutor.

Mountbatten Braille Tutor may be controlled using the menu (a short press of the middle key of the four-way manipulator opens the menu) or by entering commands (the command line begins after a long press of the manipulator's middle key). This chapter will explain how the commands work and use the second text column to show the corresponding command. You will notice that some advanced commands have no menu equivalent.

### Braille with speech

The Mountbatten offers many advantages for braille students and provides excellent flexibility to meet their individual needs. However, it is essential to remember that speech output is provided only as a re-enforcement and instant feedback to develop braille reading and writing skills. Listening to the speech feedback should not be an alternative to reading with fingers. *Speech output is designed to augment the development of tactile reading skills, not be a substitute for them.*

Ensure you know the options available for the speech output and how important it is to match it to the student's needs. Speech can promote independence by informing students of everything happening to their braille writer. Speech can also help a student gain confidence and increase braille writing speeds. The use of speech during early braille instruction will also assist in skill development relating to a wide range of other technologies that they will encounter.

But the bottom line is that Mountbatten is a braille writer. Its primary function is to develop braille reading and writing skills, and speech output is secondary.

### Speech control

Speech control functions may be set using Speech menu items or by commands. There are many options for using speech to learn to write and read Braille.

Menu item	Command	Description
Speech/Synthetic Speech	<b>SPK S</b>	Turns on Synthetic Speech. Useful for speaking all contractions and unlimited vocabulary.
Speech/Recorded Speech	<b>SPK R</b>	Selects recorded speech.
Speech/Speak All Keys	<b>SPK A</b>	Speaks all keyboard keys, functions and commands. With every key stroke being spoken the user receives immediate feedback every step of the way. As less speech is required one of the following options can be used.
Speech/Speak Prompts only	<b>SPK C</b>	Speaks errors & prompts only. No Braille dot keys
Speech/Speak dots	<b>SPK D</b>	Speaks only braille dot keys. No function keys.
No Speech	<b>SPK N</b>	No speech. The machine will not produce any speech.

**The speech mode will revert to the default after turning the unit off and on again.**

## BRaille WRITING

### Formatting your Braille

The ability to format braille printouts is a great advantage of an electronic braille. To judge how difficult it would be without the electronic control, think of how to make it by hand to centre your 12-letter title on a braille page manually: count the line width, subtract 12 (the length of your title) and divide by two - the outcome of this is the number of spaces to be entered at the beginning of a line to keep the title centred. It's doable - but quite complicated.

The following formatting commands will make formatting an easy and fun task.

Menu item	Command	Description
<i>Position of Braille on the Paper</i>		
Format/Centred emboss	<b>CE</b>	Centre text. The text to be centred will only be embossed after the new line key is pressed. Default = off. Toggle.
Format/Right justified emboss	<b>RA</b>	Right adjust braille (the braille will be printed from the right hand margin). Default = off. Toggle
<i>Margins</i>		
Page settings/Reset left margin	<b>LM</b>	Set the left hand margin to 0
Page settings/Set left margin to head position	<b>LMH</b>	Set the left margin to embossing head position.
Page settings/Set left margin	<b>LM n</b>	Set the left margin to column 'n'
Page settings/Set right margin	<b>RM</b>	Set the right hand margin to 0
Page settings/Set right margin to head position	<b>RMH</b>	Set the right margin to embossing head position.
Page settings/Set right margin	<b>RM n</b>	Set the right margin to column 'n'
Page settings/Set top margin	<b>TM n</b>	Set braille page top margin. n = number of lines.
Page settings/Set bottom margin	<b>BM n</b>	Sets the bottom margin of braille page. n = number of lines for bottom margin.
<i>Tab Settings</i>		
	<b>TSH</b>	Set tab at the position of the embossing head.
	<b>TC</b>	Clear all tab settings.
<i>Line Spacing</i>		
Page settings/Line spacing	<b>LS n[m]</b>	Line spacing. Default = 1. If you wanted line spacing of 1.5 lines the command would be LS 1.5

### Braille writing commands

Menu item	Command	Description
Emboss/Emboss ON/OFF	<b>EM</b>	Turn the embossing function off and on. Default = on. Toggle

Menu item	Command	Description
	<b>MAN</b>	Choose between Manual new line & auto new line. A manual new line means you have to press the New Line key at the end of each line. Auto New Line means the MB will automatically go to the start of the new line. Default = Auto. Toggle
Emboss/Multi strike emboss	MS [n]	Multi-strike feature. Set strikes per dot to "n". Useful for brailleing on heavy materials such as plastic braille labels. n = 1 to 4. Default = 1
Emboss/Force new page	NP	Force a New (braille) Page. Your current page will be ejected.
	PN [n]	Begin page numbering starting at value of "n". Each time you put paper in your MB the page number will be printed in the top right hand corner.
Emboss/Set end of page bell line	PBELL [n]	Set page bottom warning bell to ring "n" lines before the end of the page.
Emboss/Right margin bell	RMBELL	Right margin bell. The bell rings 5 positions from the right hand margin. Default = on. Toggle
Emboss/Emboss commands	SHOW	Emboss commands as they are entered on the keyboard. Can help track mistakes. Default = Off. Toggle
Emboss/Word wrap	WW	Word wrap. When word wrap is on, the word is not embossed till the Space Key is pressed. If the word cannot fit on the line, it is moved to the beginning of the next line. Default = Off. Toggle
	<b>COR</b>	Correction mode. Some teachers may want to turn the erase and correction feature off during an exam! Default = on. Toggle

### Saving braille files in memory

The following formatting commands apply to the currently selected memory - External on a USB stick or the unit's internal memory.

In the following commands, [filename] means a name of your choosing up to 16 characters.

Menu item	Command	Description
File/Create new file	BEGIN [filename]	Start a file - opens a new file, called "filename".
File/Append to a file	APPEND [filename]	Change the file - append more information to "filename".
File/Close current file	END	Close a file - close an open file.
	DIR	Find out which files you have stored in memory - embosses all filenames and their sizes
	RENAME filename1 filename2	Rename "filename1" to "filename2".
File/Emboss...	PR [filename]	Print the file named "filename". Uses current settings.
	MPR y [filename]	Print "y" multiple copies of the file named "filename".
File/Open in Editor...		Opens a file in the internal editor - see Editor chapter.
File/Set current memory...		This menu option will let you choose between Internal or USB memory pools.

## Miscellaneous commands

Menu item	Command	Description
System/Simplified Mode		Switches simplified mode on/off. A toggle.
System/Close Mountbatten		Turn the device off.
System/Emboss version information	VER	Embosses basic information on the unit - including its serial number, firmware and bootloader version.
System/WiFi settings		Choose a wireless network and set a network password.
System/Save current settings	SAVE	Saves all settings that you may have set to the internal memory.
System/Restore saved settings		Restore previously saved to internal memory settings.
System/Update device		Update the system from a USB memory stick.
System/Update advanced module		Update the advanced module of MB Tutor - either from a file on USB or through the Internet connection.
System/Device information		Displays basic information on the unit - including its serial number, firmware and bootloader version.
System/Reset to factory settings		Resets the unit and erases all data from the device - a good thing to do when you remit the device to a new owner

ALT n      Enables your MB to accept ASCII characters above 128. 'n' can be any ASCII value

## Braille translation

MB Tutor can translate in either direction, and we use the following conventions to describe braille translation.

*Back translation -*      **Braille**      **Print**  
Converting Braille that you type on the MB keyboard into regular text.

*Forward translation -*      **Print**      **Braille**  
Converting regular text (from any source) into Braille.

