

# User Manual



## The Mountbatten Braille MB Writer Plus

Revision 1.5.1  
Item 116-022

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**Thank you for purchasing a Mountbatten Brailier. Since 1990, the Mountbatten range of Braille Writers has been offering expanded Braille writing opportunities to people all around the world. In fact the Mountbatten Brailier is now in use in over 30 countries.**

**News, resources, regular up-dates and support material can be obtained from the Web site:**

**[www.mountbattenbrailier.com](http://www.mountbattenbrailier.com)**

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



## CONTENTS PAGE

<b>Welcome to your MB Writer Plus</b> .....	<b>2</b>
Opening The Box.....	3
Posture and Seating .....	3
Other Resources.....	3
Feedback.....	3
<b>INTRODUCTION TO THE MB W+ .....</b>	<b>4</b>
What's inside the box:.....	4
Top View – Cover On.....	5
Top View – Cover Off.....	6
Left Hand Side View .....	7
Right Hand Side View.....	7
Rear View .....	8
Removing the Paper Bail .....	8
Inserting Paper .....	9
Introduction to the Keyboard.....	10
Key Descriptions and Layout .....	10
Begin Writing Braille.....	10
Speech Options .....	10
Erasing and Correction .....	11
Learn Mode and Advanced Mode .....	11
How to Move Around the Page .....	11
Embossing speed .....	12
Power .....	12
How to Check Battery Status .....	12
<b>COMMANDS - How to Use Them .....</b>	<b>14</b>
Turn Command Key On and Off.....	14
Entering Commands .....	14
Help Command and Options.....	16
<b>BRAILLE WRITING.....</b>	<b>18</b>
Formatting Your Braille .....	18
Braille Writing Commands.....	18
Writing Braille Files in Memory.....	19
One-Handed Braille Writing .....	20
Making Braille Graphics .....	21
Writing Braille on Heavy Card, Plastic film or Labels.....	21
Writing Braille on Small Paper .....	21
<b>BRAILLE WRITING AND NOISE .....</b>	<b>22</b>
Adjusting Dot Impact for Writing Braille on Different Types of Paper.....	22
Changing between Embossing Speeds.....	23
<b>LEARN AND ADVANCED MODES .....</b>	<b>24</b>
Changing between Learn Mode and Advanced Mode.....	24
<b>USING MIMIC AND A PC KEYBOARD .....</b>	<b>26</b>
Mimic LCD Display.....	26
PC Keyboard .....	26
<b>SPEECH CONTROL .....</b>	<b>28</b>
Recorded Speech .....	28
<b>MB COMM – Transferring files between MB W+ and a PC .....</b>	<b>29</b>
Installation Instructions .....	<b>Error! Bookmark not defined.</b>
Connecting the MB W+ .....	<b>Error! Bookmark not defined.</b>
Using MB COMM.....	30
Receive and save File from Mountbatten.....	31
Display file from Mountbatten.....	31
Send Text File to Mountbatten .....	31

Emboss file on Mountbatten.....	31
<b>BRaille TRANSLATION.....</b>	<b>32</b>
Universal Braille Settings.....	32
<b>FORWARD TRANSLATION - Converting Print to Braille .....</b>	<b>34</b>
<i>Using a PC Keyboard.....</i>	34
<i>Entering Commands Using a PC Keyboard .....</i>	34
<i>Basic Forward Translation.....</i>	35
<i>Summary of Forward Translation Commands.....</i>	35
<b>BACK TRANSLATION - Converting Braille to Print .....</b>	<b>38</b>
Braille Translation – Using the Patterns Curriculum .....	42
Selecting a Printer to Use With Your MB W+ .....	44
<b>BRaille CHAT (also called DEAFBLIND MODE) .....</b>	<b>45</b>
<b>BRaille EMBOSsing .....</b>	<b>46</b>

<b>APPENDIX A.....</b>	<b>48</b>
- INTERNATIONAL PHONETIC ALPHABET.....	48
<b>APPENDIX B -.....</b>	<b>49</b>
<b>SPELLING AND PHONETICS .....</b>	<b>49</b>
<b>APPENDIX C -.....</b>	<b>51</b>
<b>APH PATTERNS SERIES.....</b>	<b>51</b>
<b>APPENDIX D - TROUBLESHOOTING GUIDE .....</b>	<b>53</b>
<b>APPENDIX E - BATTERY CARE.....</b>	<b>56</b>
<b>APPENDIX F - THE BRAILLE EXCEPTION TABLE .....</b>	<b>57</b>
<b>APPENDIX G - THE BRAILLE ‘BLACKBOARD’ .....</b>	<b>58</b>
<b>APPENDIX H - CHANGING THE KEYBOARD LAYOUT .....</b>	<b>59</b>
<b>APPENDIX I - Storing Frequently Used Commands as ‘Macros’ .....</b>	<b>60</b>
<b>APPENDIX J - TACTILE GRAPHICS .....</b>	<b>61</b>
<b>APPENDIX K – Braille Languages and Codes.....</b>	<b>62</b>
<b>APPENDIX L - Chorded commands.....</b>	<b>63</b>

## **Welcome to your MB Writer Plus.**

The MB Writer Plus (MB W+) has been designed for children who need Braille. It is a fun and inclusive introduction to Braille literacy and provides a solid foundation for a life-time of learning.

It is suitable for the very first stages of Braille instruction through to high school and beyond. With its exceptional flexibility and range of functions, the MB W+ is a solution for meeting ever changing educational and teaching goals. It contains tools that are simply not offered by more traditional devices.

The MB W+:

- develops awareness of Braille characters - utilising speech output to enable and reinforce experiential learning.
- facilitates pre-Braille activities and play for young children long before they are physically able to use traditional mechanical Braille writers.
- "Braille and listen" mode;
- links technology and Braille as Life Skills. Concepts of using files and editing documents are introduced at a basic level, all in the context of learning Braille.
- removes attitudinal barriers by taking the "mystery" out of Braille. Sighted teachers, peers and family can connect a regular PC keyboard and write in Braille.
- assists with inclusion and participation. The student's work is displayed on the Mimic screen.

Literacy through Braille opens up the world of communication and expression - essential for Living Successfully. Braille fulfils needs that cannot be addressed by verbal and audio methods. The MB W+ is the ideal platform for launching children into the world of Braille literacy.

The following comments are from Graham Cook who has written some wonderful support documents and curriculum materials for the MB W+ (available for free at <http://www.setbc.org/res/mbpro/default.html>)

## **Opening The Box**

Never pass up a wonderful learning opportunity! Enthusiastically celebrate the arrival of your new MB with your student by opening the box with them (re-pack it if necessary). Show your student the foam padding and bubble wrap used in the boxes. Ask your student why they use padding.

Explain that the MB was made in Australia, and if possible show your student on a globe where they live and the distance to Sydney, Australia where it was made.

This can then lead into a discussion on how we need to take care of their special equipment. Discuss the contents of the boxes and its relevancy to the students study and learning. Discussing how to get help is also a good introduction to skills they will need when using technology throughout life.

## **Posture and Seating**

Brailleing posture and body alignment are very important.

- The student's feet should be touching the ground or resting on a custom made foot stool.
- Their back needs to be supported by the chair.
- The table surface needs to be at a comfortable height for brailleing. It is helpful if the student has a specially designed Braille desk with adjustable legs so that it can grow with the student.
- Where possible have an occupational therapist assess the learning environment. They will often point out things that we may overlook.

## **Other Resources**

Training resources, copies of command summaries and other wonderful resources are available. Please check with your distributor or visit the MB W+ website [www.mountbattenbrailier.com](http://www.mountbattenbrailier.com)

## **Feedback**

The MB W+ is a product that has continued to grow and develop to meet the needs of users around the world. It is through feedback from users that we get to understand how to improve and refine it, so please send us your feedback. Please mail us at [info@quantumtechnology.com.au](mailto:info@quantumtechnology.com.au)

## **INTRODUCTION TO THE MB W+**

In this first chapter we provide an overview of the physical aspects of the MB W+, where everything is located and what it does. We also provide an overview of the basic things you will need to start using your new MB W+.

Please take the time to read this Introductory Chapter, and get acquainted with the basic features of your MB W+.

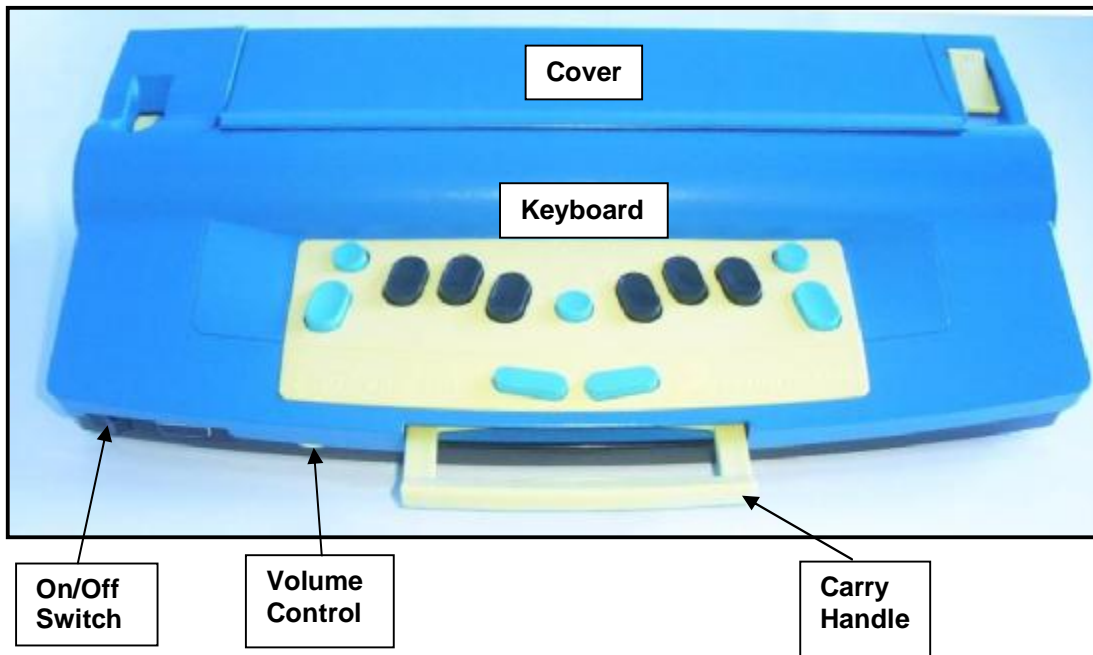
### **What's inside the box:**

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

- an AC main power supply
- 1 X USB Peripheral cable
- 1 X 9 pin serial cable (D type)
- 1 X 25 pin parallel cable
- a warranty card

Retain the Warranty Card for your reference.