*Braille code -*      The Braille code installed in your machine is appropriate for your country. The MB can also contain the Braille codes for other languages.

## Braille exception table

Some of the most advanced functionality below is only available from typed-in commands. The MB lets you create exceptions to the braille rules. The exception table allows you to change the code to suit your needs. For example, consider introducing contractions gradually or making abbreviations. Up to 128 entries are allowed.

The braille exception table is active in both forward and back translation. The commands and conditions for creating exceptions to the braille rules are as follows;



Menu item	Command	Description
	ETA text braille position	Text Braille position. Adds an entry to the exception table where "text" is the text to be changed; "braille" is the braille which will be substituted; position is one or a combination of the five position indicators given below: b - allowed at the beginning of a word m - allowed in the middle of a word e - allowed at the end of a word a - allowed anywhere s - allowed only by itself (except adjacent to punctuation)
	ETC	Clears the exception table
	ETD text	Deletes an entry from the exception table where "text" is the text to be changed
	ETU	Turns the exception table off or on. Default = on. Toggle

### Forward translation - converting print to braille

Forward translation means that you can send a regular text to the MB, and it will convert it to braille and emboss it on paper or store it as a braille file in memory. The text sources can be from a regular PC keyboard, a portable note-taker, or a computer.

The most common way of using Forward translation on the MB is via a PC keyboard. In this way, anyone can write information on the PC keyboard and have it automatically converted to braille. This potent tool in an educational setting allows everyone to participate in braille. It is also handy in various settings for leaving braille notes and producing a wide range of other brailled materials (like birthday cards) that often do not get brailled.

### Using a PC (QWERTY) keyboard

- 1) Connect the PC keyboard to the USB port on the right of your MB Tutor,
- 2) Enter the command FE to turn on Forward Translation (in English versions, the default is Grade 2)

Now, start to type on the PC keyboard. The MB will store your information in a buffer and emboss it every 80 characters, or you can empty the buffer by pressing the Enter Key twice. To change the Braille grade, use FGR 1 for Grade 1 or FGR 2 for Grade 2. Many keys on the PC keyboard have the same function as keys on the MB.

Keys on the PC Keyboard	Keys on the MB Keyboard
Windows key	Command
Enter	New Line
Down Arrow	Four-way manipulator down
Up Arrow	Four-way manipulator up
Left Arrow	Four-way manipulator lleft
Right Arrow	Four-way manipulator right
Space	Space

Here is a list of forward translation commands:

Menu item	Command	Description
Forward translation settings/ Emboss forward translation toggle	FE	Forward, translate, and emboss. Toggle
Forward translation settings/Basic translation toggle	FB	In basic mode, each word is embossed after the space key is pressed. This function automatically switches to uncontracted Grade 1 braille. Toggle
	FM filename	Forward, translate, and send to 'filename' in memory (turns embosser off).
	FM Append	Forward, translate, and append to previously stored file with the name 'filename'.
	FM END	Closes file and turns forward translation off. And turns embossing back on.
<i>Change braille Grade or Code</i>		
Forward translation settings/Set forward translation grade	FGR grade	Select the translation Grade, where 'grade' may be 1 or 2. Default = 2.
	FLN language	Change the translation Rules language
	FFC language	Foreign character selection. This enables the insertion of foreign or accented characters into your text (without changing the translation rules where [language] can be one of the following codes: OZ=Australian ITL=Italian DAN=Danish NOR=Norwegian UK=English SP=Spanish FR=French SWE=Swedish GER=German USA=United States GRK=Greek DUT=Dutch FIN=Finnish POR=Portuguese)
<i>Formatting Your braille</i>		
Forward translation settings/Literal mode toggle	FLIT	Literal mode. Used for making columns and tables in braille. When it is on, each time you start a new line in print, you will start a new line in braille. Default = off. Toggle.
Forward translation settings/Set hanging indent	FLIT n	Creates a hanging indent. The variable "n" gives the number of indented spaces and can be 0, 1, 2, 3, 4, 5.
Forward translation settings/ Suppress blank lines	FLIT S	It suppresses blank lines and adds a two-cell indent for new paragraphs. Default = on
<i>Italics</i>		
	FIT	When on, it causes the subsequent text to be italicised in braille. Default = off. Toggle
<i>Hyphens</i>		
Forward translation settings/ Hyphens at end of line toggle	FHYP	When on, it will break Braille words at the end of the line. Default = off. Toggle

Menu item	Command	Description
Automatic Indent		
Forward translation settings/ Automatic indent set	FIN	When FIN is turned on, the current braille column is stored, and subsequent braille lines are indented to that column. Default = off. Toggle
<i>Multiple Space Removal</i>		
Forward translation settings/ Multiple space removal toggle	FSH	Replaces all multiple spaces and tabs in the text with single spaces in the braille. Default = on. Toggle
Fraction Mode		
Forward translation settings/ Fraction mode toggle	FFR	Causes text fractions to be translated to braille fractions using lower numeral sign for the denominator. A mathematical separation sign is used after the braille fraction if it is immediately followed by punctuation. Default = off. Toggle
<i>Upper Case</i>		
Forward translation settings/Upper case input toggle	FCL	Used when translating capitalised or upper case text. When on, prevents double capital sign before words all in upper case. Default = off. Toggle
New Page		
Emboss/Force new page	NP	Forces a new braille page.
<i>New Paragraph</i>		
	FPA	Forces a new braille paragraph. Used for flagging a new paragraph that coincides with the top of a text page.

### *Lists / Tables*

These commands simplify building lists or tables, such as spelling lists, tables of contents, etc. The command can create two or three columns using default settings or user-selected settings. Each column is specified as a percentage of the braille line length.

Menu item	Command	Description
Forward translation settings/Lists on Forward translation settings/Lists off	FLIST	Allows the creation of simple lists or tables. This will produce a table of three columns, of 40%, 40% and 20% width. For example: If your Braille page is 40 cells wide then the default will give three columns, each of cell widths 16, 16 and 8. Default = Off. Toggle

Menu item	Command	Description
	FLIST n1 n2	This command allows you to specify your own column widths as a percentage of the line length. The values allocated to n1 and n2 will determine if you want two or three columns. If the values of n1 and n2 add up to exactly 100%, then you will get two columns with widths in the proportions specified. If they do not add up to 100%, then you get three columns, of which the third column is the remainder. For three columns, the third column cannot be greater than 90% or less than 10%. You cannot have blank columns except for the first column, and columns two and three are always right justified.

### *Saving Your Preferred Settings*

Menu item	Command	Description
Forward translation settings/ Store forward settings	SAVE FT	Saves all current forward translation settings, including braille Grade, language, and output settings.
Forward translation settings/ Restore default forward settings	STD FT	Restores all default forward translation settings. Does not interfere with stored settings.
Forward translation settings/ Restore forward settings	RESTORE FT	Restores all stored forward translation settings.

### *Back translation - converting braille to print*

To produce a print copy simultaneously with a braille copy, we have to perform a back-translation job - going from braille to print. The printout will be directed to a connected Bluetooth mobile device or a USB printer.

Menu item	Command	Description
Turning back translation on		
	BP	Back translate to USB printer port (the one on the left of MB Tutor). Toggle. Use this when you have a printer connected to the USB port.
	BS1	Back translate to Bluetooth-connected device. Toggle.
<i>Changing the braille Grade or code used</i>		
Back translation settings/Set back translation Grade	BGR [grade]	Translation Grade, where "grade" may be 1 or 2. Default = 2.

Menu item	Command	Description
	BFC [language]	Foreign character selection, where [language] can be one of the following codes: OZ=Australian, ITL=Italian, DAN=Danish, NOR=Norwegian, UK=English, SP=Spanish, FR=French, SWE=Swedish, GER=German, USA=United States, GRK=Greek, DUT=Dutch FIN=Finnish, POR=Portuguese Using this command, you can insert foreign or accented characters into your text.
<i>Formatting Your Print Page</i>		
Back translation settings/ Automatic indent set	BIN	This causes all subsequent lines to be indented to the current cursor position. Default = Off. Toggle
Back translation settings/Centre toggle	BCE	When on, it causes text to be centred between left and right margins. Default = off. Toggle
<i>Columns and tables</i>		
Back translation settings/Literal mode toggle	BLIT	Literal mode. When on, each new line in Braille will produce a new line in print. When off, a new line in braille is ignored in the print copy (to avoid the print being broken). Default = off. Toggle
	BSH	Remove hard spaces. This causes multiple spaces and tabs in your braille to be converted to single spaces and tabs in the print. Default = Off. Toggle
<i>Margins, line length, paper size</i>		Note: When setting margins and line length, an error will result if the line length less the margins does not leave at least 10 printable characters across the page.
	BLM [n]	Sets the width of the left margin to 'n' blank spaces from the left-hand edge of the paper. The maximum value of 'n' is 30. Default = 8.
	BRM [n]	Sets the width of right margin to 'n' blank spaces from the right-hand edge of the paper. The maximum value of 'n' is 30. Default = 8.
	BTM [n]	Sets a margin of 'n' blank lines at the top of the page before printing begins. The top margin may not exceed the form length less the page length. Default = 3.
	BLL [n]	Sets the width of the print line, including margins, to 'n' characters, at 10 characters per inch. The maximum value of 'n' is 132. Default = 80.
	BFL [n]	Sets the page length in "n" lines, at 6 lines to the vertical inch. The maximum value of "n" is 100. Default = 66.
	BPL [n]	Sets the number of printed lines on the page to "n". The page length may not exceed the form length. Default = 60.

Menu item	Command	Description
Back translation settings/Upper case toggle	BCL	Locks output text into upper case when on and returns to normal echo of keystrokes when off. Default = Off. Toggle
Back translation settings/Fraction mode toggle	BFR	Causes Braille fractions to be translated to text fractions using the slash character to separate numerator & denominator. Requires use of mathematical braille separation sign (dot 6 in English) between the fraction & any subsequent punctuation. Default = Off. Toggle
	BTBC	Clears all current tab stops
	BTBA [n]	Sets an extra tab stop at position "n".
Back translation settings/Line spacing set	BLS [n]	Sets the printer line spacing to "n", ranging from 1 to 10. Default = 1.
Back translation settings/Justify toggle	BPJ	When on, it causes printed text to align with both margins. This may cause extra spaces to be inserted into text. Default = off. Toggle
Back translation settings/Right align toggle	BRA	When on, it causes printed text to align to the right margin. When off, the text aligns to the left margin. BRA takes precedence over BPJ. Line length & horizontal margins may not be altered while BRA is on and tabs are converted to single spaces. Default = off. Toggle
	BPN [n] [p]	Turns page numbering on or off at the desired position 'p' with a value of 'n'. Max. value of 'n' is 1000, and accepted position codes are: TL - Top left; BC - Bottom centre; TC - Top centre; BR - Bottom right; TR - Top right; OFF - Turn off; BL - Bottom left; ON - Turn on page numbering
	BPNT [braille]	Creates a text string to be printed with the page number, where "braille" is the text to be printed. Note: To position text and turn numbering on and off, use the BPN command, as given above. Max. length of the text is 15 characters, and no punctuation is allowed.

## Adding braille rules

### Adding extra rules to the MB Tutor with the exception table

Your MB has the flexibility to make exceptions to the standard braille rules you are using, to use the shortcuts or abbreviations of your choice, or to introduce groups of contractions.

The braille exception table is active in both forward and back translation, and you can use the commands and make additions to your exception table in either Learn or Advanced mode.

You can add up to 128 entries to the Exception table.

## Braille exception table commands

eta text braille position

This is the main command to add an entry to the exception table.

text is the text to be changed;

braille is the braille that will be substituted;

position is any one or a combination of the five position indicators given below:

a - allowed anywhere

b - allowed only at the beginning of a word

e - allowed only at the end of a word

m - allowed only in the middle of a word

s - allowed only by itself (except adjacent to spaces and/or punctuation).

etc    Clears the exception table.

etd [text]    Deletes an entry from the exception table, where [text] is the text part of the entry.

etu    Turns the exception table off or on. This is a toggle command, and the default status is on.

### Exception Table Examples

eta hello hl s

This command would add a rule to cause the word "hello" to be translated to the abbreviation "hl", but only if "hello" is by itself. It could be surrounded by spaces or punctuation but could not be contained within a word.

As another example, if you wish "help" to be translated to "hp" at the beginning and end of a word but not the middle, the command would look like this:

eta help hp be

# Editor

The editor lets you create and edit text files within the MB memory. It does this in a place called the editor buffer. Once in the editor, text can be entered, inserted, and deleted. You can also search for and replace text, copy, move and paste the text you choose.

## Getting started

### *Entering the Editor*

EDIT (filename)      where *[filename]* is the name of the file you have stored in memory (or the name of the new file if you are starting a new one). If the filename is new, the MB will say "file not found", "creating new file", and then speak the filename. The editor is active if no filename is given, but the file will have no filename. You will be prompted for a filename when exiting.

For whatever reason, if there is previous unsaved data in the buffer, the MB will say: "Unsaved file in editor" "Please clear or save file". You must either clear the editor buffer (by pressing the character "c") or save the file (by pressing the character "s"). After either clearing or saving, you can read in another file.

Enter+Q      Exit the editor

You will be prompted: "Save File First". Answering Y will save the editor buffer as a file, with the filename given, before returning to normal MB mode. Answering N will not save any data and return to normal MB mode.

### *Help*

Enter+H      Help Menu. Default Off. Toggle

## Moving around within a file

### **Cursor commands**

To move around the file, we use cursor commands. These are known as chorded commands. The notation sp + dot 3 means you have to press the space key and dot 3 simultaneously.

SP + DOT 3	Move to the previous character and speak it
SP + DOT 2	Move to the previous word and speak it
SP + DOT 1	Move to the previous line and speak it
SP + DOTS 13	Move cursor to the top of the previous page
SP + DOTS 123	Move cursor to start of the file
SP + DOTS 36	Speak current character
	Pressing twice will give phonetic equivalent or dot equivalent for contractions or non-letters
SP + DOTS 25	Speak current word
SP + DOTS 14	Speak current line
SP + DOT 6	Move to the next character and speak it



SP + DOT 5	Move to the next word and speak it
SP + DOT 4	Move to the following line and speak it
SP + DOTS 46	Move the cursor to the top of the next page
SP + DOTS 456	Move the cursor to the end of the file.

**Note:** If you attempt to move past the start or end of the file, the MB will say "top of file" or "end of file". The new message will override the old if the MB speaks as you enter another cursor command. When new text is entered, the cursor automatically returns to the text entry position.

### ***Editor chorded commands***

Before moving onto the Menu Commands, there are other chorded commands for you to try.

SP + T	<u>T</u> AB. Inserts a TAB at the cursor position in your file.
SP + P	HARD <u>P</u> AGE BREAK. Forces a hard page break at the cursor position in your file.
Enter + I	<u>I</u> NSERT/OVERWRITE MODE. Changes the editor between the insert and overwrite mode. The default is Insert. Toggle

Move the cursor to the desired position in insert mode and write the text inserted. Then, move the cursor to a new position using one of the movement chorded commands. To delete inserted text before moving, press the Command key. If the MB is in Overwrite mode, the text will be overwritten until the following command: hard carriage return or hard page break.