## Top View – Cover On



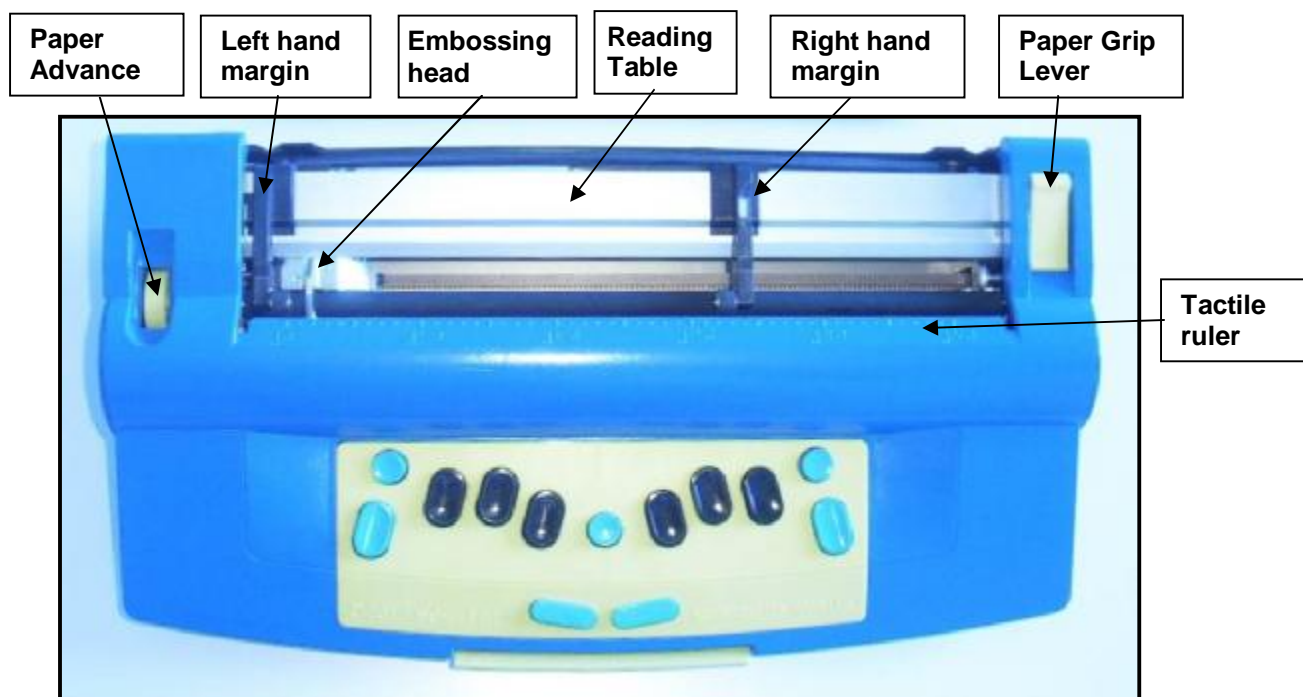
With the unit in front of you and the keyboard facing you, the handle is in the front middle. Left of the handle is a volume control knob, and to the far left is the on/off switch.

The top cover is removed by reaching over to the rear facing side and lifting the tab that is in the middle of the cover. Place it to the side.

### **Remove Paper Lock:**

Remove the paper packed under the embossing head. This is only used when shipping the MB . Failure to do this can result in damage!

## Top View – Cover Off



With the MB W+ in front of you, the following features are described from left to right.

**Paper Advance:** This is a yellow textured plastic knob which is recessed below the top surface of the unit. It is used to manually roll paper in and out of the MB W+. It is recommended for aligning top of page, however, movements around the page should be done by pressing combinations of keys (described below).

**Left Hand Margin:** This is just to the right of the Paper Advance and has a small rubber roller on one end. The left hand margin has a fixed position and cannot be moved. When inserting paper, the paper must be underneath the roller against the margin.

**Embossing Head:** This mechanism moves across the page and contains the pins that move up to form the Braille dots. When the unit is turned off the embossing head can be physically moved by pushing on the left or right hand side. However, when the unit is on, it should NOT be moved manually, as the MB W+ software keeps track of its position by counting the steps it makes across the page.

When inserting paper, the paper needs to go underneath the embossing arm.

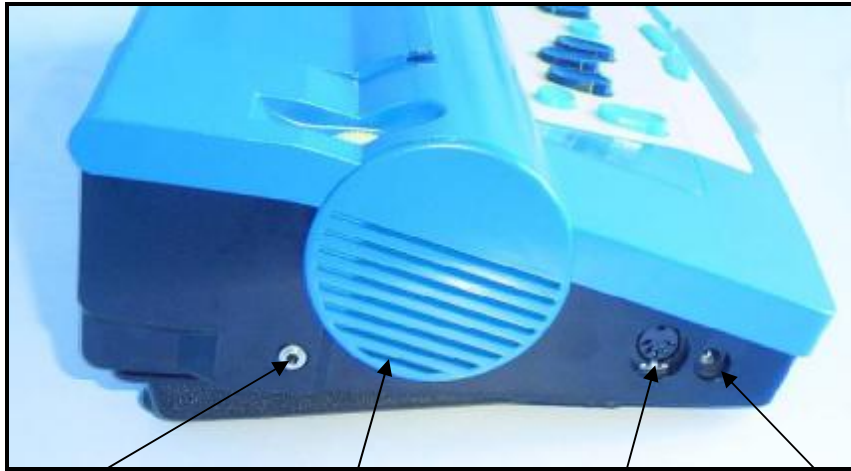
**Reading Table:** This is the flat metallic surface that goes right across the MB W+. Beginners can line up their paper on the rear edge of the reading table. More experienced users prefer to line up the top of the page with the tactile ridge across the reading table.

**Right Hand Margin:** The Right Hand Margin is the same size as the Left Hand Margin, and it also has a small rubber roller on one end. When the Paper Grip Lever is in the Up position, the right hand margin can be moved across the Reading Table, to suit the size of paper being used. The right hand margin has an indent suitable for a finger, used for moving the margin.

**Paper Grip Lever:** The Paper Grip Lever is on the right hand side of the unit and is also recessed just below the top surface. Lift the Paper Grip Lever before inserting or removing paper. Whenever the Paper Grip Lever is lowered the Embossing Head scans the page and returns to the left hand margin to measure the size of the paper being used.

**Tactile ruler:** This scale runs along the width of the unit, and is located in front of the reading table. Use the numbers on the ruler to quickly locate the position of the embossing head. The numbers on the ruler correspond to each Braille cell column on the page.

### Left Hand Side View



- Headphone Jack
- Speaker Grill
- AC Mains Power Supply Connector
- DC Power Adaptor

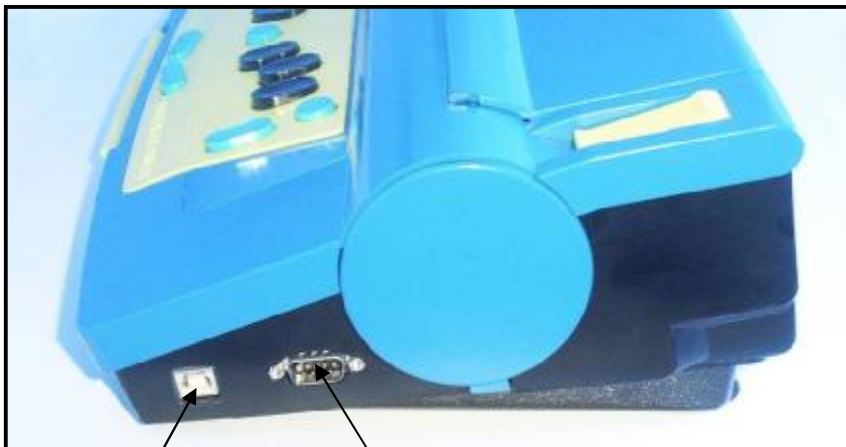
**Headphone Jack:** Standard stereo headphone jack used where speech output may interfere with rest of class.

**Speaker Grill:** The speaker is located directly behind this grill.

**AC Mains Power Supply Connector:** The power unit that connects here is supplied by the manufacturer and is for mains supply 110V – 220V. You should only use the power unit supplied. Note that the connector has a locator slot that is on top when you insert it. Do not use force when inserting the power unit.

**Power Adaptor Connector:** The MB W+ is not supplied with a power adaptor. If you wish to use a power adaptor, please contact your distributor.

### Right Hand Side View

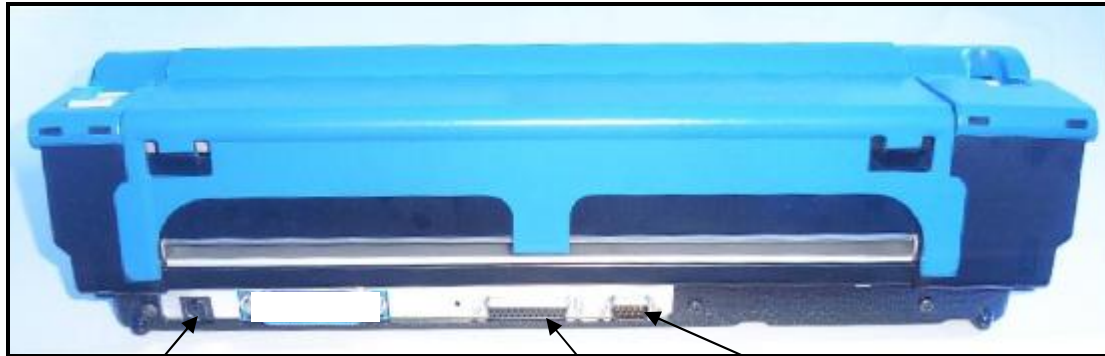


- USB Peripheral Port
- Mimic Port Serial Port S1

**USB Peripheral Port:** This is used for connecting to a computer and for transferring information between the PC and the MB W+. Use this port with our software MB COMM (included in this package).

**Mimic Port (S1 port):** The Mimic LCD display is connected here.

## Rear View



PC Keyboard Port  
PS2 type

Parallel  
Output Port

Serial Port S2

**PC keyboard port:** A standard PC keyboard (PS2 type) can be used with the MB W+.

**Parallel Output:** This port is used to connect a parallel printer to the MB W+. Only certain types of parallel printers will work with the MB W+. Please contact your distributor for more information.

**Serial Port S2** This is the second serial port on the MB W+. It is used for sending and receiving information to and from a PC or Braille note taker via serial transfer. Use this port with our software MB COMM (included in this package).