Enter+C	CHANGING THE <u>C</u> ASE OF TEXT. Text can be stored in upper case, lower case, or with no case conversion. Letters entered via the Braille keyboard are usually treated as upper case unless changed by this option. Case conversion is only helpful if you use a PC keyboard for input and want case conversion to be carried out by something other than the MB. In this instance, the Shift or CapsLock key on the PC keyboard would enter the upper and lower case.
Enter+W	<u>W</u> HERE AM I?: This command gives the file's filename and current position (page number, line number, and column number). If you are on a menu, it gives the menu's name.
SP+R	SPEAK <u>R</u> EST OF FILE Speak the rest of a file without moving the cursor using the command:
SP+Z	SILENCE COMMAND a universal silence command can be used anytime.

### **Keyboard commands**

The following MB keys are used for immediate editor commands.

Enter	Enter key is treated as a (hard) carriage return.
-------	---

BS	Backspace key is the same as the Read Last Character command (sp + dot3), except when you enter text in response to a prompt, e.g. when asked for a filename, it will act as an actual BackSpace.
CMD	Command key will cancel any operation currently in progress.

## Menu commands

For editing, the MB has a range of commands organised into five separate menus according to their tasks. These are:

**File menu** for file maintenance (selecting or saving files, renaming files, etc.)

**Search menu** enables you to search and/or replace selected text

**Block menu** allows you to select, copy, move, or delete sections of text

**Delete menu** for deleting or restoring characters, words, lines, or page

**Edit menu** provides further editing functions

**Note:** When asked to answer a Yes or No question, only enter Y or N. Any other answer is ignored.

## Exiting the menus and the Editor

SP+E	This is used for all of the menus described. When you exit the menu, you will return to the Editor.
Enter+Q	Exit the Editor

## File menu

This menu enables file operations such as reading, saving, re-formatting, etc.

Enter+F	Entering the File Menu: The File menu has the following options:
O	<u>O</u> PEN A FILE AND MOVE IT TO THE EDITOR
R	<u>R</u> ENAME THE FILE This command changes the file's name in the editor.
C	<u>C</u> LEAR THE EDITOR WORKSPACE If the current Editor file has been changed and not saved, you will be asked to save this file before clearing the workspace.
D	<u>D</u> GIVE <u>D</u> IRECTORY LISTING The directory listing announces the names of files one by one. Once you have entered the command, you are placed at the top of the file listing with the following supplementary commands available:
A	Speak the previous filename in the file listing. Moves the file cursor up.
C	Speak the current filename in the file listing
DOT 4	Speak the following filename in the file listing. Moves the file cursor down.
O	Open a file, at the current "file cursor" position, into the editor. If an existing file in the Editor has not yet been saved, you will be asked if you wish to save the current file before loading up the next one.
D	Delete the file at the current "file cursor" position.
F	Give remaining space in the editor buffer
P	<u>P</u> ROTECT / UNPROTECT THE FILE Default Unprotected. Toggle.

While in this mode, the MB will say "File protected" whenever you try to enter any characters in the document, either in insert or overwrite mode.

- F RE-FORMAT THE FILE Although this is done automatically when the file is saved or when text is moved around, there may be a time when you would like the file to be reformatted (perhaps before listening to a final version).
- S SAVE THE CURRENT EDITOR FILE When you use this command, the file you are working on is reformatted to fit within the current margins and saved. However, the following conditions apply:
- If **no filename** has been assigned to this file, you are asked to enter one.
  - If the **file already exists**, you are asked if you want to overwrite it. If you answer N, then you are returned to the Editor.
  - If there is **not enough room in memory** to save the whole file, you will be asked if you wish to save the file regardless, in which case it will be cut short to fit. Answering N will return you to the Editor.
  - If necessary, to **make more room**, exit the Editor and use the standard MB commands to clear out any old files. Then, enter and re-save the Editor file.
- SP + E EXIT THE MENU

## Edit menu

The Edit menu has commands for finding out how much space is left in the Editor, the size of the file you are working on or finding a page number in your file. It also allows you to embed formatting commands into the file or Braille grade commands to change the grade in the entire file or a fragment.

- Enter+E Enter the Edit Menu: The Edit menu has the following options:
- S SIZE OF CURRENT FILE
  - R REMAINING WORKSPACE
  - W WHERE AM I? Gives current page, line, and cursor position.
  - F FORM NEW PARAGRAPHS This command can join broken lines (as will happen if a file sent from a computer has different margin settings to the MB). All existing paragraph formatting is maintained.
  - J JOIN CURRENT AND NEXT PARAGRAPH This command can only be entered on the last line of the current paragraph.
  - D DELETE HARD PAGE BREAKS IN FILE
  - G GO TO a selected page number. The Editor will say "Enter page number". You can enter a page number in Text or Braille format. The NEWLINE key must follow the number. If the page number is valid, the editor cursor is moved to the first character of the page number requested. If the number entered exceeds the number of pages in the file, the message "Invalid input" is given.

- C     ENTER MOUNTBATTEN COMMAND If you want to enter a standard MB command (e.g., for formatting) in your file, you need to use this command. When you press C, the MB will say "Enter MB Command". Enter the command as you would usually, then press the "Newline" key to terminate the command. Do not press the "Enter" key, as it has no meaning within the editor. After pressing "Newline", the MB will say "Please Wait" and then "Finished" when the command has been inserted.
- T     TAKE AWAY MOUNTBATTEN COMMAND To delete commands within a file, position the cursor on top of the command and press T. The MB will say "Please Wait" and then "Finished" when the command has been deleted. The instruction is ignored if the cursor is not on a command, and the message "Command Not Found" is given.
- SP + E     EXIT THE MENU

## Block menu

The block menu is used to move sections of text around the editor. You can copy, move and delete blocks of text. This is done using a standard "cut and paste" operation. Once a text is selected or "cut", it is placed in a "clipboard" from where it can later be "pasted" into the new location.

- Enter+B     Enter the Block Menu: You have the following options:
- B     BEGIN BLOCK marker. The cursor must be moved to the first character to be included in the block and the command given. The MB will say "Block Begin". The maximum size of the block is 1200 characters if the block is to be copied or moved. When deleting a block, size does not matter
- E     END BLOCK marker. The cursor must be moved to the first character *after* the text to be included in the block and the command given. The MB will say "Block End".
- C     COPY BLOCK to the cursor position. The block can be copied or moved to any cursor position other than within the block area itself and will be inserted immediately before the current cursor position.
- M     MOVE BLOCK to the cursor position. The block markers are not deleted when a move command is given. This enables you to move the block to another position if you realise you have moved it to the wrong place.
- P     PASTE BLOCK This copies any information in the clipboard to the current cursor position.
- S     SPEAK BLOCK Speak the contents of a block.
- D     DELETE BLOCK

After entering any block option, you are automatically returned to the editor on completion of the operation.

The document is automatically re-formatted after any of the operations, apart from the setting of markers. The MB says which operation is being carried out, e.g., "Move Block"

followed by "Please Wait" and then "finished".

SP + E

EXIT THE MENU

## Delete menu

The commands in the Delete Menu duplicate many of the chorded commands. This Menu is helpful if you need help remembering the chorded command or have difficulty pressing both keys simultaneously.