## Removing the Paper Bail



Diagram1. Paper Bail installed



Sleeve on  
Paper Bail

Lift Paper  
Grip Lever

Diagram2. Paper Bail removed

Move right  
hand margin to  
the far right

The Paper Bail is used when the MB W+ is operating as a Braille embosser. When using the MB W+ as a Braille writer, it is recommended to remove it, to provide uninterrupted access for reading Braille on the page. To remove the Paper Bail first **lift the Paper Grip Lever**, then **slide the right hand margin** to the far right of the Reading Table. On the left hand end of the Paper Bail is a small sleeve. Grab this, **push to the right** and the Paper Bail can then be removed. To install reverse these instructions.

## Inserting Paper

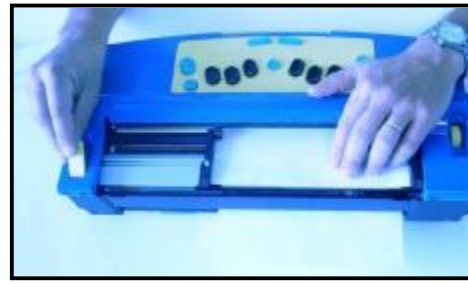
There are two methods for inserting paper. The first is very similar to inserting paper in a typewriter.



Step 1.



Step 2.



Step 3.

**Step 1:** Lift the yellow Paper Grip Lever, and slide the right hand margin to the position that suits the paper size being used. Lay the paper flat on the Reading Table. Make sure paper is positioned so that it goes underneath the small rollers on the left and right margins and the embossing head.

**Step 2:** Slide the paper into the unit. Some people grab either side of the paper and push it in. Others prefer to slide it in by pressing on the Reading Table and sliding forward.

**Step 3:** When the paper is fully inserted, align the top of the page on the Reading Table. Check that the paper is placed straight against the left hand margin. Slide the right margin until it rests against the right edge of the paper. Flip the Paper Grip Lever to the down position. The embossing head will move to check the paper size. You are now ready to Braille!

The second method is preferred by some people and involves entering the paper from the rear of the unit.



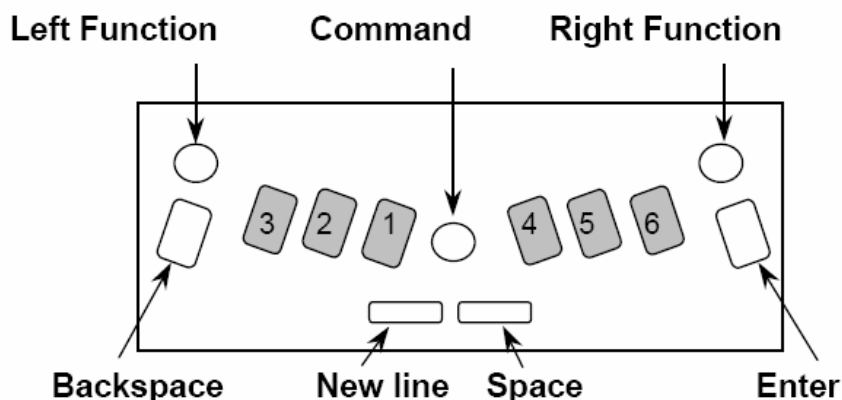
First lift the Paper Grip Lever. Then locate the slot at the rear of the MB W+ and insert the top of the page into it. Simply push the paper in until it appears on top of the Reading Table. Align the paper and move the Paper Grip Lever to the down position.

For either mode it is important to make sure that the paper is inserted up against the left hand side of the MB W+. *If the paper is crooked or not against the left hand margin, the MB may think that no paper is present.*

When you flip the Paper Grip lever back down, you will notice that the embossing head moves across the page; this is called a *Margin Search*. This search occurs each time the MB W+ is turned on. Different paper sizes can be used in the MB W+. This is why the MB W+ needs to check the paper width, by performing a Margin Search.

**Note:** Quantum Technology recommends the use of 80gsm (60\_lbs) paper on the MB W+. It holds the Braille dot very well, and gives excellent Braille quality. The MB W+ has been designed in such a way that the Braille made on standard paper will last just as long as regular Braille paper.

## Introduction to the Keyboard



## Key Descriptions and Layout

The following abbreviations of the keys are used throughout this manual to describe commands and provide general operating information. Stickers with these key descriptions are included in your MB W+ and can be placed on the keyboard to assist learning.

LF	=	Left Function Key (round blue key in top left hand corner)
RF	=	Right Function Key (round blue key in top right hand corner)
BS	=	Back Space key (blue key on left hand side with textured finish)
Ent.	=	Enter key (blue key on right hand side with textured finish)
NL	=	New Line Key (thin blue key on lower keyboard, left hand side)
S	=	Space (thin blue key on lower keyboard, right hand side)
CMD	=	Command Key (round blue key in middle of keyboard between dot keys)

## Begin Writing Braille

The MB W+ keyboard has been ergonomically designed for the comfort of the user. Turn the MB W+ on using the on/off key and then use the six black Braille keys, in exactly the same way as you would type on a regular Braille writer. Whatever you type will be embossed on the paper.

It does feel different to other Braille keyboards you may have used. However, simply practice a little with it, and you will find you can Braille faster and for longer periods than ever before, because of the ergonomic design.

## Speech Options

The MB W+ has speech output to support Braille learning. When you turn on the MB W+ for the first time, it will greet you with a typical Australian "G'day".

Speech output offers many advantages for the Braille student and provides a great deal of flexibility to meet individual needs. However, it is important to remember that speech output is provided only as reinforcement and for instant feedback. *Speech output is designed to augment the development of tactile reading skills, not be a substitute for them.*

In the MB W+ the speech output available is;

*Recorded Speech* is a human voice which has been recorded digitally. This is a high quality voice that is easy to understand, and is intended for the early learner. It echoes Braille letters, some contractions and all key presses. Only vocabulary that has been recorded is able to be spoken. Recorded speech is always used in the Learn Mode.

In other models (MB Pro and MB Learning System, synthetic speech is also available).

## Erasing and Correction

Your MB W+ can erase or correct mistakes. The quality of the corrections is approximately the same as the 'finger nail method' and depends also on the quality of the paper used. The embossing head must be located to the right of the cell to be changed. The head will move back, change the cell and return to its original position

### *Erasing*

BS+S = replaces a character with a space

### *Correcting*

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

## Learn Mode and Advanced Mode

All MB W+'s are in Learn Mode when you receive them from your supplier.

**Learn Mode** provides a simple and friendly starting point. It is ideal for the young Braille learner. In Learn Mode your MB W+ is a Braille writer only.

*Note: the command key can be disabled at any time and this may prove useful while in Learn Mode. See Commands – How to Use them.*

**Advanced Mode** enables you to use all the Advanced features of your MB W+, such as Braille translation, use of a PC keyboard, printers, and communication with other devices such as note-takers and computers. Instructions for changing between Learn and Advanced Mode are provided in the section "Changing Between Learn Mode and Advanced Mode".

## How to Move Around the Page

Pressing simple combination of keys offer unparalleled ease of movement around the page. This is of particular importance for setting out math problems.

NL+S	=	Move down the page in same column
NL+BS	=	Move up the page in the same column
NL+Ent.	=	Page Eject
LF	=	Default value is Tab
RF	=	Default value is Back Tab
S	=	Move one position right
BS	=	Move one position left

## Embossing speed

The MB W+ has two embossing speeds.

1. *The writing speed.* This is the default speed. It has been designed for classroom use. It is quieter and a little slower.
2. *The embossing speed.* If you are primarily using the MB W+ as a Braille embosser, use the faster "embossing" speed". As the MB W+ will emboss faster, it will produce a higher level of noise. (to learn how to change between embossing speeds see the chapter "BRAILLE EMBOSSING")

## Power

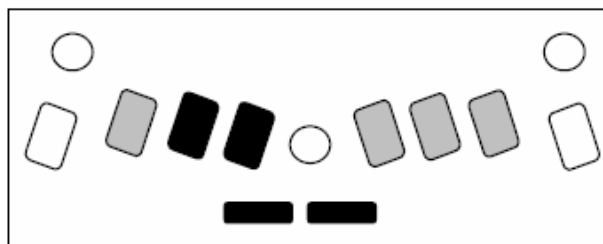
The MB W+ has an internal battery which is re-chargeable. A universal power supply is provided which is plugged into the mains, and which will re-charge the battery at the same time it provides power to the whole unit. It connects to the MB W+ through the round connector on the left-hand side of the MB W.

Try and ensure the battery is kept charged. You cannot over-charge the battery, and leaving the unit permanently charging will not damage it in any way. For regular classroom use, you will typically get a full days use out of the battery. When you do this please ensure to re-charge the MB W+ overnight so it is ready for the next days work.

## How to Check Battery Status

NL+SP+B To hear battery status

Press all 4 keys together



Options are "Battery OK" or Battery Flat". It will also tell you if power is connected or not. If battery is flat, embossing will stop.

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

- Hasn't been charged. Connect to power for 24 - 48 hours.
- The wrong power supply is being used (all MB W+ units are supplied with a universal power supply 110v – 220v Output 9VDC 5.5Amp)
- The power cable may be broken.
- There may be no power coming through wall outlet.
- The battery is damaged and needs replacing (expected life 5 yrs)



## COMMANDS - How to Use Them

When you receive a new MB W+ the command key will not be active and will not speak. To activate it, follow the instructions below.

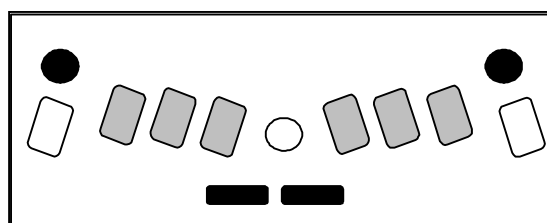
### Turn Command Key On and Off

The command key is used for entering all the commands that make the MB W+ such a powerful tool for learning. You can turn it off (recommended for beginners) or on as needed. Whatever is chosen remains the default after you turn the unit off.

NL + SP + LF + RF Turns command key on/off.  
(New Line+Space+Left Function+Right Function)

Press all four keys together to turn on  
Press all four keys together again to turn off

**Note:** The action of pressing all four keys at once is intentionally a little difficult. It is intended to be used by the teacher or parent, and prevents the accidental use of the command key.



### Entering Commands

There are 2 types of commands used in your MB W+, Regular Commands and Chorded Commands.

#### Regular Commands.

All regular commands begin with the Command key, and finish with the Enter key.