Enter+D	Enter the Delete Menu: You then have the following options.
C	DELETE CURRENT <u>C</u> HARACTER
W	DELETE CURRENT <u>W</u> ORD On deleting a word, any attached punctuation and following spaces up to the next word or end of the line will also be deleted.
L	DELETE CURRENT <u>L</u> INE On deleting a line, the following carriage return and/or linefeed will also be deleted. If a page break terminates the line, then this is <u>NOT</u> deleted.
P	DELETE CURRENT <u>P</u> AGE. On deleting a page, any text between the previous page break, and the next one is deleted. The page break is also deleted.
Dot3	DELETE PREVIOUS CHARACTER
Dots 256	DELETE TO END OF WORD
Dots 145	DELETE TO END OF LINE
R	<u>R</u> ESTORE LAST DELETION

The document is **NOT** automatically re-formatted after a deletion. You must use the format command in the File Menu to re-format.

SP + E

EXIT THE MENU

## Search and replace menu

The search and replace menu enables you to search for and, if desired, replace the selected text. You can choose the direction of the search, the case of the text you are searching for, or whether it should match whole words.

Enter+S	Enter the Search Menu: You then have the following options.
D	<u>D</u> IRECTION OF SEARCH - the options are; Search to cursor Search from cursor Search whole file from start Each time you press D, an option is spoken. The last spoken option is the one selected.
C	<u>C</u> ASE SENSITIVITY OF SEARCH - the options are; Case sensitive Case insensitive Each time you press C, an option is spoken. The last spoken option is the one selected.

W                    WORD MATCHING or not - the options are.  
                          It matches whole words only.  
                          Matches anywhere (the word you are searching  
                          for can be part of another word)  
                          Each time you press W, an option is spoken. The last  
                          spoken option is the one selected.

**Note:** If you start or end a search string with a space character (i.e.,  
 NEWLINE, SPACE, FORMFEED, etc.), the space character is treated  
 as the end of a word.

S                    SEARCH FOR TEXT  
 R                    SEARCH AND REPLACE TEXT  
 L                    RESTART LAST SEARCH

Before a search or replacement is initiated, the proper operating  
 selections must be set up.

## Entering search and replace strings

When you start a search, you are asked to enter the **search string** (the letters or words  
 you seek). You may use any alphanumeric or space character. You can look for a string at  
 the end of a line by entering NEWLINE after your search word or look for a string at the  
 beginning of a line by entering NEWLINE as the first character of the search string. If you  
 press Backspace, the last character entered is deleted (the MB will say the character that  
 was just deleted). You cannot enter "nothing" as a search string.

Chord-E (sp + E) terminates the search-and-replace function.

After the search string has been entered, if you choose the replace option, the MB will say  
**"Enter replace string"**. The same character combinations can be used with the replace  
 string. However, you can choose to have nothing as the replace string (this will delete any  
 occurrence of your string in the file). To do this, enter sp+E as the first character in the  
 replace string. Remember that there may be a space before or after the word you want to  
 delete, so incorporate that extra space at the end of your search string. Of course, this will  
 mean it will not find a match if the word is followed by punctuation. You may have to try it  
 with and without the space to ensure you get all occurrences.

**Note:** Keep in mind which format you are using to enter information. If you  
 use Grade 2 braille, you cannot search for a word in Grade 1 braille.

## The search sub-menu

If your search string is found in the file and this is a search-only command, then you have  
 available the following options:

W                    Speak word that contains the search string.  
 L                    Speak line that contains the search string.  
 N                    Ignore this one and find next.  
 Command Key      Stop the search and return to the main search  
                          menu.  
 sp+E                Stop the search and return to the main editor

## The search and replace sub-menu

If the search string is found and you have chosen to replace it, you have available the above Search sub-menu options as well as the following:

W	Speak word that contains the search string.
L	Speak line that contains the search string.
N	Ignore this one and find next.
Command Key	Stop the search and return to the main search menu.
sp+E	Stop search and return to the main editor
R	Replace this occurrence
A	Replace all occurrences

When you exit the Main search menu, the document will be reformatted after a replacement has occurred before control is returned to the editor.

## Abandoning search

A search can be abandoned at any time, even during the setting up of the search or replace strings, by pressing the Command key.

If the search string is not found, you are returned to the Search menu to change the search string or one of the search conditions.

To leave the Search Menu, use the command.

SP + E                      EXIT THE MENU

## Editor definitions and concepts

When using the Editor, there will be references to various terms and concepts you will need to be familiar with. These include:

### Hard and soft carriage returns

A soft carriage return usually marks the end of a line within a paragraph. It is automatically inserted by the editor at the end of each line.

A hard carriage return is something you enter into text by pressing the "enter" or "new line" key, usually at the end of a paragraph or by inserting a blank line.

### Hard and soft page breaks

Usually, the editor uses "soft" page breaks to distinguish the end of a page and the start of a new one. If subsequent text is inserted or deleted, by whatever means, and the document is reformatted, then the position of the page break changes accordingly.

"Hard" page breaks; however, do not move. They will always force the start of a new page. If you wish to force a Hard page break, merely enter the "New Page" or "Form Feed" character from the MB keyboard or Control-L from an attached QWERTY keyboard. This will insert a Hard page break at the current cursor position.

### Printing files

Files can only be printed after leaving the Editor. You cannot print or emboss

files from within the editor. Printing of the files uses the standard PR command.

Valid options for page numbering can still be used and are discussed in the User Guide dealing with printing files.

### **Speaking commands**

If the "Speak Commands" option in the Speech Menu is set to YES (ON), then when a command is found, the word "Command" is spoken, and the command following is spelt. As the commands are intermingled with the text, it may sound strange, but it allows you to locate commands quickly.



# Mountbatten Braille Tutor connectivity

## Connecting to a PC using MB-Comm software

To connect your Mountbatten Braille Tutor to a PC or laptop, you need a USB A-B-type cable plus MB-Comm software. The USB cable needs to be connected to the USB B (slave) port of Mountbatten Braille, next to the power adapter socket on the right side of the unit.

MB-Comm software is free and available in the Resources section on the [mountbattenbraille.com](http://mountbattenbraille.com) web page. It is a Windows PC application that enables the transfer of files between a PC and a Mountbatten Braille Tutor.

To install:

1. To use the USB connection, you must first load the Mountbatten USB drivers.
2. Double-click the MB-Comm setup file, and the installation will begin.
3. The installation checks your computer for Windows .NET components and loads them if required. This may take several minutes.

Found a new hardware wizard.

For the first-time USB connection of the Mountbatten to the PC, the PC will detect a new USB device and bring up a Found New Hardware Wizard.

The wizard may ask to search the Web or Microsoft Update; please select "No, not this time" and select Next.

Then select "Install the software automatically (recommended)".

You may hear Mountbatten say "USB connected" during this procedure.

Accept any prompts to "continue anyway".

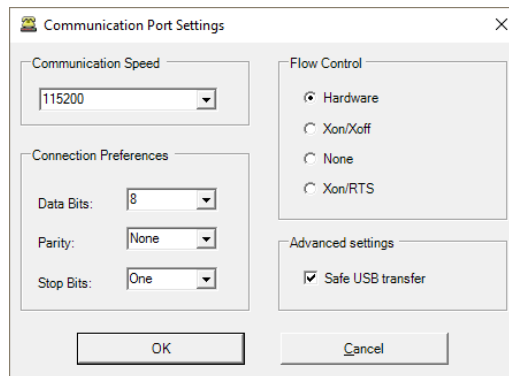
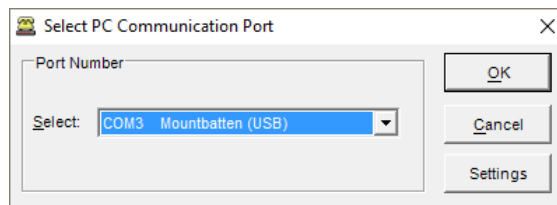
When finished, the PC should indicate that the new hardware has been installed successfully.