**Step 1.**  
Press the Command Key

**Step 2.**  
Type the Command

**Step 3.**  
Press the Enter Key

For example to turn the Word Wrap command on, you first press the Command Key, type WW and then press the Enter key. Your MB W+ will say "on" or "off" depending on the original setting. Some commands, like Word Wrap, are "toggle" commands, meaning that they toggle between an ON and OFF state, each time they are invoked. In this manual, these commands are identified as "toggle" after the command description.

Throughout this manual regular commands are depicted as follows:

Command	Description of command
---------	------------------------

Using the command for Word Wrap as an example:

WW	Word Wrap. When Word Wrap is on a word is not embossed until the Space Key is pressed. If the word cannot fit on the current line it is automatically moved to the beginning of the next line. Default = Off. Toggle
----	--



## Help Command and Options

There is a help function available in the MB W+ that you can access at any time. The help function provides further information about any commands and can be accessed by using:

HP		This will provide a summary of the help topics available. In recorded speech, the MB W+ will Braille this summary. In synthetic speech, it will speak this summary.	
HP	<table border="1"><tr><td>Command</td></tr></table>	Command	Enter the command HP followed by the command code on which you would like help. Press Enter to finish. In recorded speech, the MB W+ will Braille a relevant description of the requested command. In synthetic speech, it will speak this description.
Command			

### **Example:**

HP WW	This will provide an explanation of the WW command
-------	--

The help command is one of several commands that enables feedback to be given to the user on the status of their MB. You can choose to receive this information by having it spoken or embossed on paper. To do this, use the commands;

REC SP	for speech output
REC EM	for embossed output

**Note:** The default setting is for speech output.  
Other commands that will be affected include VER, FREE

### **Miscellaneous Commands**

The following commands apply in both Learn and Advanced Mode.

VER	Embosses the software version of your MB W+
FREE	Indicates how much free memory is available in your MB W+
SAVE	Saves all current settings. Use to save your preferred settings (these will then become the default)
STD	Restore back to factory default settings
ALT n	Enables your MB to accept ASCII characters above 128. 'n' can be any ASCII value
REPORT C	Report current settings
REPORT S	Report saved settings
REPORT D	Report default settings (factory settings)



## BRAILLE WRITING

### Formatting Your Braille

The following commands provide an introduction to electronic writing and page formatting. Users will then be able to make the transition to other technology such as a laptop, more easily since they will have learnt those skills adventitiously.

#### *Position of Braille on the Paper*

CE	Centre Braille. The Braille to be centred will only be embossed after pressing the new line key. Default = off. Toggle.
RA	Right adjust Braille (the Braille will be printed from the right hand margin). Default = off. Toggle

#### *Margins*

LMH	Set left margin to embossing head position.
LM x	Set left margin to column 'x'
LM	Use to reset left hand margin to 0
RMH	Set right margin to embossing head position.
RM x	Set right margin to column 'x'
RM	Use to reset right hand margin to 0
TM x	Set Top Margin of Braille page. x = number of lines
BM x	Set Bottom Margin of Braille page. x = number of lines for bottom margin.

#### *Tab Settings*

The default factory setting for Tab is 5 cells.

TSH	Set Tab at the position of the embossing head.
TC	Clear all Tab settings. Tab functions are set to 0, i.e. the embossing head does not move.

#### *Line Spacing*

LS x.y	Line spacing. Default = 1 (single spacing). If you want a line spacing of 1.5 lines, the command would be LS 1.5
--------	--

### Braille Writing Commands

COR	Correction Mode. Some teachers may want to turn the erase and correction feature off during an exam! Default = on. Toggle
EM	Turn the embossing function off and on. Default = on. Toggle
MAN	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 embossing head will automatically move to the beginning of a new line as defined by the WW command (see below). Default = Auto. Toggle
NP	Force a New Braille Page. The current page will be ejected.

PN x	Use this command to insert a page number in the top right hand corner of the page. Begin page numbering starting at "x" value. Every time a new page is inserted, the page number will be embossed sequentially. This setting is permanent until the MB W+ is turned off.
PBELL x	Set page bottom warning bell to ring "x" lines before the end of the page. Default = 2 lines
RMBELL	Right margin bell. The bell rings 5 positions from the right hand margin. Default = on. Toggle
SHOW	Emboss commands as they are entered on the keyboard. Can be helpful for tracking mistakes. Default = Off. Toggle
WW	Word Wrap. When Word Wrap is ON, if a word cannot fit on the current line, it is moved to the beginning of the next line. The word is not embossed until the Space Key is pressed. If WW is OFF then the embossing will automatically move to the next line by hyphenating the text. Default = Off. Toggle

## Writing Braille Files in Memory

The MB W+ has a memory in which you can save up to fifty files. This is intended for students learning how to save information electronically. You can also move files between the MB memory and your PC using MB-Comm (see later). This is handy for Brailleing out class work.

In the following commands *filename* means a name of your choosing up to twenty-two (22) characters.

**Tip:** Quantum Technology recommends that you enter simple short filenames in uncontracted Braille and without a number sign (easier to remember!)

### *Start a File*

BEGIN *filename*      Open a new file, called "filename".

### *Close a File*

END                      Close an open file.  
In case you turn the MB off, the open file will be automatically saved.

### *Find Out Files Stored in Memory*

DIR                      Describes all filenames and their sizes.  
FREE                     Describes the remaining free memory space

### *Change the File*

APPEND *filename*    Append more information to the end of "filename".  
RENAME *filename1 filename2*  
                            Rename "filename1" to "filename2".

*Tip:* Files cannot be edited. Corrections must be made at the time of writing.

*Delete Files*

DEL <i>filename</i>	Delete the file named "filename".
DEL ALL	Delete all files. If you use this command, you will not be able to retrieve any files.
UNDEL	Retrieve last deleted file. Only works if used before turning the MB W+ off.

*Emboss files stored in Memory*

EMB <i>filename</i>	Emboss the file named "filename".
MEMB y <i>filename</i>	Emboss "y" multiple copies of the file named "filename".

**One-Handed Braille Writing**

KU	Turns on One-Handed operation. Default = off. Toggle. When KU is on, press space key after each character.
----	---

To type the letter U you do not have to press Dots 1, 3, 6, together. As long as one Dot key is pressed you can press them in any order. For example, using one finger press Dot3, then Dot 1 then Dot 6. Then press the space key to emboss the character.

To turn the one-handed mode off, remember to press K space U space, followed by the Enter key.

When the MB W+ is in one-handed mode there are alternatives to chorded commands available. The following commands are available in one-handed mode only.

BT	Backtab
CR	Newline
IN	Indent
LF	Linefeed
NP	New Page
RL	Reverse Linefeed
TB	Tab
END	Close an open file

## Making Braille Graphics

- 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 really reinforces the Braille code for the Braille learner. Default = off. Toggle

There are many free downloadable Braille graphics available at [www.mountbattenbrailier.com](http://www.mountbattenbrailier.com)

Use the MB COMM software to download those graphics into your MB W+ Also see the Appendix called Tactile Graphics for examples of graphics you can make yourself.

## Writing Braille on Heavy Card, Plastic film or Labels

In addition to using the impact adjustment described on the next page you can also select the number of times each dot is hit by the embosser. 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 single strikes (default) up to 4 strikes on each dot.

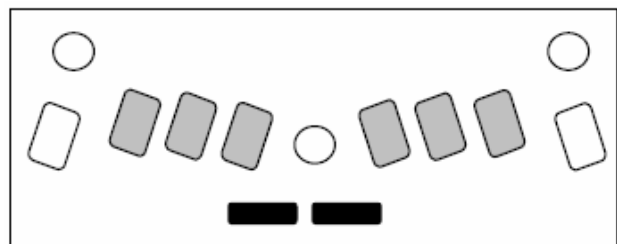
- MS x Multi-strike feature. Set strikes per dot to "x". Useful for brailleing on heavy materials such as plastic Braille label. x = 1 to 4. Default = 1

## Writing Braille on Small Paper

Your MB W+ Brailier offers a great deal of flexibility for writing on non-standard materials and paper sizes

### *No Paper Operation*

When you use a small piece of paper (like a birthday card) the MB may not think there is paper in the machine and will not let you emboss. To overcome this, press the Space and New Line key together. This invokes "no paper operation" and means you can write Braille on a very small page.



## BRAILLE WRITING AND NOISE

Writing Braille onto paper makes noise. There is no way to avoid this completely. However there are strategies and procedures to help minimise noise.

The first big issue is the type of paper used. *Lighter paper* requires less force to make the dots and is therefore quieter. The factory default for the MB W+ is lightweight paper, typically photocopy paper (80 gsm / 20 lbs). The MB W+ has been designed to work optimally with this paper.

Many people find it hard to change from heavy Braille paper and believe that Braille on lightweight paper will not last. This is not the case. The MB W+ has been designed in such a way that Braille made on lightweight paper will last just as long as on Braille paper.

*The impact force should be adjusted down to a minimum level to ensure that the minimum noise is produced on whatever paper you are using.*

The MB W+ also has 2 modes of embossing. The default is for the classroom use, and is a little slower and therefore quieter. If you are primarily using the MB W+ as a Braille embosser for a PC then you can use the embossing mode, which produces a higher level of noise. Changing between modes is described below.

There are also some *simple useful accommodations* such as placing the MB W+ on sound absorbing materials (like a rubber mat) and placing the MB W+ in front of a solid object (book or wall) or locating it at the front of the class.

Whether noise becomes an issue in the classroom can also depend on how the MB W+ (and any other piece of assistive technology) is introduced to the classroom teacher and the rest of the class. A meeting with the classroom teacher before classes commence is recommended. Developing some simple games or activities which involve the whole class, can help overcome the fear and suspicion of having an unknown piece of technology in the classroom.

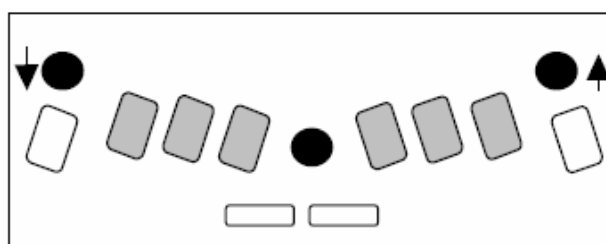
*As important as the issue of noise may be, the bigger issue is the literacy outcomes that can be achieved by using the MB W+. When focussing on the literacy outcomes, the issue of noise is usually more easily accommodated.*

### Adjusting Dot Impact for Writing Braille on Different Types of Paper

This function is used to match the impact force of the dots onto the paper used. For heavy Braille paper, the impact force can be increased. For lighter paper, the impact force can be decreased.

**CMD + RF**    Increase Impact  
Press command key and RF together. (Speech prompt "Up")

**CMD + LF**    Decrease Impact  
Press command key and LF together. (Speech prompt "Down")



## **Changing between Embossing Speeds**

The MB W+ can be used both as a Braille writer and as a Braille embosser (when connected to a computer or Braille note-taker). Since the primary function is Braille writing, the MB W+ has a default setting most suitable for Braille writing. When used as a Braille embosser the embossing speed can be increased.

M                      Writing speed. Default = On. Toggle  
Type command M to toggle to the Embossing Mode.

## LEARN AND ADVANCED MODES

*Learn Mode* provides a safe starting point. It is ideal for the young Braille learner. In Learn Mode your MB W+ is a Braille writer only. The MB W+ is in Learn Mode when you first receive it from your supplier.

*Advanced Mode* enables you to use all the advanced features of your MB W+, such as Braille translation, use of a PC keyboard, printers, and communication with other devices such as note-takers and computers.

### Changing between Learn Mode and Advanced Mode

There is a single command to toggle between Learn Mode and Advanced Mode.

ADV	Advanced. Use this command when you are ready to move to the Advance Mode. It will say "On" to indicate Advanced mode is on, and it will say "Off" to indicate you are back in Learn Mode.
-----	--

Whatever is chosen will remain the default setting until you change it again. The selected mode will be spoken each time you turn the MB W+ on. The differences between Learn Mode and Advanced Mode are as follows:

#### **Learn Mode**

Simple Braille writing  
Braille formatting  
Writes files into memory  
Uses Recorded Speech only

#### **Advanced Mode**

All advanced features available  
Braille translation

The exact use of Advance Mode and Learn Mode will be determined by the educational goals and strategies required for each individual student. The Learn Mode should definitely be used with beginning students, as the immediate speech feedback provides an environment where they can explore and find out what everything does.



## USING MIMIC AND A PC KEYBOARD

### Mimic LCD Display

The Mimic is a small display on which information you type in Braille on the MB can be displayed in regular text. Connect the MIMIC to the 9 pin port on the right hand side of your MB and turn it on (switch is on the rear left hand side).



**Learn Mode**      Communication with the Mimic is on by default. As you type information on the MB W+, it is translated and sent to the Mimic every time you press the Space Key. If you want to turn communication to the Mimic off, and still remain in Learn Mode you can use the command MIMIC. Default= On. Toggle.

**Advance Mode**      If you have Mimic connected and turned on, and change to the Advance mode, Mimic will remain functioning. However, if you start the MB W+ in Advance mode you must turn the Mimic on using the command MIMIC.

The Mimic has a memory of 20k and records and retains all information entered. Hence you can scroll back through work that the student has done previously. The Mimic works just like a printer in the sense that once a character is displayed, it cannot be edited,

**Tip:** If a word is corrected before pressing the space bar, the Mimic will only display the corrected word.

Once you have turned the Mimic on, if you press a button to scroll through the text, new words brailled on the MB W+ will no longer appear automatically on the display. You will have press the “scroll down” button to find the last characters present.

The Mimic can be connected to a computer and using the MB COMM software supplied with your MB W+. All information in the Mimic can be sent to the computer for storage or further analysis.

### PC Keyboard

With the MB W+ turned off, you can connect a PC keyboard to the port on the rear of the MB W+. It must have a PS2 type connector.

Turn the MB W+ on and type on the PC keyboard. This will produce instantaneous Braille and can be the basis of a fun activity for introducing the MB W+ to a class.



**IMPORTANT:** To obtain properly translated and formatted Braille you need to turn the translator on. This is described in detail in the Chapter called FORWARD TRANSLATION.



## SPEECH CONTROL

Speech output provides many options to assist learning to read and write.

### Recorded Speech

By default, when using recorded speech all keys, functions and commands will be spoken. This is particularly useful for anyone who is learning Braille, or for family and friends who want to familiarise themselves with a Braille writer.

The commands for controlling the speech options are as follows:

SPK R	Select recorded speech. This is the default in Learn Mode and is also available in Advance Mode. This command can only be used in Advance Mode to deselect synthetic speech.
SPK A	Speak all MB W+ keyboard keys, functions and commands. This is the basis for the Learn Mode. 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 selected:
SPK C	Speak errors & prompts only. No Braille dot keys
SPK D	Speak only Braille dots keys and the command key. No function keys.

### No Speech

SPK N	No speech. Tones only mode.
-------	-----------------------------

### Note on Braille dot combinations:

Braille was initially created with six dots combinations providing 64 potential combinations. For recorded speech the entire alphabet has been recorded, as well as some contractions. However when a dot combination has two (or more) different meanings, the MB W+ will speak the dot numbers only.

## **MB COMM – Transferring files between MB W+ and a PC**

MB COMM is a software program that is supplied on a CD with each MB W+ at no additional cost. Using the serial or USB connection it is for sending and receiving information between the MB W+ and a computer, or the Mimic and a computer.

MB COMM is simple to install and use. It is a powerful tool that enables teachers, parents and students to obtain electronic information (from the Web, encyclopaedias etc) and send it to the MB W+ for translation and embossing. Alternatively it also enables students work to be sent to a computer and saved.

MB COMM also has a powerful feature called CHAT MODE which enables two way communication between a sighted person and a person who is blind or deaf-blind.

### **Installation Instructions**

#### *1. For New MB COMM Users*

**Close any programs** that may be running on your PC before placing the CD in the drive.

Locate the supplied CD and follow the instructions as given on the cover.

#### *2. For Existing MB COMM Users*

You must first uninstall any earlier version of MB COMM

- Go to the START button - Settings - Control panel.
- Open the Add/Remove Programs folder.
- Scroll down the list until you find MB COMM
- Highlight MB COMM and then click the Add/Remove button. (If queried about Shared files, do not remove, leave them in place.) Once the old version is removed then proceed as for New Users.

#### *3. The USB drivers*

To use MB-Comm with the MB USB connection you must first load the MB USB drivers. Please locate the supplied CD and follow the instructions as given on the cover.

### **Connecting the MB W+**

Locate the USB Peripheral cable supplied with your MB W+.

Ensure the MB and PC are both on.

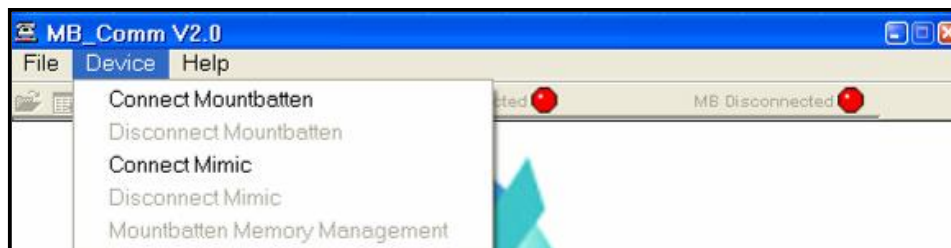
- *For the Computer:* Attach the USB cable to a USB port on the computer.
- *For the MB W+:* Attach the other end of the USB cable to the USB peripheral port on the right hand side of the MB W+.

**Note:** The Mimic can also be connected to MB COMM, using a serial cable.

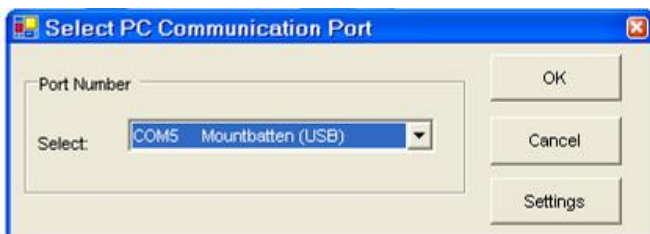
## Using MB COMM

a) Run MB COMM by opening the Windows START icon, going to PROGRAMS, and clicking MB COMM. Or select the MB COMM icon on your desktop,

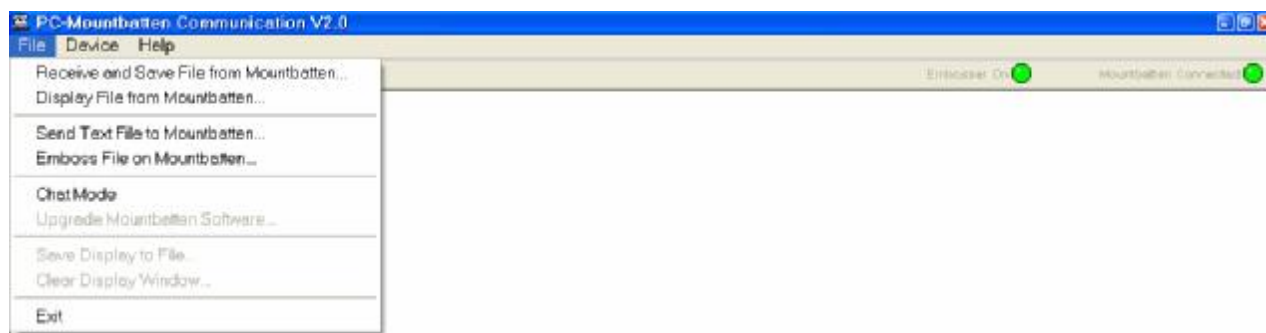
b) From the start-up screen menu, select Device and then Connect. All the other drop-down menus remain inaccessible until the MB W+ is connected.



c) Select the port used to connect the MB W+ to the computer.



Communication will then be established and indicated aurally by the MB and visually by the red buttons turning green on the toolbar. You can now use any feature of MB COMM by selecting the Menu item of your choice.



MB COMM enables easy transfer of information between the MB W+ and a computer. Remember the files you send to the MB will need to be translated before embossing, so please read the following Chapters on translating Braille.

There is also a help menu available at any time in MB COMM. Each menu option is described in detail.

Descriptions of MBCOMM functions follow.

## **Receive and save File from Mountbatten**

1. In the File menu, select “Receive and Save File from the MB”
2. A window opens, asking to select a file from the MB W+ memory

If you select a file without activating the ‘back translation’ (translation from Braille to text), MB COMM will display the ASCII characters of that file. This leaves the possibility of sending files with Maths or short hand as is (without any translation).

To activate the back translation, type the command BUSB (or BS1 if you are using Serial port 1 or BS2 for Serial port 2)

3. You can then save the file in the computer

## ***Display file from Mountbatten***

Follow the same steps as above.

Text is displayed on the MB Comm screen

You can then save it as a file in the computer.