If you encounter any problems with communication between Mountbatten Braille Tutor or Mountbatten Braille Whisperer and MB-Comm software through a USB cable (connection errors, missing letters, or whole words during embossing), please select the option "Safe USB transfer" in connection settings. This setting will be stored, and you won't need to change it in the future.

Detailed instructions:

- select "Connect Mountbatten" from the menu "Device"
- click the button "Settings" in the displayed dialogue box
- in the shown window, check the "Safe USB transfer" option in the section "Advanced settings."
- confirm this setting with the "OK" button.

The following screenshots show the described steps:



### ***Starting MB-Comm.***

When starting MB-Comm while connected to the Mountbatten, you will hear a series of tones and "OK" prompts while the connection is being established. If you don't hear any tones, make sure the Mountbatten is on, connected, and has paper loaded; if all this is in place and no connection is made, contact the helpline for assistance.

### ***Transferring files to/from Mountbatten Braille Tutor***

Text files can be Embossed on the MB directly from your computer or sent to the MB memory for later embossing. Or, files held in the MB memory can be sent to the Computer for saving.

From the File menu, select either:

- Send Text File to MB
- Emboss File on MB
- Receive and Save File from MB

**Hint:** It is recommended that when sending to the MB, the Send Text File to MB function is used, as this is much quicker and allows you to Emboss the material at your leisure.

#### ***Other features***

On the Computer screen, you may

- Display File from MB
- You can also interact with the MB through a Chat mode.

At any time, using the Device Menu, you may turn the Embosser On or turn the Embosser Off. You may also Connect or Disconnect the MB or use MB Memory Management to report on the MB memory. File management works for all Mountbatten Braille Tutor models, while the free memory field is not displayed when an MB Tutor is connected, due to the large size of memory in this model.

You may also click the lights in the toolbar under MB-Comm menu to Connect and Disconnect or turn the Embosser On or Off.

## **MB-Comm menus**

### ***File menu***

- Receive and Save File from MB
- Display File from MB
- Send Text File to MB
- Emboss File on MB
- Chat Mode
- Upgrade Mountbatten Braille
- Save Display to File
- Clear Display Window
- Exit

### **Receive and Save File from MB      R**

This option will query the MB and pop up the list of files held in the MB memory when selected. Select the file you wish to send to the computer. When you click OK, the Windows file selection menu will pop up with the MB file name offered as the default file name. You may browse to another directory if needed and/or change the file name before saving the file.

When you click OK, the file will be sent from the MB. The MB will beep during the file transfer to indicate progress.

Once saved on the computer, the files may be edited using any Windows word processing program. The text editors, such as Notepad or WordPad, are convenient for text editing, or you can use programs like Word if you save the file as a text file.

### **Display File from MB      D**

Selected from the File Menu, this function lets you view a text file sent directly from the MB to the computer.

When selected, a menu will pop up showing the MB files available. Choose the file for viewing and click ok. The file will be sent directly to the computer screen for viewing. Use the Windows controls to scroll through the text.

Note that you cannot Edit any displayed text. It is simply for viewing.

### **Send Text File to MB      S**

Selecting this option will pop up a Windows file selection menu. Choose the file you wish to send using the Browse facility if needed. The MB will beep several times when you click OK and then present its file menu. You will then be asked to nominate a file name the MB can use. The default selection will be the Computer file name. The file will then be sent to the MB and stored in the MB memory with your selected file name.

If there is any problem with the file name, you will receive an appropriate error message with advice.

If the file already exists, you will be prompted to overwrite it or not.

The MB will beep during the file transfer to indicate progress.

You may cancel the transfer any time by selecting the Cancel button on the screen. The computer will stop sending, but the MB will continue to beep for a time until the buffer has been emptied. The MB will then be left with a partial file in memory. If necessary, you may Delete this file using MB Memory Management.

### **Emboss File on MB      E**

Selecting this option will pop up a Windows file selection menu. Choose the text file you wish to Emboss using the Browse facility if needed.

The file will then be sent to the MB and Embossed. If necessary, you may use the MB Print Control facilities to Pause or Abort the Embossing.

**Note:** Ensure the MB has paper loaded and is ready to receive the file before sending.

## **MB Print Control**

Press the Command (Control) key if you need to pause Embossing. The Embossing may not stop immediately but will when the buffer is emptied. You may then either continue embossing or abort the process. Press the New Line, Space, Enter, or Backspace key to continue. To abort, press any of the braille dot keys.

## **Chat Mode      M**

This is a Toggle function. When selected, it will be ticked. To de-select it, click it again.

Selecting Chat Mode allows interaction between the MB and the computer keyboard. What is typed on the PC keyboard is brailled on the MB, and what is typed on the MB keyboard is displayed on the computer screen.

Text displayed on the PC from the MB will be Grade Zero or what is known as Computer Braille Code. If you wish to see correct text displayed on the computer when using chat mode, turn on the MB back translation.

If you wish to type on the PC and get the correct braille, turn on Forward Translation.

**Note:** You cannot edit the computer screen. You can only translate one way at a time. You cannot have back and forward translations on at the same time.

You may also send MB Commands from the PC keyboard by using the curly brackets "{" and "}". The opening bracket "{" substitutes for the Command key, and the closing bracket "}" substitutes for the Enter key.

## **Upgrade Mountbatten Brailer**

This option performs an upgrade of the connected Mountbatten Brailer. This legacy feature works with older Mountbatten Brailer models - the Classic and Whisperer. MB Tutor, in production since 2020, can be updated with the use of a USB drive.

## **Save Display to File      a**

You may save the text displayed by MB-Comm. All the text viewable in the MB-Comm window, not just the visible portion, will be stored using the save display function from the File menu.

## **Clear Display Window      C**

All the text viewable in the MB-Comm window, not just the visible portion, will be erased.

Before erasing, you will be asked to save the display contents as a text file. You may answer yes, no, or cancel. If you answer yes, the usual File Save window will pop up and prompt a file name. If no, then the screen is immediately erased. Cancel leaves the screen as is and waits for the following action.

## **Exit      x**

You may exit at any time. If any text is displayed on the screen, you will be asked if you wish to save it.

## Device Menu

- MB Connect
- MB Disconnect
- Embosser On
- Embosser Off
- MB Memory Management

### Connect remote MB    C

This function is good for remote learning when a teacher with a PC is located elsewhere than the student with his MB Tutor. First, to establish such a connection, you need an active connection to the Internet on both the MB-Comm PC and MB Tutor.

This mode requires an activation of the functionality by the controlling MB Tutor.

### Disconnect remote MB    D

Choosing this option disconnects an active remote connection to an MB Tutor.

### MB Connect    M

Connecting the MB may require setting data flow parameters, as mentioned at the beginning of this chapter. To do that, choose Settings in the connection window. When the settings window is closed, press OK to start the communication.

For the MB, before connecting, you will be prompted to insert paper and ensure that the MB and Computer are correctly connected.

You will receive a connection error if you do not have paper in the MB before connecting. Also, if you do not have a charging adaptor connected, ensure the MB is awake. Once connected, the MB will stay awake as long as the connection is maintained.

### MB Disconnect    B

Disconnecting the MB does not exit the program; it simply breaks the communication between the computer and the MB and allows you to use them as usual. MB-Comm will merely wait for a new connection.