## **Send Text File to Mountbatten**

1. In the File menu, select “Send Text File to Mountbatten”
2. Select the text file (.txt) you want to save in the MB W+ memory  
If you use a MS Word document, save as type (.txt) first.
3. Once you have selected the file, right-click on it, select OPEN.
4. The .txt file will open (using Notepad or Wordpad by default).

**Note:** To translate the text file in Braille, you must activate the Forward Translation

5. Insert the command {fe} at the top and at the end of the file, then close the file.
6. Send the text file to the MB W+. A prompt will ask you to give the file a filename.

The MB W+ will store your file with minimal formatting. If you need to format your text, please insert additional commands such as FSH, FLIST... in your text as (see the chapter FORWARD TRANSLATION – Converting Print to Braille for more information).

## ***Emboss file on Mountbatten***

1. Follow steps 1 to 5 as for “Send Text File to Mountbatten” above.
2. The MB W+ will now emboss your file, using the current MB W+ default settings.


## BRaille TRANSLATION


The MB W+ is able to translate Braille into print and vice versa, print into Braille.

By connecting a PC keyboard or computer to the MB W+, text can be translated into Braille; this is known as forward translation.

By connecting the Mimic or a printer, the MB W+ can translate Braille into printed text; this is known as back translation.

These facilities are important tools for the successful implementation of Braille in the classroom and consequently for the integration of a Braille using student.

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

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

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

*Foreign Letters -*      Independent of which Braille code is being used, you can use foreign characters in your text.

### Universal Braille Settings

The default Braille settings of the MB W+ will vary from country to country. However, you can select a universal Braille setting that will apply to both back and forward translation.

GR1	Sets all translation to uncontracted Braille (grade 1)
GR2	Sets all translation to contracted Braille (grade 2)
GR0 (zero)	Sets all translation to computer Braille (grade 0)

Once these commands have been entered they will remain as the default setting even after you have turned the MB W+ off. However, you can also change characteristics of either the forward or back translation using the command described below. This enables a great deal of flexibility so that you can have Braille being produced and translated that exactly meets each individual student's needs.



## FORWARD TRANSLATION - Converting Print to Braille

The Forward Translation settings and commands apply only in Advance Mode.

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

The most common way of using Forward translation on the MB W+ is via a PC keyboard. In this way anyone can write information on the PC keyboard and have it automatically translated and converted to Braille. This is a very powerful tool in an educational setting, as it allows everyone to participate in Braille. It is also a very useful for leaving Braille notes and producing other Braille materials (like birthday cards).

### Using a PC Keyboard

- 1) Turn off the MB W+ and connect the PC keyboard to the appropriate port on the rear of your MB W+
- 2) Turn the MB W+ on.
- 3) On the MB W+ keyboard, enter the command FE

Now, just start to type on the PC keyboard. The MB W+ stores the text you are writing in an eighty character buffer, (to make sure all contractions and Braille rules are followed correctly). At any time you can empty the buffer by pressing the Enter key twice. If you keep typing the buffer will empty automatically every eighty characters.

### Entering Commands Using a PC Keyboard

Many keys on the PC keyboard have the same function as keys on the MB.

<b>Keys on the PC Keyboard</b>	<b>Keys on the MB Keyboard</b>
Escape	Command
End	Enter
F1	Left Function
F2	Right Function
F3	Left and Right Function together
Enter	New Line
Down Arrow	Space and New Line together
Up Arrow	Space and Backspace together
Left Arrow	Backspace
Right Arrow	Space
Space	Space
Backspace	Erase

Hence to enter the command FE on the PC keyboard;  
Press Escape, type FE, then press the End key.

## Basic Forward Translation

Once Forward Translation has been turned on (using the FE command) you can select a mode called Basic Forward Translation which is useful for working with very early Braille learners and whole of class activities.

FB            In Basic mode each word is embossed after the space key is pressed. This function automatically switches to uncontracted Braille (grade 1). Default = OFF. Toggle

**Note:** If Forward Basic is on, the MB W+ will ignore “hyphens” and many other Forward translation commands and settings, including formatting commands and the Patterns Commands

## Summary of Forward Translation Commands

### *Turn on Forward translation*

FE            Forward translate and emboss. 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.

### *Change Braille Grade*

FGR grade     Select the Translation Grade, where ‘grade’ may be 1 or 2. Default = 2 (for English).

### *Use Foreign Characters in your Text*

For information about using foreign languages, or foreign characters please read APPENDIX J.

### *Formatting Your Braille*

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.

FLIT x         Creates a Hanging Indent. The variable "x" gives the number of indented spaces and can be 0, 1, 2, 3, 4, 5.

FLIT S         Suppresses blank lines as well as adding a two cell indent for new paragraphs. Default = on

### *Italics*

FIT            When on, causes the subsequent text to be italicised in Braille. Default = off. Toggle

### *Hyphens*

FHYP         When on, will break Braille words at the end of a line. Default is off. Toggle

*Automatic Indent*

FIN

When FIN is turned on the current Braille column is stored and subsequent Braille lines are indented to that column. Default = off. Toggle

*Multiple Space Removal*

FSH

Replaces all multiple spaces and tabs that are in the text with single spaces in the Braille. Default = on. Toggle.

*Fraction Mode*

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

*Upper Case*

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*

NP

Forces a new Braille page.

*New Paragraph*

FPA

Forces a new Braille paragraph. Used for flagging a new paragraph that is coincident with the top of a text page.

*Lists and Tables*

These commands simplify building lists or tables, such as spelling lists, and tables of contents etc. Create two or three columns, using either default settings or user selected settings. Each column is specified as a percentage of the Braille line length.

FLIST ON / OFF

Allows 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.

FLIST n1 n2

This command allows you to specify 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%.

For example:

FLIST 3 7 is ok. Gives three columns 3% 7% 90%

FLIST 50 50 is ok. Gives two equal columns.

FLIST 33 33 is ok. Gives three equal (33, 33, 34) columns

FLIST 5 4 gives an error. ( n1+n2 is less than 10%).

FLIST 50 45 gives an error. (n1+n2 greater than 90%).

Type the text you want and separate entries for each column by putting 2 or

more spaces between each entry. If the entry for a column is too long it will be wrapped to the next line but stay in the column. Press the Enter key on the PC keyboard to start a new line.

You cannot have blank columns, except for the first column, and columns two and three are always right justified.

### *Saving Your Preferred Settings*

SAVE FT	Saves all current Forward Translation settings, including Braille Grade, language, and output settings.
STD FT	Restores all default Forward Translation settings. Does not interfere with stored settings.
RESTORE FT	Restores all stored Forward Translation settings.

## BACK TRANSLATION - Converting Braille to Print

The following back translation commands apply only in Advance Mode.

To produce a print copy at the same time as a Braille copy we have to perform a job called back translation - going from Braille to print. The options for viewing the translated print produced by the MB W+ are;

- View the print on the Mimic
- View the print on a regular ink printer (see Notes on selecting the right printer at end of this chapter)
- Send it as a file to a PC or Braille note-taker.

### *Turning Back Translation On*

	BP	Back translate to Parallel Port. Toggle Use this when you have a regular printer connected to the parallel/printer port.
or	BS1	Back translate to the Mimic port. Toggle
or	BS2	Back translate to S2 Serial port. Toggle
or	BUSB	Back translate to USB port. Toggle

Use these serial commands when you want to send your translated file to a serial device (such as a note-taker or serial printer).

The MB W+ stores information to be printed in a buffer and sends it over to the printer every eighty characters. If you want to empty the buffer before eighty characters are entered, press the New Line key on the MB W+ twice.

Often there may be little need to learn any more commands, especially with younger students where a simple print copy of what is being brailled is required. For more advanced users there are a wide range of commands (following) that enable you to adjust the format and appearance of the printed output.

### *Changing the Braille Grade or Code Used*

BGR grade	Translation Grade, where "grade" may be 1 or 2. Default = 2.
BFC language	Foreign character selection, where [language] can be one of the listed codes; Using this command you can insert foreign or accented characters into your text.
BLN language	Change the Translation Rules where [language] can be one of the listed codes; Using this command you can change to another Braille language (limited to codes available in your software set).

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

## *Formatting Your Print Page*

### *Automatic Indent*

**BIN** Causes all subsequent lines to indent to the current cursor position. Default = Off. Toggle

### *Centering*

**BCE** When on, causes text to be centred between left and right margins. Default = off. Toggle

### *Columns and Tables*

**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. Causes multiple spaces and tabs in your Braille to be converted to single spaces and tabs in the print. Default = Off. Toggle

### *Margins, Line Length, Paper Size*

#### *Left Margin*

**BLM x** Sets width of left margin to 'x' blank spaces from the left-hand edge of the paper. Maximum value of 'x' is 30. Default = 8.

#### *Right Margin*

**BRM x** Sets width of right margin to 'x' blank spaces from the right-hand edge of the paper. Maximum value of 'x' is 30. Default = 8.

#### *Top Margin*

**BTM x** Sets a margin of 'x' 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.

#### *Line Length*

**BLL x** Sets the width of the print line, including margins, to 'x' characters, at 10 characters per inch. Maximum value of 'x' is 132. Default = 80.

#### **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.

#### *Form Length*

**BFL x** Sets the length of the page in "x" lines, at 6 lines to the vertical inch. The maximum value of "x" is 100. Default = 66.

#### *Page Length*

**BPL x** Sets the number of printed lines on the page to "x" lines. The page length may not exceed the form length. Default = 60.

*Upper Case Lock*

BCL

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

*Fraction Mode*

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) between the fraction & any subsequent punctuation. Default = Off. Toggle

*Tabulation*

Tab Stop positions relate to printed output.

Default settings are 9, 17, 25, 33, 41, 49, 57, 65, 73 and 81.

BTBC

Clears all current tab stops

BTBA x

Sets an extra tab stop at position "x".

*Line Spacing*

BLS x

Sets the printer line spacing to "x", which may be from 1 to 10. Default = 1.

*Page Justification*

BPJ

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

*Right Alignment*

BRA

When on, causes printed text to align to the right margin. When off, 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

*Page Numbering*

BPN x p

Turns page numbering on or off at the desired position 'p' with a value of 'x'. Max. value of 'x' 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 text is 15 characters, no punctuation allowed.



## Braille Translation – Using the Patterns Curriculum

For users in English Speaking Countries Braille contractions can be organised into 15 groups in accordance with the Braille Patterns curriculum developed by the American Printing House for the Blind, in Kentucky USA.

These groupings represent an ordered introduction of contracted (Grade 2) Braille for reading and writing instruction. Contractions can be introduced sequentially enabling their introduction to be matched to the student's individual abilities and needs. They can even have fun by 'discovering' Braille contractions themselves.

E.g. If a teacher activates Patterns 1 (for Alphabet and Letter words), a student can Braille any letter, press the space key and listen to the synthetic speech answer.

'b' for 'but'

'd' for 'do'...

Patterns commands can **only** be entered in Advance mode. **Please note** that Patterns commands will automatically

1. change the Braille grade to uncontracted (Grade 1);
2. turn synthetic speech on;
3. be saved in memory.

The command to turn individual Patterns groups on is:

PTRN x ON            Enter the number x of the group you want to turn on.

The command to turn individual Patterns groups off is:

PTRN x OFF            Enter the number x of the group you want to turn off.

You can also use

PTRN OFF            Turn all Patterns off. MB says "Patterns all off"

You can also use similar commands to activate multiple patterns on and off at the same time

PTRN x y z ON            Enter the number x, y, z of the group you want to turn on.

Each number should be separated by a space. After the last number, type a space and the letters ON. Any group number that you included in this command will now be turned ON. You can include up to 15 patterns.

PTRN x y z OFF            Use this command to turn individual or multiple groups OFF by typing a space between the numbers and the letters OFF at the end of the command.

The following commands provide you with more options.

PTRN            Turn the Patterns function OFF or ON.

E.g. If you have selected Patterns 1 and 2, entering PTRN will give the response "Patterns OFF" and the MB W+ will write uncontracted Braille (with no patterns).

Entering PTRN again will give the response "Patterns 1 2 ON".

If no Patterns have been selected, entering PTRN will give the response "Patterns not selected"

A description of each group follows, and the full detailed listing of each group is included in Appendix C.

### **Patterns Curriculum for Reading and Writing Instruction**

1. Alphabet and Letter Words

#### *Upper Cell Contractions*

2. Whole or Part Words
3. Simulated Letter Words
4. Part Word Signs

#### *Lower Cell Contractions*

5. Simulated Letter Words
6. Whole Words
7. Middle Part Word Signs

8. Beginning Part Word Signs

#### *Multi-cell Contractions*

9. Dot 5 Whole & Part Words
10. Dot 4,5,6, Words
11. Dot 4,5, Words
12. Dot 4-6 Final Letter Contractions
13. Dot 5-6 Final Letter Contractions
14. Dot 6 Final Letter Contractions
15. Short Form Words

## Selecting a Printer to Use With Your MB W+

A few printers are suitable for connecting to your MB W+. Quantum Technology recommends the Epson LX 300 or a similar **matrix printer**.

All dot-matrix printers work well. Some older bubble-jet printers work well also.

Those printers connect to the MB W+ via the "Parallel output" port located on the back of the MB W+. A parallel cable is supplied with the MB W+ for this purpose.

However, the majority of printers these days are referred to as "Windows only printers". This means that they require a Windows operating system (OS) to work. Windows only printers will not work with the MB W+ as it does not use a Windows OS.

If in doubt please contact your distributor for clarification prior to purchasing a printer.

**Tip:** The Mimic is a good alternative to a text printer, as it enables a sighted person to read translated Braille instantly.

## BRAILLE CHAT (also called DEAF-BLIND MODE)

The MB W+ has some unique features which can be used to provide a simple communication tool between a sighted person and a blind or deaf-blind person. This mode of operation uses both the Mimic and a PC keyboard. Both devices must be connected to the MB W+ and turned on.

This communication mode is called CHAT mode. To turn CHAT mode on use the command;

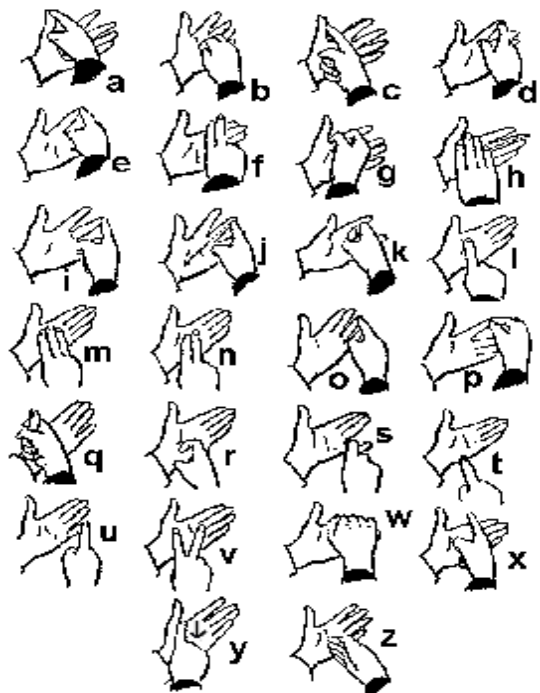
CHAT	This enables one person to Braille on the MB W+ keyboard and produce text output, which is shown on the Mimic. Another person can then type on the PC keyboard and produce Braille on the MB W+. Default = off. Toggle
------	--

As soon as you turn CHAT mode on, the MB W+ will say 'back translation on'. This means back translation is on. Type a message on the Braille keyboard and it will appear as text on the Mimic.

In CHAT mode, use the LF and RF keys to alternate between Braille and text.

*When the person using the Braille keyboard wants to write a message, they must press RF (the MB will say 'back translation on'). Then write a message on the Braille keyboard which will appear as text on the Mimic.*

*When the person using the PC keyboard wants to write a message, they must press the F1 key on PC keyboard (the MB will now say 'forward translation on'). Then type a message on the PC keyboard which will appear as Braille on the MB W+.*



**Important:**

- For output to appear in Braille when using the computer keyboard, remember to press the Enter key twice or alternatively wait for the translation buffer to empty after eighty characters.
- The Mimic will display text continuously

These two people can now conduct a conversation. In order to explain this procedure to a deafblind person, a deafblind alphabet is provided.

**Note:** The same Chat Mode is available when using the MB W+ and MB COMM software on your PC (see section on MB COMM )

## BRAILLE EMBOSSING

### Using Your MB as an Embosser

The MB W+ can be used as a regular Braille embosser for note-takers and PCs. When using your MB as a Braille embosser for a PC it is recommended that a Windows based Braille translation program such as Monty be used.

Your MB can use single sheet or continuous feed paper, however, the MB will only reliably emboss continuously if you use a lightweight paper (regular printer paper).

The MB W+ must be in Advance Mode in order to use the parallel or serial ports for connecting to the PC.

### *Using Continuous Paper*

CP	Continuous paper feed. Default = off. Toggle
CPA x	Add or subtract increment "x" to Form Length when using Continuous Paper.

### *Paper Size*

FL x.y	Form Length. Sets physical length of page (in inches or centimetres).
--------	---

### *Page Numbering*

PN x	Begin page numbering, starting at value of 'x'.
------	---

### *Control of Braille Output*

EL x	Allow only 'x' blank lines while embossing. Any lines greater than 'x' will be discarded. This avoids having large blank areas on your Braille page.
CAP	Caps lock. Default = off. Toggle

### *Select Embossing Speed*

M	Change between Writing Speed and Embossing Speed. Default = Writing speed. Toggle
---	---

**While the MB W+ is embossing;** you may pause or cancel the process.

First pause by pressing the command key.

Then; to resume, press any blue key

Or; to cancel, press any black key



## **APPENDIX A - INTERNATIONAL PHONETIC ALPHABET**

A - Alpha  
B - Bravo  
C - Charlie  
D - Delta  
E - Echo  
F - Foxtrot  
G - Golf  
H - Hotel  
I - India  
J - Juliet  
K - Kilo  
L - Lima  
M - Mike  
N - Nevada  
O - Oscar  
P - Papa  
Q - Quebec  
R - Romeo  
S - Sierra  
T - Tango  
U - Uniform  
V - Victor  
W - Whiskey  
X - X-ray  
Y - Yankee  
Z - Zulu

## APPENDIX B - SPELLING AND PHONETICS

- a) If in ASCII mode then the characters are spoken in North American Computer Braille (NABCC) Notation. For example Dots 345 (AR contraction) has a computer Braille code of '>'. This means that "greater than" will be spoken.
- b) If in Dots mode then it will say "DOTS 3 4 5".
- c) If in Translated mode then it will say "a r".

For example: the word "standard".

**Note:** For clarity the following descriptions use '/' to separate the spelling. The '/' does not actually exist (and is never spoken).

- i) If it is entered in Grade 2 as ST/AND/AR/D then, in ASCII mode, it will say "slash/ampersand/greater than/d" as the MB internal coding for this is "&>D".
- ii) If in Dots mode it will say "DOTS 34/DOTS 1 2 3 4 6/DOTS 3 4 5/D".
- iii) If in translated mode it will say "S T/A N D/A R/D".



## APPENDIX C - APH PATTERNS SERIES

### Grade 2 Braille Ordered for Reading and Writing Instruction

#### Alphabet and Letter Words

(PHONICS - consonant and short vowel sounds)

##### *Patterns 1*

a a  
b but  
c can  
d do  
e every  
f from  
g go  
h have  
i I  
j just  
k knowledge  
l like  
m more  
n not  
O  
p people  
q quite  
r rather  
s so  
t that  
u us  
v very  
w will  
x it  
y you  
z as

#### Upper Cell Contractions

##### *Patterns 2*

##### Whole and Part Words

and  
for  
of  
the  
with

##### *Patterns 3*

##### Simulated Letter Words

ch child  
sh shall  
th this  
wh which  
st still  
ou out

(PHONICS - Vowel Sounds)

##### *Patterns 4*

##### Part Word Signs

ar  
ing  
ed  
er  
ow  
gh  
ble

#### Lower Cell Contractions

##### *Patterns 5*

##### Simulated Letter Words

en enough  
in in

##### *Patterns 6*

##### Whole Words

his  
was  
were  
be  
to  
into  
by

(PHONICS - multi-syllabic words)

##### *Patterns 7*

##### Middle Part Word Signs

bb  
cc  
dd  
ea  
ff  
gg

##### *Patterns 8*

##### Beginning Part Word Signs

be  
con  
dis  
com

(PHONICS - Grade 1 and Grade 2 spelling)

#### Multi-cell Contractions

##### *Patterns 9*

##### Dot 5 Whole & Part Words

day  
ever

father  
here  
know  
lord  
mother  
name  
one  
part  
question  
right  
some  
time  
under  
work  
young  
character  
ought  
there  
through  
where

##### *Patterns 10*

##### Dot 4,5,6, Words

cannot  
had  
many  
spirit  
their  
world

##### *Patterns 11*

##### Dot 4,5 Words

these  
those  
upon  
whose  
word

##### *Patterns 12*

##### Dot 4-6 Final Letter Contractions

ance  
less  
ound  
ount  
sion

##### *Patterns 13*

##### Dot 5-6 Final Letter Contractions

ence  
ful  
ity  
ment  
ness

ong  
tion

*Patterns 14*  
Dot 6 Final Letter  
Contractions

ally  
ation

*Patterns 15*  
Short Form Words

about  
above  
according  
across  
after  
afternoon  
afterward  
again  
against  
almost  
already  
also  
although  
altogether  
always  
because  
before  
behind  
below  
beneath  
beside  
between  
beyond  
blind  
Braille  
children  
conceive  
conceiving  
could  
deceive  
deceiving  
declare  
declaring  
either  
first  
friend  
good  
great  
herself  
him  
himself

immediate  
its  
itself  
letter  
little  
much  
must  
myself  
necessary  
neither  
o'clock  
oneself  
ourselves  
paid  
perceive  
perceiving  
perhaps  
quick  
receive  
receiving  
rejoice  
rejoicing  
said  
should such  
themselves  
thymself  
today  
together  
tomorrow  
tonight  
would  
your  
yourself  
yourselves

## APPENDIX D - TROUBLESHOOTING GUIDE

If you experience problems with the operation of your MB W+, assistance is available to help you or your support person diagnose the problem.

### Status and Operation Error Messages

The following messages will be spoken using the Recorded voice when in any mode, or if Recorded or Synthesised speech is in use. A continuous status or error message can only be cancelled by turning your MB W+ off.

Status messages tell you what condition your MB W+ is in. Most of these do not represent problems that would warrant the unit being returned for service. Error messages advise you about problems that may be more serious and require some expert assistance to resolve.

Status Message	Description
<i>Charging</i>	Your MB W+ has been connected to an external power source.
<i>Not Charging</i>	The external power source has been removed.
<i>Battery OK</i>	The battery is at least 67% charged.
<i>Battery Low</i>	The battery is low. You need to recharge the battery. Connect to power as soon as possible.
<i>Battery Flat Recharge</i>	The battery is flat. Recharge for 24 hours. If this does not work then 1. check that you are using the right power adaptor and 2. make sure the power adaptor is working and that you have power coming from the wall outlet.
<i>Error Form length</i>	The actual form length of paper being used does not match the form length selected
<i>Input Buffer Full</i>	Either typing speed on PC keyboard is too fast, or the MB W+ is waiting to clear the input buffer. Please wait until the buffer is cleared.
<i>Keyboard Buffer Full</i>	Either typing speed on the Braille keyboard is too fast, or the MB W+ is waiting to clear the input buffer. Please wait until the buffer is cleared.

<i>Serial Buffer Full</i>	The MB W+ cannot receive any further information through the serial port (usually from a PC or Braille note-taker). Please restart your MB W+.
<i>Memory full</i>	You must delete some files from memory to free up some space.
<i>Duplicate file. Error</i>	File name already exists. Use a different filename.
<i>Printer not ready</i> <i>Printer not found</i>	Printer not connected or switched on or on-line.

<b>Error Message</b>	<b>Description</b>
<i>Backup Battery Low</i>	Memory backup battery is low. Replace battery (this needs to be done in the workshop of your dealer)
<i>Head Jammed</i>	The MB W+ cannot find the margin. Possible paper jam or other obstruction.
<i>Braille Head moved. Error</i>	Head has jammed momentarily or user has interfered with its movement. Turn on/off then on. If it still occurs after this, you need to call your distributor.
<i>Serial Interface Error</i>	Incorrect bit rate, parity or number of bits. Check settings on your computer.
<i>System Error</i>	Operating system fault, backup battery is completely flat or failure in Main board circuits. Try turn off/on with a hard reset.
<i>Error Battery Temperature</i>	Temperature fault. Battery temperature is below 0°C or has exceeded 60°C.  If charging - then remove charger. Switch off for ten minutes. If problem persists, please contact your distributor.  If temperature is near 0C then move to a warmer location.

### **Resetting the MB**

In some cases, you will have to reset the MB W+ to the factory defaults or to clear a system fault.

The following will reset all the commands to the Factory defaults and reinitialise the MB. The MB will start in Learn Mode with the Command key turned off.

### **PROCEDURE TO RESET THE MOUNTBATTEN**

There are two reset methods.

#### **A. If you have files saved in memory:**

1. Turn the MB off and disconnect all cables including the charger power supply.
2. Press and hold down the following keys; New Line+ Command + dot 2 + Backspace.
3. Continue to hold the keys while you turn the MB on.
4. Release the keys once the head starts moving.

#### **B. If you have no files saved in memory (or if Step A does not work):**

1. Turn the MB off and disconnect all cables including the charger power supply.
2. Press and hold down the following keys; Space + Command + dot 5 + Enter key
3. Continue to hold the keys while you turn the MB on.
4. Release the keys when the head starts moving.

#### **C. What happens now?**

1. The Mountbatten should say: "Good Day. Not charging. Learn Mode, Mimic not found"
2. The embossing head should also move.
3. When you do a hard reset, the command key is deactivated. You need to reactivate it.

## APPENDIX E - BATTERY CARE

The MB W+ needs power! It uses a lot of power when embossing and has a specially designed battery. For normal class work (that is, Braille writing, not embossing) the battery will operate the MB W+ for up to 8-hours [or a day in class]. After this it **MUST BE RECHARGED!**

If possible connect the power adapter provided, at all times. Otherwise, use the power adapter overnight to recharge the batteries.

It is important to remember the following battery care tips:

- Each time you switch the MB W+ on, it will tell you the battery status. It will tell you to charge the battery if it is low.
- It is a good idea to charge the battery overnight.
- If the battery is not re-charged when completely run down, permanent damage may result. Replacing a battery is expensive and often inconvenient.
- It is a good idea to leave the MB W+ plugged in wherever possible to ensure the battery is kept charged.
- You need to charge your battery for at least 24 hours prior to storing it over periods of up to 6 weeks.
- To maintain battery when MB W+ is disconnected for longer periods, call your supplier and disconnect battery.
- You can check battery status by entering: 'New line' 'Space' and 'B' and an audio response will tell you the status.

**IMPORTANT:** The battery is not covered by the warranty. Please take good care of it.

## APPENDIX F - THE BRAILLE EXCEPTION TABLE

The following commands apply in both Learn and Advance Mode.

The MB W+ lets you create exceptions to the Braille rules. The Exception Table allows you to change the code to suit your needs. For example you may want to introduce contractions gradually, or make 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;

- ETA text Braille position  
Adds an entry to the exception table where;  
text = the text to be changed  
Braille = the Braille which will be substituted  
position = one or a combination of the five  
position indicators given below:  
b - allowed at the beginning of a word  
m - allowed at 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



## **APPENDIX H - CHANGING THE KEYBOARD LAYOUT**

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

**KBC** bnse    Re-defines control key functions. b, n, s, e is the order required of the 4 control keys (backspace, newline, space, enter). For example if you wanted to reverse the positions of the backspace and Enter keys, the command would be **KBC ensb**

**KBD**        key1 key2 key3 key4 key5 key6  
Re-define dot key layout. Default = Perkins layout.  
After entering the command **KBD** simply press the dot keys in the sequence you want them.

## APPENDIX I - Storing Frequently Used Commands as 'Macros'

If you have a particular command or set of commands that you use frequently you can create a macro or 'hot key' to store them on. This is done by changing the function of the LF and RF keys (which are by default, TAB and BackTAB). The following three commands enable the two function keys to be used as macro keys by substituting the command of your choice.

KBLF	Re-defines the left function key. Follow KBLF with new command(s). If using multiple commands press NL (new line key) between each command.
KBRF	Re-defines the right function key. Follow KBRF with new command(s). If using multiple commands press NL (new line key) between each command.
KBLRF	Re-defines third function (Left and right pressed together). If using multiple commands press NL (new line key) between each command.

**Note:** These commands are not recommended for beginners.

## APPENDIX J - TACTILE GRAPHICS

Turn graphics mode on by using the command;

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 really reinforces the Braille code for the Braille learner. Default = off. Toggle

*“Here are patterns for making Braille drawings of a heart, a teddy bear, and a sailboat. I hope you enjoy making these neat designs.”*

*Sheila Amato*

### Heart

1. s, e, i, wh
2. gh, space twice, ar
3. space once, e, i

### Teddy Bear

1. space once, ow, o, two colons, ow, o
2. space once, s, ow, o, ow, o, wh,
3. space once, gh, space once, e, l, space once, ar
4. ow, s, space 4 times, wh, o
5. in, gh, space 4 times, ar, en
6. e, l, e, 2 colons, l, e, i

### Sailboat

1. space once, 4-5-6, ch
2. space once, 4-5-6, space once, ch
3. space once, 4-5-6, space twice, ch
4. er, full cell, full cell, full cell, full cell, n

For anyone interested in making tactile graphics on their Braille writer a wonderful resource book called - *So What About Drawing? Instructions for Drawing Using a Braille Writer* can be obtained from;

Marie Porter  
The Guild for the Blind  
180 Not. Michigan Ave.  
Chicago, IL 60601  
USA

## APPENDIX K – Braille Languages and Codes

### BRAILLE RULES

#### *How to change between languages.*

In order to switch from the default Braille language to a different Braille language, the user needs to enter the following set of commands.

FLN (or BLN) *language*      Change the Translation Rules where *language* can be one of the following codes;

OZ=Australian  
 ITL=Italian  
 DAN=Danish  
 DUT=Dutch  
 UK=English  
 FIN=Finnish  
 FR=French  
 GER=German  
 GRK=Greek  
 NOR=Norwegian  
 POR=Portuguese  
 SP=Spanish  
 SWE=Swedish  
 USA=United States

There are some limitations on the languages available. If in doubt please contact your distributor or [info@quantumtechnology.com.au](mailto:info@quantumtechnology.com.au).

In order to change the default code to a new default code, use the command;

DFLN *language*      Change the default Translation Rules

#### *How to Insert Foreign Characters into Your Text*

There will be occasions where you need to use a foreign character but do not want to change the default Braille language being used. An example may be where a student in the US is learning Spanish and they want to use regular US Braille rules, but insert a Spanish character into the text they are writing.

FFC (or BFC) *language*      Foreign character selection. This enables insertion of foreign or accented character into your text, without changing the translation rules.

## APPENDIX L - Chorded commands

Chorded commands use space bar pressed with designated letter. There are only a limited number of chorded commands. They can be used at any time **once** the command key has been activated.

Chord B	Backtab
Chord C	Carriage return
Chord E	End
Chord F	Line feed
Chord H	Help
Chord I	Indent
Chord P	Page eject
Chord R	Reverse Line
Chord T	Tab
Chord Z	Stops the speech (while speaking).