Before Disconnecting, you will be prompted to confirm your action.

This function is also available by clicking the MB Connected / Disconnected indicator lights. The indicator toggles according to the state of the connection. When connected, it will be green. When disconnected, it will be red.

### Embosser On    O

### Embosser Off    s

This can be toggled to prevent the MB from embossing in chat mode.

This function is also available by clicking the Embosser Off / On indicator light. The indicator toggles according to the state of the embosser. When on, it will be green. When off, it will be red.

If sending files to the MB as opposed to embossing, then regardless of whether embossing is on or off, the file will be sent without embossing.

### MB Memory Management    e

Selected from the Device Menu, the MB will beep several times as MB-Comm gathers file information.

A list of the files held in the MB memory will be shown.

If you make a mistake and delete a file you should not have, you can un-delete it, provided you do it immediately after you complete the error.

MB-Comm's menu contains options for Mimic - a legacy device that can be connected through the serial port of your PC. These are not relevant to Mountbatten Braille Tutor and should be included in this manual.

## **Connecting to iOS or Android devices**

MB Tutor is equipped with Bluetooth to connect to smartphones and tablets that work with mobile operating systems: iOS or Android. A free app is available in the Apple AppStore and Google Play Store: MBMimic. The MBMimic is a communication app that supports producing hard copy braille output and interaction with a braille user. The app can be operated by the sighted and the blind. It is fully accessible when VoiceOver is running on your iOS device.

### **With the MBMimic, you can:**

1. Create a list of users (e.g., students)
2. Assign folders with specific content to each student
3. Transfer files among your students
4. Transfer files from apps like documents to MBMimic
5. Retrieve files from your students' Mountbatten
6. Read files stored in your students' Mountbatten
7. Send files to your students' Mountbatten
8. Email files retrieved from the Mountbatten
9. Emboss files stored on your iOS device
10. Chat with the Mountbatten user using the chat application
11. Help your students learn to spell words using the Whiteboard application
12. Check if your student can read contracted or uncontracted braille

MBMimic comprises three tabs: Active Users, Archived Users, and Mountbatten. The Active Users tab is meant for lists of users, e.g., students, who actively use the Mountbatten.

The Archived Users tab was created to let the teachers keep information from previous years so as not to interfere with current users.

The Mountbatten tab is used to establish a connection with the Mountbatten, interact using the Chat or Whiteboard applications, check the Mountbatten's memory, or find out the firmware version of the Mountbatten unit.

To run the app, locate it on your iOS device, tap it, and wait for it to open. Tap one of the three tabs you want to work with at the bottom of the screen.

### **Active Users**

When you tap the Active Users tab, you will see a long button Add user... Tap this button to open the Edit user box, where you are asked to enter the full name of the user as well as the display name. Once you have completed the information, tap Done, and your first active user will be added to the list.

NOTE: It is recommended but unnecessary to complete all the fields in the Edit user box.

To add more users, tap the plus sign (+) in the top right corner of the screen and follow the same steps.

When you have created your user list, you can organise their files by creating folders.

First, tap a user to open the main folder. Next, tap the plus sign and select from the menu to add a folder or a file from the Mountbatten. Tap Add folder... and when a small box pops up, type the name of this new folder. Tap OK to finish.

The folders and files can be deleted when they are no longer needed. First, tap the Edit button next to the Add button (the plus sign). You will notice red round icons pop up on the left-hand side. The Delete button will appear on the right-hand side when you tap on it. Use this button to continue deleting. You will be asked again to confirm your decision. Tap the Delete button to remove the item.

There is also another way to delete an item. After tapping the Edit button, tap on the item you want to delete. A three-option menu will pop up. The topmost option is Delete. Tap it, confirm your selection, and the item will be deleted.

The same method lets you move or rename the item. You can move a folder or a file to a different user. When you have tapped the Move option in the menu, you will be given a list of users to which you can move the item. Once you tap on a different user, the item (file or folder) will be transferred to a new location.

Files stored in the User's main folders or subfolders can be manipulated in several ways.

Once the file is tapped, a file menu opens up with the following actions:

- View – preview the content of the file
- Send to Mountbatten – send to Mountbatten Memory
- Move – move to a different location
- E-mail – send it by e-mail
- Emboss – emboss on the Mountbatten

NOTE: In the Send to Mountbatten and Emboss case, if your MBMimic is not connected to a Mountbatten, the connection process will begin before the selected action is executed.

### **Connecting to a Mountbatten Braille**

Before connecting to a Mountbatten Braille, please make sure that the Braille is turned on and the paper is loaded.

Tap on the Mountbatten tab at the bottom of the screen of your iOS device. The program will be looking for any active Mountbatten in the vicinity. After a list appears, select the unit you want to connect to. A connection screen will show up saying "Connecting to Mountbatten". You should hear the Mountbatten beep several times, and after a few seconds, your MBMimic will connect with the Braille. Tap Done, and you will be taken to the home screen.

NOTE: The MBMimic looks only for a Mountbatten. It will not display any other Bluetooth-enabled devices, so you never have to browse through long lists of devices to find the one you want to connect to.

From now on, you can begin interacting with Mountbatten.

The home screen gives you the following options:

**Chat** – an application for chatting between the Mountbatten and iOS users

**Whiteboard** – an application for various writing activities between the Mountbatten user and the iOS user

**Connection status** – shows whether you have successfully connected to a Mountbatten

**Files** – this option shows how many files are stored in Mountbatten memory; the show button allows you to open the Mountbatten directory listing the files stored in its memory

**Language** – this option informs you about the default language

**Braille table** – this option tells you about the default braille table

**Mode** – this option shows you which mode the Mountbatten is currently in; it can be either learn or advanced

**Firmware** – this option provides information about the firmware version model – this option shows the model version of your Mountbatten serial no: - this option provides the serial number of your Mountbatten

## The Whiteboard

When you tap on the Whiteboard application, a new screen opens with an edit area and a screen keyboard. Every word you type will get embossed after the space bar is pressed on the screen keyboard. Similarly, every word that gets brailled on the Mountbatten will be displayed on the screen once the user presses the space key on the Brailier wireless keyboard.

Two buttons in the top right corner – Grade 1 and Grade 2. These two buttons correspond to contracted and uncontracted braille output, respectively. When you want your braille output to be contracted, make sure the Grade 2 button is pressed.

## The Chat

When you open the chat program, you will see a large white field, an edit box, and a screen keyboard. The text is entered into the edit box, but it will not be embossed until the Enter key or the OK button is tapped. When the Mountbatten user is brailing their entry, the text will be displayed only after the New Line key is pressed on the Brailier.

Two buttons in the top right corner – Grade 1 and Grade 2. These two buttons correspond to contracted and uncontracted braille output, respectively. When you want your braille output to be contracted, make sure the Grade 2 button is pressed.



## **Embossing on Mountbatten Braille**

### **A. Embossing directly after transferring text to MBMimic.**

1. Turn the MB Braille on.
2. In the MBMimic app, find the file that you want to emboss. Tap this file, and a menu will open up. Select Emboss.
3. The "Connect to Mountbatten" dialogue will open up. Wait a few moments until your Mountbatten Braille shows up on the list. Tap the serial number that pops up. You will hear the Mountbatten beep several times.
4. You will be asked if you want to translate the file to Braille. If your text does not have any embedded commands and was created in a standard print format, it is recommended to choose Yes - use forward translation to braille.
5. Once you tap your option, the Mountbatten will begin to emboss.
6. When the first page is embossed, insert a new sheet of paper. The embossing will resume automatically.

### **Transferring files from Mountbatten to MBMimic.**

1. Run your MBMimic and make sure the Mountbatten is also switched on.
2. Select the Mountbatten tab at the bottom of the screen after establishing a connection between the MBMimic and the Mountbatten. Locate the Show button and tap on it.
3. A list of files stored in your Mountbatten will show up. Please select the one you want to transfer by tapping on it and choosing View from the menu.
4. The content of the file will open up. In the top right corner, find the Save button. You will be moved to the Active Users tab when you tap on it. Select the student whose folder you want to transfer the file to, then select the location and tap the Save here button.
5. Then tap the Done button in the following two dialogues to complete the transfer. To check if the file was moved, go to Active Users and locate the file in the previously selected directory.

### **Connecting to printers**

Connecting to printers (the black-print ink or laser printers used with regular computers) is easy and is fully automatic - you need to connect a USB cable between the printer and the MB Tutor USB port on the left side of the unit. If connected for the first time, loading drivers and installing the printer may take several minutes (even more than 10 minutes sometimes). Connecting the MB to the Internet to make more drivers available if the printer is a new or rarely used model is recommended. After installing the printer, you may use back translation features to print from the MB Tutor memory to the printer.

## Connecting to the Internet

You may use the Wi-Fi hub at work or study to connect to the Internet. You will need the advanced Mountbatten Brailier Tutor functions enabled (it may take a few minutes after you switch the unit on before you hear the "Advanced Mountbatten Brailier Tutor functions available now" message). Go to the System menu and choose Wi-Fi settings. You should see a list of available Wi-Fi networks. If the one you want is not listed - you may refresh the list (the first option in the submenu).

After you have found your network, choose it with the Enter key, and you will be prompted for a password. There is an additional switch under the network list to show or hide a password while entering. The password may include some special characters. In that case, entering may be challenging, depending on the Braille table used. To make it easier, prepare a file called MBT\_Network.txt and place it in the root folder on a pen drive to be plugged into the left-side USB socket of MB Tutor. The file should include the following information:

```
Network=<<network name>>  
Password=<<password>>
```

To connect to the network defined in the MBT\_Network.txt file, please place the pen drive into the left-hand USB socket and go to Menu -> System -> Wi-Fi -> Read network credentials from a file.

Advanced users may enter two more optional lines for networks that need specific parameters:

```
Authentication=<<security>>  
ConnectAutomatically=<<automatic_connection>>  
where:
```

<<security>> is one of::

- 0 for Open network
- 1 for WEP
- 2 for WPA
- 3 for WPA2 Personal (this is the default setting)
- 4 for WPA2 Enterprise

<<automatic\_connection>> is one of:

- 0 for non-automatic connection
- 1 for automatic connection (this is the default setting)

Here is an example of the network parameters definition file:

```
Network=My_net  
Password=Alice1409
```

The connection should operate immediately after you give the correct password.

## **MB Tutor and Duxbury Translator**

MB Tutor connects to PC with Duxbury Translator installed over a USB cable. While connecting, remember to set the hardware parameter "Flow Control" to "None". All other settings should stay default.

Here is a step-by-step instruction for embossing a text using the Duxbury Translator:

1. On your Windows machine, install the USB driver for MB Tutor and have Duxbury installed.
2. Define the printer in Duxbury:
  - From the menu, select Global > Printer Settings...
  - The "Global: Printer configuration" dialogue box appears. In this window, use the "new" button
  - The "Global configuration - Untitled configuration" dialogue box will appear.
  - From the "Embossert model" drop-down list, select the "Quantum Mountbatten" printer (device)
  - The "Setup name" edit field can be left blank
  - In the "Output options" group, select "Writing to port"
  - Use the drop-down list to select the serial port number for the connected machines
  - After the serial port is set, the "Serial" group will appear. In this group, please change the value of the "baudrate" item from 9600 to 115200 and the "handshaking" option from "hardware" to "none"
  - Confirm with the "OK" button
  - After confirming the printer configuration, you will return to the "global: setup" dialogue box. Here, from the "Braille device" drop-down list, select the "Quantum Mountbatten" option and define parameters such as page size, number of lines on a page, number characters per line, and top margin
  - Now you can emboss using the Mountbatten Brailier Tutor.

Please remember that changing the settings in the "Global" window does not apply to the document file we are working on. To run the document converted for Tutor, use the necessary parameters in the Document menu > Braille embosser configuration.

Please check the Duxbury User Manual for more information on printing braille texts from a PC with Duxbury Translator to Mountbatten Brailier Tutor.

# Updating your Mountbatten Braille Tutor

Updating your MB Tutor may be done on three levels:

- Basic Mountbatten Braille Operating Firmware
- Advanced Features Software Firmware
- Games

You can access this feature from the System menu, Update device or Update advanced module option.

Each level is updated differently:

## ***Updating Basic Mountbatten Braille Operating Firmware***

You need the firmware update file set from the Producer of Mountbatten Braille Tutor to update the basic firmware. It comes in a folder named MBUPDATE.TUT . It should be placed in the root of a USB drive memory that needs to be placed in the upper USB socket on the right side of your MB Tutor. While the USB drive is placed in the socket (when Tutor is on), you will hear a "USB memory connected" message. Choose menu System -> Update device. After an additional prompt, the update process will start automatically. It may take several minutes, but up to an hour with some large audio updates.

When the basic firmware update is done, the unit will automatically restart.

**Note:** If a USB drive memory is removed from its USB socket after an update command is issued, the device may get in an endless loop, expecting the update file where it should be. To get out of the circle, you need to place memory in a USB socket with the proper file.

## ***Updating Advanced Features Software Firmware and Games***

To update the advanced firmware, you either need the firmware update file set from the Producer of Mountbatten Braille Tutor or set up the Internet connection.

### ***Updating from a file on USB pendrive:***

The advanced firmware update comes in a folder that should be placed in the root of a USB drive memory that needs to be placed in the USB socket on the **left side** (different from the basic software) of your MB Tutor. While the USB drive is placed in the socket (when Tutor is on), you will hear a "USB memory connected" message. Choose menu System -> Update device -> Update advanced module -> Update from USB memory. After an additional prompt, the update process will start automatically.

When the advanced firmware update is done, the unit will restart its Advanced Functions Engine and get ready to work.

### ***Updating from the Internet:***

The advanced firmware update is placed on a server in the cloud, and the Tutor can find it if it is connected to the internet. MB Tutor will determine the newest firmware and update it automatically. Choose menu System -> Update Advanced Functions Firmware -> Install from the Internet. After an additional prompt, the update process will start automatically.

When the advanced firmware update is done, the unit will restart its Advanced Functions Engine and get ready to work.

## Making braille graphics

The following formatting commands apply in both Learn and Advanced Mode.

Menu: Emboss/Graphics mode toggle

GF Graphics mode. In Graphics Mode, the space between the dots is reduced, giving the appearance and feel of lines instead of dots. There is much scope for creativity, and learning about braille graphics re-enforces the braille code for the braille learner. Default = off. Toggle

**Note:** There are dedicated braille graphics programs that you can run on your PC, such as TactileView. Another exciting way to make tactile diagrams is using "swell" paper and the Pictures in a Flash - PIAF. For more information on either of these products, please refer to our website [int.harpo.com.pl](http://int.harpo.com.pl)

# Technical Specifications

Power: proprietary power supply 110v – 220v Output 15-19VDC 5.5Amp, 90W)

Battery life: 20 hours standard use, 5 hours or 70 pages embossing

Weight: 3.9 kg (8.6 lbs)

Operating temperature: 10 ~ 40 °C (50 - 104 °F)

Size [mm]:

