

**Liberator II**  
Operator's Manual

**Advanced Functions**  
**"Power Tools" for the Liberator II**

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# Advanced Functions

## "Power Tools" for the Liberator II

\* = New Liberator II Functions

### SPEECH AND DICTIONARY

Learn About the Speech in your Liberator .....	Speech & Dictionary - 11
Activate SPEECH MENU to Change the Speech Settings .....	Speech & Dictionary - 13
SPEECH MENU Options .....	Speech & Dictionary - 15
Use FUNCTION INSERT to Change DECTalk Voices	
Within a Message.....	Speech & Dictionary - 19
Using the DICTIONARY MENU .....	Speech & Dictionary - 21
About Using Text and Speech Markers.....	Speech & Dictionary - 23
Add Mispronounced Words to the Dictionary.....	Speech & Dictionary - 25
You Can Check How Words Are Pronounced .....	Speech & Dictionary - 27
If a Word has Two Pronunciations, Select One to Use .....	Speech & Dictionary - 29
Review Words in the Dictionary .....	Speech & Dictionary - 31
Erase Words from the Dictionary.....	Speech & Dictionary - 33

### EDITING AND NOTEBOOK

Edit Text with the Liberator .....	Editing & Notebooks - 37
The Workspace Temporarily Holds the Text	
that You Put on the Display .....	Editing & Notebooks - 39
CLEAR DISPLAY Moves You to the End	
of the Workspace.....	Editing & Notebooks - 41
Take Notes and Write Letters in the Notebook.....	Editing & Notebooks - 43
Activate OPEN/CLOSE NOTEBOOK to	
Open and Close the Notebook .....	Editing & Notebooks - 45
Save a Notebook in the NOTEBOOK MENU.....	Editing & Notebooks - 47
Switch Between Different Notebooks.....	Editing & Notebooks - 49
*Name Your Notebooks and Select a Title from a Menu;	
Turn Untitled Notebooks ON or OFF.....	Editing & Notebooks - 51
*Select a Notebook from a Menu of First Line "Titles" .....	Editing & Notebooks - 53
*Choose a Notebook by Entering the Icon Sequence and	
then Selecting from a Menu of "Titles" .....	Editing & Notebooks - 55
*You can Choose to Allow Untitled Notebooks or Not.....	Editing & Notebooks - 57
Erase Notebooks.....	Editing & Notebooks - 59
Print the Current Notebook .....	Editing & Notebooks - 61
*Speak the Current Notebook .....	Editing & Notebooks - 63
*Hide a Notebook for Privacy .....	Editing & Notebooks - 65
Editing Tools .....	Editing & Notebooks - 67
Move the Cursor around on the Display	
with -, =, + and [ Arrows.....	Editing & Notebooks - 69
*Use EDIT MODE to Move Arrows Through Text.....	Editing & Notebooks - 71
Delete Words to the Right or Left of the Cursor.....	Editing & Notebooks - 73
Highlight Text with BLOCK MARK .....	Editing & Notebooks - 75
*Copy Highlighted Text.....	Editing & Notebooks - 77
*Cut Highlighted Text.....	Editing & Notebooks - 79
*Search and Replace Operations.....	Editing & Notebooks - 81
*Bookmark Operations .....	Editing & Notebooks - 85
*Using SET EDIT MODE.....	Editing & Notebooks - 87

Classic Block Operations.....	Editing & Notebooks - 89
Copy a Block of Text.....	Editing & Notebooks - 91
Move a Block of Text.....	Editing & Notebooks - 93
Delete a Block of Text.....	Editing & Notebooks - 95
With the Editing Key, You Can Decide to Store a Message After You Spell It.....	Editing & Notebooks - 97
Activate SPEAK SENTENCE to Hear How a Sentence You Are Working On Sounds.....	Editing & Notebooks - 99
Print Part of a Notebook.....	Editing & Notebooks - 101
Erasing the Contents of the Workspace.....	Editing & Notebooks - 103

## **USING MINSERTS**

Minserts Can Make a Message Much More Flexible.....	Minserts - 107
Minserts Are Put into Messages While You Are Storing.....	Minserts - 109
Fill in the Blanks with "Short" Minserts When You Recall a Message.....	Minserts - 111
Storing and Retrieving "Long" Minserts.....	Minserts - 113
Stuffing a Minsert with More Than One Icon.....	Minserts - 115
Stuffing a Minsert with Only One Icon.....	Minserts - 117

## **TRANSFER MEMORY**

Save the Liberator's Memory on a Computer Disk.....	Transfer Memory - 121
IBM Instructions.....	Transfer Memory - 123
Macintosh Instructions.....	Transfer Memory - 127
Liberator-to-Liberator Instructions.....	Transfer Memory - 131
Notebook Instructions.....	Transfer Memory - 133
Load or Save Feedback Settings.....	Transfer Memory - 134

## **REVIEW MEMORY**

You Can Review Different Parts of Memory.....	Review Memory - 137
REVIEW MEMORY MENU (Screen 1).....	Review Memory - 139
Choose Which Sequences You Want to Review.....	Review memory - 141
Review for "Lost" Messages by Reviewing Icons.....	Review Memory - 143
Review Key Assignments.....	Review Memory - 145
Review Complete Areas.....	Review Memory - 147
Review on the Display, Printer or Both.....	Review Memory - 149
Select a Display Speed.....	Review Memory - 151
How to Stop a Review.....	Review Memory - 153
Samples of Review Lists.....	Review Memory - 155
REVIEW MEMORY MENU (Screen 2).....	Review Memory - 157
REVIEW MEMORY MENU (Screen 3).....	Review Memory - 159
*Create a Vocabulary Module.....	Review Memory - 161
*Remove Vocabulary from a Module.....	Review Memory - 163

## **CONNECTING TO OTHER DEVICES**

The Output Device and the Liberator Must be Compatible.....	Connect to other Devices - 167
The OUTPUT MENU.....	Connect to other Devices - 169
You Can Choose to Send Information Manually or Automatically to the Internal Printer.....	Connect to other Devices - 171
Connecting an External Printer.....	Connect to other Devices - 173
Match the Liberator's Baud Rate to the Output Device....	Connect to other Devices - 175
You Can Send Text to an External Printer and Print it Automatically or Manually.....	Connect to other Devices - 177
Connect your Liberator to a Computer Emulator.....	Connect to other Devices - 179
If You Connect the Liberator to a Computer Emulator,	

"Printer Mode" and "Serial Output" Must Be Set .....	Connect to other Devices - 181
You Can Use the Internal Printer When You Are Connected to an Output Device that is Not a Printer...	Connect to other Devices - 183
*Screen 3 in the OUTPUT MENU Refers to Information Coming In Over the Serial Port.....	Connect to other Devices - 185
You Can Send CONTROL Characters to a Computer or Printer .....	Connect to other Devices - 187
*Using the SERIAL MARKER Tool When You Are Connected to a Printer.....	Connect to Other Devices - 189
A Checklist for Using the Liberator With a Printer or Emulator .....	Connect to other Devices - 191
*Connect the Liberator to a Modem.....	Connect to Other Devices - 193
*Send a File Using the Kermit Protocol .....	Connect to Other Devices - 195
*Receive a File Using Kermit Protocol.....	Connect to Other Devices - 196
*Setting the OUTPUT MENU Options Specifically for Modem Support .....	Connect to Other Devices - 198

## **CALCULATOR**

The Liberator Contains a 4-Function Calculator .....	Calculator - 201
To Use the Calculator, You Must First Add CALCULATOR and a Number of Characters to the User Area.....	Calculator - 203
Turn the Calculator On and Start Doing Math Problems .....	Calculator - 205
Copy a Problem from a Notebook or the Workspace to the Calculator .....	Calculator - 207
Copy an Answer from the Calculator to a Notebook or the Workspace.....	Calculator - 209

## **SCRATCHPAD**

What is a Scratchpad?.....	Scratchpad - 213
Scratchpad Information.....	Scratchpad - 214
Correcting Mistakes.....	Scratchpad - 217
Working an Addition Problem.....	Scratchpad - 219
Working a Subtraction Problem .....	Scratchpad - 223
Working a Multiplication Problem.....	Scratchpad - 229
Working a Division Problem .....	Scratchpad - 245
*Transfer Scratchpad Work to a Notebook .....	Scratchpad - 261
*Speak the Scratchpad.....	Scratchpad - 263

## **ABOUT MACROS**

What is a Macro and Why is it Useful?.....	About Macros - 267
Create a Macro and Store it Under an Icon Sequence .....	About Macros - 269
Insert Tools from the All Tools List .....	About Macros - 271
About the Macro Recorder.....	About Macros - 273
*About Recording and Naming Macros .....	About Macros - 275
*Record and Name a Macro .....	About Macros - 277
*Store a Named Macro Under and Icon Sequence.....	About Macros - 279
*Assign a Named Macro to a Key.....	About Macros - 281
*Edit a Named Macro.....	About Macros - 283
*Review Named Macros in the DICTIONARY MENU.....	About Macros - 285
*Delete a Named Macro .....	About Macros - 287
*You Can Create Menu Macros that Look and Act Similarly to Regular Liberator Menus .....	About Macros - 289

## **MORE MENUS**

The SYSTEM FUNCTION MENU Gives You Access to the Liberator's Main Menus.....	More Menus - 293
Screen 2 of the SETUP MENU Allows You to Modify	

the Entire Liberator.....	More Menus - 295
Update Your Liberator's Software .....	More Menus - 297
Make a Liberator-to-Liberator Software Update .....	More Menus - 299
Use the MAINTENANCE MENU to Display Your Liberator's Software Version Number.....	More Menus - 301
Use the MAINTENANCE MENU to Recalibrate Your Battery Pack.....	More Menus - 303
Power Down the Liberator Before You Ship it Anywhere.....	More Menus - 305

**MUSIC AND THE LIBERATOR**

You Can Change System Tones and Beeps .....Music and the Liberator - 309  
Changing a Beep .....Music and the Liberator - 311  
Learn To Sing with the Liberator .....Music and the Liberator - 315

**DECtalk SPEECH HINTS**

Words with Alternate Pronunciations .....DECTalk Speech Hints - 334  
Abbreviations Recognized by DECTalk Speech .....DECTalk Speech Hints - 335  
Create a Pause in a Message.....DECTalk Speech Hints - 338  
Create a Long "A" in a Sentence .....DECTalk Speech Hints - 338  
How DECTalk Speech Handles Numbers.....DECTalk Speech Hints - 339

Index..... Advanced  
Functions Index - 343



# Speech and Dictionary

**With the SPEECH MENU  
you can:**

Change to a different Voice or  
Modify the Voice you have chosen by:

Raising or Lowering the Volume

Changing the Speech Rate

Changing the Pitch Level

Changing the Pitch Variation

Changing the Breathiness

Changing the Head Size

Changing the Assertiveness Level

**Different Ways to Change Your Voice**

## **Learn about the Speech in Your Liberator**

---

### **Summary:**

The following pages explain the options you have for modifying/changing the voice in the Liberator. With DECtalk speech you have the option of choosing from among ten different voices. You can then modify any voice to make it sound the way you want it to.

---

The Liberator uses DECtalk speech. DECtalk speech has 10 different voices, from Perfect Paul to Kit the Kid. Once you have chosen a voice, DECtalk software allows you to modify that voice according to certain parameters, so that it becomes your voice.

The first half of this chapter explains how you can modify or change the voice(es) in your Liberator. Look over the instructions to see if there is anything that you want to change in order to make the Liberator's speech conform with how you would like it to sound.

The second half of this chapter explains what the Liberator's Speech Dictionary is and how to use it effectively so that you can teach the Liberator how to pronounce words correctly.

## **Open the SPEECH MENU [J2] in the Toolbox**

### **Screen 1**

Main Voice  
Auditory Prompt Voice  
Menu Voice

After you choose a voice,  
the following menu selections are  
available for adjustment:

Voice  
Volume  
Speech Rate  
Pitch Level  
Pitch Variation  
Gender  
Head Size  
Breathiness  
Assertiveness  
Formant 4  
Formant 5  
Bandwidth 4  
Bandwidth 5

These options are explained on the following pages.

## **Speech Menu Options**

## **Activate SPEECH MENU to Change the Speech Settings**

---

All of the speech setting changes are made in the SPEECH MENU. No matter what speech you have chosen, you will make adjustments to it by entering the SPEECH MENU. Enter the SPEECH MENU by opening the Toolbox and activating SPEECH MENU [J2].

The next few pages contain explanations of all the menu options in the SPEECH MENU. The best way to decide which options you want to use is to activate the options that sound interesting, make changes and then listen to the changes.

### **pNote:**

If you make so many changes that you don't like the voice anymore, go back to Screen 1 of the SPEECH MENU and **re-select** the voice you want to use (option #1 [Voice]). This re-installs the voice you want with its default settings.



# SPEECH MENU Options

---

## Voice Selection Screen

### Main Voice

The voice you select as your main speaking voice.

### Auditory Prompt Voice

The voice you select to speak any auditory prompts.

### Menu Voice

The voice you select to speak any menus.

## Screen 1

### Voice

Select the voice you want to use from one of ten DECTalk speech voices.

### Volume

This is not the same as the Volume Knob on the Liberator's left side panel. If you just want to turn the volume of the Liberator up or down in normal situations, *use the Volume Knob*. The "Volume" menu option adjusts the Liberator's "internal" volume and is based on the way the Liberator creates speech. The default volume creates the best speech. Changing the volume by using this option will most likely distort your speech.

### Speech Rate

This is how fast or slowly the Liberator speaks. If you are in a group that is unfamiliar with synthesized speech, you might want to slow the speech down a little. When people are used to your voice, you can speed it back up to everyday level.

 **Hint:**

If you are talking on the telephone, speaking a Notebook or speaking a number of messages at one time, people will understand you better if you set the speech rate to a **lower** setting than you normally use.

### **Listen to Voice**

This allows you to listen to any changes you make before you decide to keep them or not. This is option #4 on all the SPEECH MENU screens.

## **Screen 2**

### **Pitch Level**

This is how high or low the speech sounds when a message is spoken. Pitch level affects the voice as a whole. A message spoken at pitch level 50 is lower in pitch than a message spoken at pitch level 100. Pitch level helps you fine tune the way a voice sounds overall. For instance, an eleven year old boy might want a lower pitched child's voice than an eleven year old girl.

### **Pitch Variation**

This determines how much the pitch varies *within* a message. As you decrease pitch variation, the amount of inflection in the voice decreases until words are spoken in a monotone. Increasing pitch variation means the pitch fluctuates until the speech sounds exaggerated.

### **Gender**

When you change the gender of a voice, only some of the default speech characteristics for that voice will change. You must also change **head size** when you change gender. This does not change the sound of a voice from obviously male to obviously female.

## **Screen 3**

### **Head Size**

This also alters the bass or soprano of a voice. The larger the head size, the deeper the voice; the smaller the head size, the higher the voice. The head size parameters are from 65-145. The upper or lower edges of this parameter (near 65 and near 145) will cause the speech board to make unpleasant noises. You can try to correct these noises by changing the **formant** and **bandwidth** parameters on screen 4. (See formant and bandwidth explanations.) We recommend that you do not make changes to gender, head size, formant and bandwidth when you are also trying to have a conversation.

### **Breathiness**

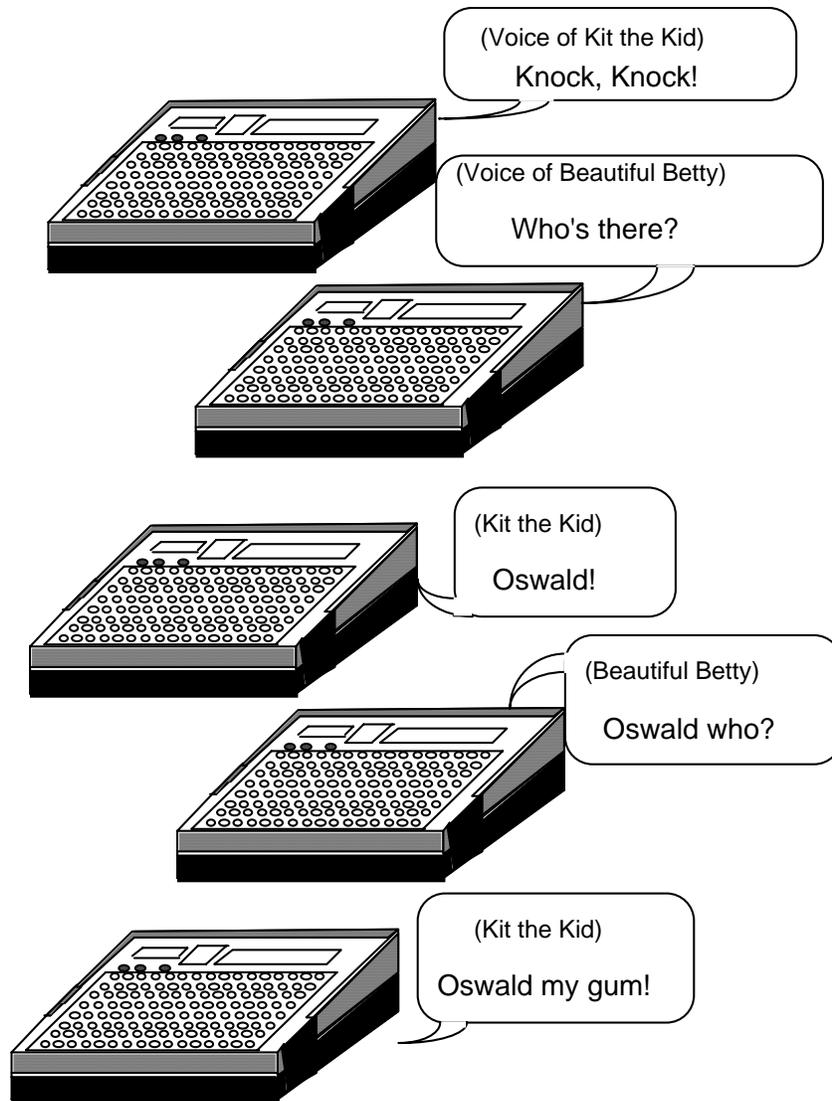
This refers to the unvoiced sounds (aspiration) that a person makes when whispering. When people pronounce the "t" in "torn", they expel more air than they do when they pronounce the "s" in "storm." As you increase breathiness, the level of "unvoiced" sounds like the "t" in "torn" become more noticeable. Consequently, the voice sounds "whispier."

### **Assertiveness**

This refers to how sure or unsure a voice sounds. A fair amount of assertiveness makes a voice sound confident. Lack of assertiveness can make a voice sound unsure or weak.

## Screen 4

**Formant and Bandwidth**—these options help to control unpleasant noise from the speech board. This noise is most noticeable when you change head size, but may happen with other options, depending on the settings you make. To try to get rid of the noise, **raise all the numbers on screen 4**. Start with Menu Selection #2 and then #4. Then raise #1 and #3. Make sure the two formant numbers are not too close together. Go back to screen 3 and listen to each change you make. If nothing helps, return to the default settings of the voice you want to use by re-selecting it from option #1 on screen 1.



## Change Voices Within a Message

## Using FUNCTION INSERT to Change DECtalk Voices Within a Message

---

### Summary:

You can store a message that is spoken in two or more different DECtalk voices by using FUNCTION INSERT.

---

There may be times when you have messages to store that would sound better if they were spoken in two or more voices. Knock-Knock jokes or anything that contains dialogue of some kind are examples of messages that might sound better if they were stored with different voices speaking different parts of the message.

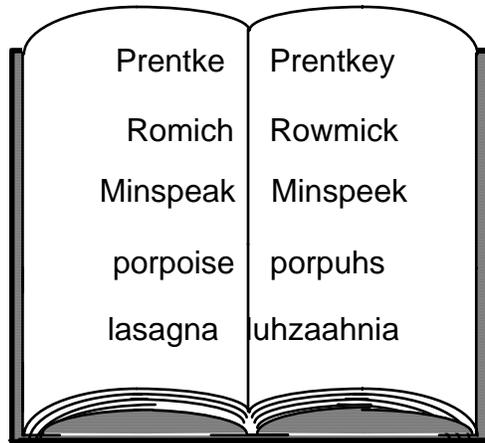
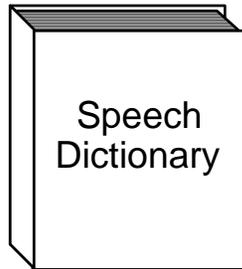
By using FUNCTION INSERT, selecting the tool, "Voice" from the All Tools List and then selecting a voice from the list of DECtalk voices, you can tell the Liberator to speak different parts of a message in different voices.

1. Activate CLEAR DISPLAY, then activate STORE.
2. Activate FUNCTION INSERT and begin to spell "Voice".
3. Select "Voice" from the Menu.
4. Select the DECtalk voice that you want to be spoken first from the list that appears.
5. Spell the message to be spoken in the first voice.
6. Activate FUNCTION INSERT, begin to spell "Voice", then select the next DECtalk voice .
7. Spell the message to be spoken in the second voice.
8. When you have finished changing voices and spelling the message, activate STORE.
9. Select an icon sequence to store the message under.
10. Activate ENTER.
11. Test the message by activating the icon sequence and listening to the result.
12. You can edit the message by activating CLEAR DISPLAY and then activating STORE *twice* and choosing option #2.

When you change voices within a message and store the message, the voices will only be used for that specific message.

# The DICTIONARY MENU

```
----- Dictionary Menu-----  
1. Add Words to the Dictionary  
2. Check/Change Word's Pronunciation  
3. List Words or Macros in Dictionary  
4. Erase Words from Dictionary  
5. Exit  
  
Choose a Dictionary Operation or Exit
```



## The Liberator's Speech Dictionary

## Make Words Sound Better by Using the Dictionary Menu

---

The English language has many rules for pronouncing words. The Liberator already knows most of the rules, and even most of the exceptions to the rules! But sometimes you are going to say a word that the Liberator doesn't know how to pronounce. (You'll find that the Liberator isn't very good at pronouncing proper nouns, such as names of cities and people's names.) You will have to teach it how to pronounce these words.

When you teach the Liberator the correct way to pronounce a word, you put the word into the Speech Dictionary. Later, when the word is spoken, the Liberator finds the word in the Dictionary and pronounces it correctly. All of the user areas use the same Dictionary. This means that if the user of one area puts a word into the Dictionary and some time later the user of another area speaks the word, it will be pronounced correctly.

Open the Dictionary by activating DICTONARY MENU [B2] on the Toolbox Overlay. When DICTONARY MENU is activated the Dictionary Menu appears on the display. The next few pages explain the options in the DICTONARY MENU.

### **pNotes:**

Macros are also kept in the Dictionary. See the **ABOUT MACROS** chapter in this manual for information about this option.

The Speech Dictionary is different from the Word Prediction Dictionary. Menu options for the Word Prediction Dictionary are in the **WORD PREDICTION MENU** and are explained in the **USING WORD PREDICTION** chapter of the *Setting Up* manual.

## About Text and Speech Markers

Store the single word "to" on your overlay:

STORE

FUNCT.  
INSERT spell "sp"; select SPEECH MARKER

Spell the word the way you want it to be pronounced:

**two**

FUNCT.  
INSERT spell "te"; select TEXT MARKER

Spell the word the way you want it to appear on the display:

**to**

FUNCT.  
INSERT spell "te"; select TEXT AND SPEECH MARKER

What you see on your display before storing:

**<SPEECH MARKER>TWO<TEXT MARKER>TO<TEXT-  
AND-SPEECH MARKER>**

STORE

## About Text and Speech Markers

## About Using Text and Speech Markers

---

Some words should **not** be added to the dictionary. Mostly, these are small, often-used words like "to" and "for". For example, if you type the word "to" all by itself on the display and listen to it, it sounds like the Liberator is saying, "tah". However, if you type a message that contains the word "to", it sounds very natural when the Liberator speaks it. If you put "to" in the dictionary, every time the word is spoken in a sentence it will sound very "proper" and unnatural.

If for some reason you want to store one of these single words by itself, use Text and Speech Markers to correct the Liberator's pronunciation. Do not put the word in the dictionary.

### **About TEXT MARKER, SPEECH MARKER and TEXT AND SPEECH MARKER**

These tools are used for words that you want pronounced differently from the way they are spelled.

**SPEECH MARKER** goes in front of the word that you spell phonetically so the Liberator will pronounce it correctly.

**TEXT MARKER** goes in front of the correctly spelled word (the word that will be seen on the display).

**TEXT AND SPEECH MARKER** goes at the end of the operation.

Use FUNCTION INSERT and begin to spell the tool you want. Select the correct tool from the All Tools List that appears on your display.

### **Using Text and Speech Markers to Store the Word "To":**

1. Activate STORE [P1] in the Toolbox.
2. Activate FUNCTION INSERT [K1].
3. Begin to spell "spe"; select SPEECH MARKER from the menu.
4. Spell the word the way you want it to be pronounced, e.g., TWO.
5. Activate FUNCTION INSERT.
6. Begin to spell "te"; select TEXT MARKER from the menu.
7. Spell the word the way you want it to appear on the display, e.g., to.
8. Activate FUNCTION INSERT.
9. Begin to spell "te"; select TEXT AND SPEECH MARKER from the menu.
10. Activate STORE.
11. Select an icon sequence to store the word under.
12. Activate ENTER [N1] in the Toolbox.

## **Add Words to the Dictionary**

1. Open the **DICTIONARY MENU** in the toolbox.
2. Activate **Option #1**.
3. Correctly spell the word you want to add.

For example: Shakespeare

4. Activate **ENTER [N1]**.
5. Type in the way you want the word to be pronounced.

For example: Shaykspeer

6. Activate **STORE**.

Activate **SPEAK LAST SELECTION** or **SPEAK SENTENCE** to hear different pronunciations before you select one to store.

## **Add Words to the Dictionary**

## **Add Mispronounced Words to the Dictionary**

---

### **Summary:**

Select option #1 from the DICTIONARY MENU and follow the instructions to add any word to the Dictionary. You can use up to 240 letters for the word and the pronunciation.

---

Some words are not pronounced correctly by the Liberator. The words that are most often mispronounced are proper names and foreign words. You can tell the Liberator how to pronounce these words by adding them to the Dictionary.

You may use up to 240 spelling characters to spell a word or phrase that you want to add to the Dictionary. It is generally best to put **each** word into the Dictionary as a **separate** entry. If your best friend's name is Juanita Hershberger, the Liberator won't pronounce it correctly; so you will put the name in the Dictionary. If you put both the first and last name under one entry, the Liberator will only pronounce the name correctly if the first and last name appear together on the display exactly as they do in the Dictionary. If you usually say only "Juanita", the correct pronunciation is not used because it is not a separate entry in the Dictionary. To take care of this problem, enter 'Juanita' and 'Hershberger' separately.

When you add a word to the Dictionary, you must **first** spell it correctly, **then** spell it the way it sounds. There is no list of rules that you need to memorize, just spell the word the way it sounds.

### **To Add a Word to the Dictionary:**

1. Open the Toolbox and activate DICTIONARY MENU [B2]
2. Activate option #1.
3. Correctly spell the word that you want to add to the Dictionary (do not add a space after the word).
4. Activate ENTER.
5. Spell the pronunciation.
6. Activate SPEAK LAST SELECTION and listen to the pronunciation. If it doesn't sound right, delete characters and try again.
7. Activate STORE.
8. Answer YES to add more words or option #5 to exit the DICTIONARY MENU.

## **Check/Change Word's Pronunciation**

Open the Toolbox

Activate DICTIONARY MENU [B2].

Activate option #2.

Correctly spell the word you want to check.

Activate ENTER.

Activate #1 to listen to the current pronunciation.

If you don't want to change the pronunciation,  
activate #5.

If you want to change the pronunciation, activate  
#2.

Spell the new pronunciation. Listen to it.  
When you are satisfied, activate ENTER.

Activate #5 to exit the menu.

## **Check On or Change the Pronunciation of a Word in the Dictionary**

## You Can Check How Words Are Pronounced

---

### Summary:

Activate option #2 from the DICTIONARY MENU and follow the instructions to look up a word in the Dictionary. If you do not like the pronunciation, you can change it.

---

You can 'look up' words that are in the Liberator's Dictionary. After you look up a word, you can choose whether you want to keep the current pronunciation or change it.

### To Check the Pronunciation of a Word in the Dictionary:

1. Open the Toolbox and activate DICTIONARY MENU [B2].
2. Choose option #2.
3. Correctly spell the word that you want to look up.
4. Activate ENTER.
5. Activate #1 to listen to the pronunciation the Liberator uses to speak the word or activate SPEAK LAST SELECTION to listen to the display.
- 6a. If you want to change the pronunciation, select #2. The Liberator asks you to spell the new pronunciation. Spell the word the way you want it to be pronounced. Activate SPEAK LAST SELECTION to hear how the new spelling sounds. Activate ENTER when you are satisfied. The display asks you if you want to look up any other words. Answer YES or NO. If NO, exit the Menu by activating option #5.
- 6b. If you do **not** want to change the pronunciation, activate option #5. The Display asks you if you want to look up any other words. Answer YES or NO. If NO, exit the Menu by activating option #5.

### **p** Note:

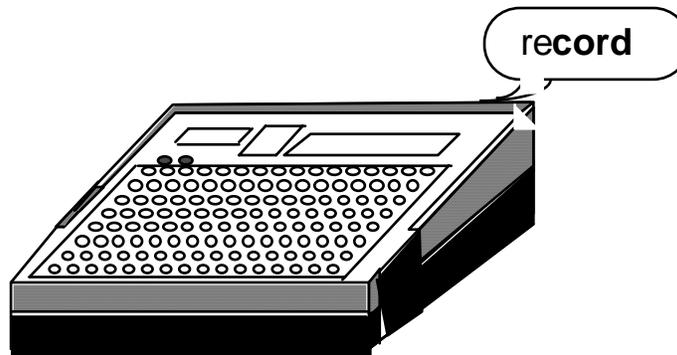
If you spell a word that is not in the Dictionary, the Liberator tells you that the word you have spelled is not in the Dictionary. You have the option of adding the word to the Dictionary.

## Speak the Alternate Pronunciation of a Word

Type the word whose alternate pronunciation you want to use:

**record**

Activate: 8 <sup>D</sup> CTRL 8 <sup>I</sup> SPACE



### Note:

If you do not want to **always** use the alternate pronunciation of a word, **do not** put it in the dictionary.

## Speaking the Alternate Pronunciation of a Word

## When a Word Has Two Pronunciations, Tell the Liberator Which Pronunciation to Use

---

### Summary:

Some words are spelled the same way but pronounced differently. The Liberator automatically speaks the most *commonly* used pronunciation of a word. If you want the Liberator to use the *alternate* pronunciation, activate [CTRL] [SPACE] after you have entered the word.

---

There are a number of words in the English language which are spelled the same but have two different pronunciations. **Record** and **record**, **permit** and **permit** are two examples of this. **Record** and **permit** are the most commonly used pronunciations. If you enter either word into the Liberator, it will automatically speak "**record**" and "**permit**". But the Liberator also knows the alternate pronunciations of most of these dual pronunciation words.

If you want the Liberator to speak the alternate pronunciation of a word, you must tell it to do so by activating [CTRL][SPACE] *after* you have typed in the word. For example, if you want the Liberator to say "**record**", type in the word "record", then activate [CTRL][SPACE]. **Do not put any spaces between the word and [CTRL] and [SPACE]**. The [CTRL][SPACE] command tells the Liberator to speak the alternate pronunciation of a word, if the word has one. (See the chapter, **DECTalk SPEECH: SOME HELPFUL HINTS** [page 334] in this manual for a list of words with alternate pronunciations which the Liberator knows.)

If you store a word in a message using the [CTRL][SPACE] command, whenever you retrieve the message, the alternate pronunciation of the word will be spoken. We recommend that you do **not** store the alternate pronunciation of a word in the Dictionary. When you store a word in the Dictionary, the Liberator will always pronounce the word the way you defined it in the Dictionary. Since alternate pronunciations for words are used less frequently, you probably won't want the Liberator to always use them.

## Review or Print Dictionary Words

Open the **DICTIONARY MENU** in the Toolbox.

Activate option #3

Activate an option.

### **Display:**

**Step** = activate any key on the upper half of the keyboard to see more entries.

**Standard Scan Speed** = the display shows entries for 5 seconds then changes to the next screen.

**Custom Scan Speed** = the display shows entries for 3 seconds then changes to the next screen.

**Change Custom Scan Speed** = faster or slower

### **Printer:**

The Liberator prints the dictionary on its internal printer or on an external printer if you are connected.

### **Display and Printer:**

The Liberator displays the words and prints them.

If you choose to review all named macros, the steps are the same.

If you choose to review Macros starting with specific letters, you must enter the letter(s).

### **Note:**

See the **ABOUT MACROS** chapter for information about Macros.

Review Words on the Display and/or a Printer

## **Review Words on the Display and/or a Printer**

---

You can print a list of all the words in the Liberator's Dictionary.

### **To Print a List of Dictionary Entries:**

1. Open the Toolbox and activate DICTIONARY MENU.
2. Activate option #3. Then activate one of the options.
3. Select Display, Printer, or Display and Printer.

### **If You Select "Display" or "Display and Printer":**

**Step** = the Liberator shows you up to six Dictionary entries. When you are ready to see the next screen, activate any key in the **upper half** of the keyboard. If you want to quit displaying and/or printing, activate any key in the **lower half** of the keyboard. The Liberator returns to normal operation.

**Standard Scan Speed** = the Liberator automatically shows you up to six entries from the Dictionary, pauses for the specified time, then shows you up to six more entries.

**Custom Scan Speed** = the Liberator automatically shows you six entries from the Dictionary, pauses for the specified time, then shows you six more entries. You can change the custom scan to suit you.

If you want to **pause** the display during a scan, activate any key in the **lower** half of the keyboard. To **resume** displaying or printing, activate any key in the **upper** half of the keyboard. The Liberator will continue to show the entries. If you want to *stop* displaying/printing, activate any key in the **lower** half of the keyboard *twice*. The Liberator will return to normal operation.

### **Printing on a Printer Only**

Choose #2 (Printer) from the Print Destination Menu. The display sends the contents of the Dictionary to its internal printer. You can send the contents to an external printer if you have set the printer up in the OUTPUT MENU.

#### **pNote:**

For more information about Macros (in option #3), see the **ABOUT MACROS** chapter in this manual.

## Erase Entries in the Dictionary

```
----- Erase Dictionary Entries-----  
1. Specific Entry  
2. Beginning with Specific Letter(s)  
3. All Entries  
  
5. Exit  
   Select Entries to Erase or Exit
```

### **If you select #1:**

Type in the word you want to erase.

### **If you select #2:**

Type in the beginning letter(s).

### **If you select #3:**

The Liberator asks you if you are sure you want to erase the dictionary.

Respond by activating "Y" (yes) or "N" (no).

## Erase Words Menu

## You Can Erase Words from the Dictionary

---

### Summary:

You can erase a specific word, all words beginning with a specific letter (or letters) and you can, if necessary, erase all the entries in your Dictionary.

---

Sometime you may want to erase some of the words in your Dictionary. Perhaps you learn a new word that means the same thing as one you have in your Dictionary, but you like the new one better. Or maybe you have gotten your Liberator from someone else and you would rather start your own Dictionary than use the one other people made.

### To Erase Words from the Dictionary:

1. Open the Toolbox and activate DICTIONARY MENU.
2. Activate 4 (Erase Words).
3. Select 1, 2 or 3.
4. If 1, type in the specific word you want to erase, then activate ENTER.
5. If 2, type in the specific letter(s), then activate ENTER.
6. If 3, respond to the prompt (Y or N) when it asks, "Are you sure this is OK?"

We recommend that you do **not** erase the entire Dictionary contents unless you are the only user for your Liberator or unless you have gotten an OK from your parent, teacher or therapist.



### Remember!

There is only one Dictionary per Liberator. If you erase the Dictionary from one area, you have erased it from the **entire** Liberator.



## **Editing and Notebooks**

## **Use the Liberator's Notebook and Text Editing Features to:**

Move the cursor up, down, left  
and right through the text.

Delete large amounts of text.

Edit text that you have already put  
onto the display.

Move text around on your display.

Copy a block of text from one  
place to another

Store a message after you have  
already spelled it on the display

Keep long portions of text, such as  
letters and classroom notes, in the  
Notebook

## **Editing and Notebook Features**

## **Edit Text and Notebooks with the Liberator**

---

### **Summary:**

With the Liberator, you can edit text that you have already put onto the display. The Liberator allows you to move the cursor through text and then highlight, copy, change, delete and move blocks of text. The Liberator also has Notebooks that you can use to write letters and reports or to take notes.

---

The Liberator's primary form of communication is speech. However, the Liberator also offers printed text which is an important form of communication. Printed text can be used to communicate to someone who cannot hear the Liberator's speech. Printed text is also used to write letters, access a computer or take notes during a lecture.

The Liberator has a number of editing features that can be used to create and change text effectively. The Liberator has Arrow keys (=+[ ) which allow the user to move the text cursor through text and then insert or change words anywhere in the text. The EDIT MODE tool determines how far the Arrow keys will move the cursor. For example, you may want to move through text letter-by-letter, word-by-word or sentence-by-sentence.

Two additional tools, BLOCK MARK and EDIT MENU, are used with the Arrow keys to move, copy or delete blocks of text.

The Liberator also has Notebooks. Notebooks are used to create and save long portions of text. You may have a letter in one of the Notebooks. Another Notebook may contain the notes that you take during History class. You might use another Notebook to write an article for the school paper.

Notebooks are handy for creating text. You can easily open and close them in case you want to talk to someone while you are working in one. All Notebooks are automatically saved unless you intentionally choose to delete them.

## The Display and Workspace

### Workspace

We had our school picnic last Tuesday.  
Mrs. Aberdeen brought ice cream and  
strawberry topping. That's my favorite.  
All the children brought a snack along.  
I brought potato chips. Jimmy brought  
pretzels and Paula's mother made pop

corn. It was all very good. After  
eating we went down to the lake and  
watched the sailboats. Mrs. Aberdeen  
surprised us with a ride on her  
husband's pontoon boat.

### Display

The Display Shows Part of the Workspace

## The Workspace Temporarily Holds the Text that You Put on the Display

---

### Summary:

The Workspace is a 2000 character page of text. The text that you put on the display in either Spelling or Minspeak goes into the Workspace. The Editing tools allow you to move into the Workspace and change text that has already scrolled off of the display.

---

The Liberator's display can show up to five lines of text. When you add the sixth line, each line of text shifts up so that the text you add appears as the fifth line of the display. This is called "scrolling." The top line scrolls off the top of the display, leaving the bottom line open for more text.

**pNote:** if you have the Number of Lines on the display set to 8 lines, you will see have 6 lines on the display instead of 5; if you are using Word Prediction, the lines may be fewer.

When text scrolls off the top of the display, you may think it is lost, but it's not! The Liberator has a Workspace that saves the last 2000 characters that you put on the display. This means that when text scrolls off the top of the display, it is still kept in the Workspace for a while. In fact, the Workspace holds 8 or 9 times as much text as can be shown on the display.

In this chapter, you will learn how to use the editing keys to edit not only the text that appears on the display, but also the text that is being kept in the Workspace.

Once the Workspace contains 2000 characters, it is full. Then, like the display, characters scroll out of the top of the Workspace to make room for the characters you add. Once characters have left the workspace, you cannot retrieve them.

## Use CLEAR DISPLAY to See the End of the Workspace

### Workspace

We had our school picnic last Tuesday. Mrs. Aberdeen brought ice cream and strawberry topping. That's my favorite. All the children brought a snack along. I brought potato chips. Jimmy brought pretzels and Paula's mother made pop corn. It was all very good. After eating we went down to the lake and watched the sailboats. Mrs. Aberdeen surprised us with a ride on her husband's pontoon boat.

### Display

Activate:

CLEAR  
DISPLAY

### Workspace

We had our school picnic last Tuesday. Mrs. Aberdeen brought ice cream and strawberry topping. That's my favorite. All the children brought a snack along. I brought potato chips. Jimmy brought pretzels and Paula's mother made pop corn. It was all very good. After eating we went down to the lake and watched the sailboats. Mrs. Aberdeen surprised us with a ride on her husband's pontoon boat.

CLEAR DISPLAY Shows the End of the Workspace

## **CLEAR DISPLAY Moves You to the End of the Workspace**

---

### **Summary:**

When you activate CLEAR DISPLAY [P8], any text on the display goes into the Workspace. The text that was on the display can be accessed in the Workspace by using the Edit tools.

---

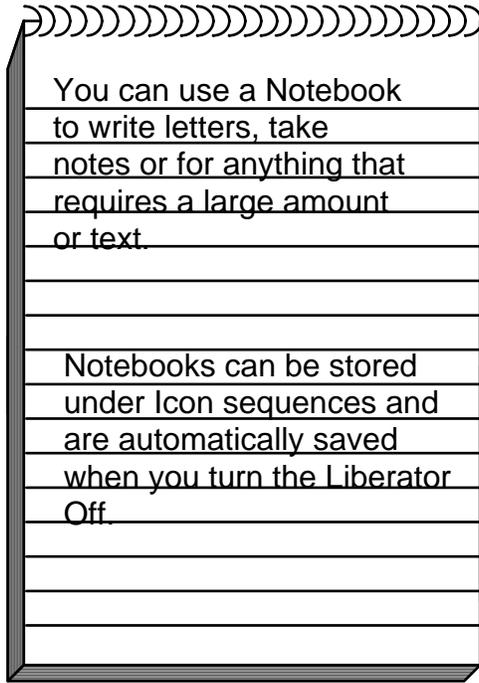
When you want to clean all the text off the display, you activate CLEAR DISPLAY [P8]. Suppose you are assembling a message on the display that you want to speak to a friend. Half way through the message you accidentally activate CLEAR DISPLAY and your message disappears.

The Liberator helps make this problem a little less disappointing by the way it clears the display.

Instead of erasing all the text on the display, CLEAR DISPLAY simply moves the text that is on the display to the end of the Workspace. This means that the information that you had on the display is still in the Workspace; the display just isn't showing it anymore. In this chapter you will find out how to move the cursor into the Workspace and find the text that you cleared from the display.

### **p Note:**

Text that is erased from the display by using DELETE CHARACTER [P7], DELETE WORD [P6] or DELETE LAST SELECTION [P5] is erased both from the display *and* from the Workspace.



You can use a Notebook  
to write letters, take  
notes or for anything that  
requires a large amount  
or text.

Notebooks can be stored  
under Icon sequences and  
are automatically saved  
when you turn the Liberator  
Off.

## The Liberator's Notebooks

## **Take Notes and Write Letters in the Notebook**

---

### **Summary:**

The Liberator has a Notebook function that can be used to write large amounts of text. Notebooks are unique to a User Area and are automatically saved when the Liberator is turned off.

---

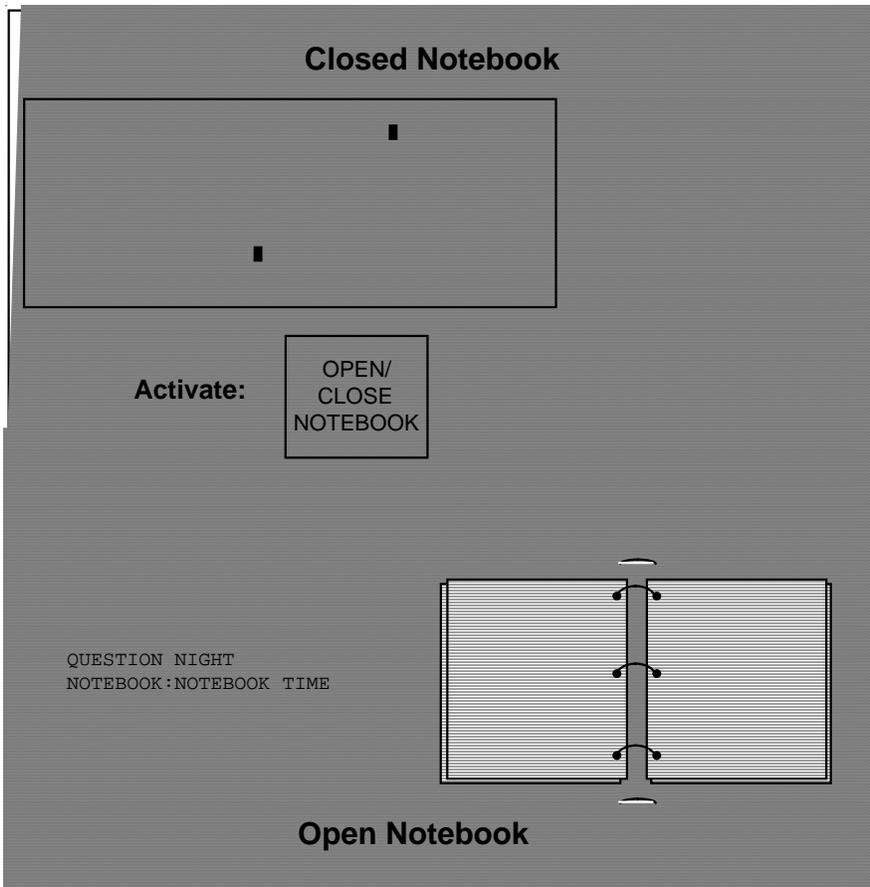
The Notebook function is very useful when you have to write a lot of text. For example, Notebooks can be used to write a letter to Aunt Sylvia, take notes during a physics lecture, write a speech or any number of other tasks that require a lot of text.

Pretend you are sitting at a desk working on something. Your English Notebook from school is also on your desktop. You are not using the Notebook right now, but it is ready for you to use whenever you want to. You just have to open it and begin to write in it. The Liberator's Notebooks work in the same manner. There is always a Notebook ready for you to use.

Although only one Notebook can be opened at a time, you can create a number of Notebooks which you can store under different icon sequences. Notebooks can contain as many characters as you want (until you use up the Liberator's memory). Notebooks have several benefits over the Workspace. First of all, any text put in a Notebook is automatically saved when the Liberator is turned Off; you can organize large amounts of text in different categories or subjects; and no text is lost when a Notebook becomes full. When you fill a Notebook and want to add more text, you can delete part of the contents of the Notebook or open a new Notebook.

Notebooks, like most of the features on the Liberator, are unique to a user Area. A person using Area-1, for example, cannot access a Notebook that was created in Area-3.

Because of their large size, Notebooks can use up much of the Liberator's memory. For this reason, if you run out of memory, you might want to go to the NOTEBOOK MENU and review your Notebooks to see if there are any you can erase. Erasing a large, unused Notebook may make enough room in memory to allow you to store many shorter icon messages.



## Using OPEN/CLOSE NOTEBOOK

## Activate OPEN/CLOSE NOTEBOOK to Open and Close the Notebook

---

### Summary:

OPEN/CLOSE NOTEBOOK toggles between opening and closing a Notebook. OPEN/CLOSE NOTEBOOK is at location [F1] in the Toolbox or location [N1] on the sample overlay.

---

When you want to open a Notebook, activate OPEN/CLOSE NOTEBOOK from either the Toolbox or your overlay (if you have it on your custom overlay). When you want to close the Notebook, activate OPEN/CLOSE NOTEBOOK again.

Once you open a Notebook, you are no longer using the Liberator's Workspace. You are using the Notebook instead. To return to the Liberator's Workspace, you have to close your current Notebook. The Liberator prompts you to save your Notebook and returns you to the Workspace.

The Liberator allows you to have only one Notebook open at a time. Once you have a Notebook open, you must close it before you can open another one. If you close a Notebook and return to the Workspace, you will not "see" your Notebook anymore, but it's there in the background, waiting to be used again. For this reason, if you are in the Workspace and you activate OPEN NOTEBOOK, the **last** Notebook you were using will be opened (the one that is just sitting and waiting on your desk!)

When you open a Notebook the bottom line of the display will read something like: NOTEBOOK: NOTEBOOK FROG (maybe this is a science Notebook). The display is telling you that you have opened a Notebook and also gives the icon sequence that the current Notebook is stored under. In the example given, the current Notebook is stored under the

sequence . If the current Notebook has not yet been stored under an icon sequence, the bottom line will initially show: NOTEBOOK: UNTITLED.

When a Notebook is open, the right-hand side of the display contains a vertical bar which gradually fills up as you go from the beginning of the Notebook to the end.

## Use the NOTEBOOK MENU to Save a Notebook

**NOTE  
BOOK  
MENU**

-----Notebook Menu (Screen 1)-----

1. Save Current Notebook
2. Open Different Notebook
3. Print Current Notebook
4. Erase Previously Stored Notebook
5. Exit 6.Final Screen 7.Next Screen

Select Notebook Operation or Exit Menu

Activate:

**1**

Select the Icon Sequence under  
which you want to save the current  
contents of the Notebook

Select Icon Sequence - then ENTER

Closing Toolbox for icon selection

### **Note :**

If you have already saved the Notebook under an icon sequence, and are saving it again, the Liberator will ask you first if you want to save the Notebook under the original icon sequence.

## Saving a Notebook

## Save a Notebook with the Notebook Menu

---

### Summary:

Choose option #1 in the NOTEBOOK MENU to save a Notebook. You can save the Notebook under the previous icon sequence (if there was one) or a new icon sequence.

---

When you open a Notebook, the icon sequence of the Notebook appears on the bottom line of the display. If the Notebook has not been saved under an icon sequence, the bottom line of the display will read:

**NOTEBOOK - Untitled.**

Saving a Notebook stores the contents of a Notebook under an icon sequence. When you want to save a Notebook, activate NOTEBOOK MENU [E2] in the Toolbox. (This tool can be added to your overlay as explained in **PERSONALIZING YOUR OVERLAY** in the *Setting Up* manual.) When you activate NOTEBOOK MENU, you can see the Notebook Menu options.

Choose to save a Notebook by selecting option #1 (Save Current Notebook). If the Notebook was saved before under an icon sequence, the Liberator gives you the opportunity to save it under the original icon sequence.

If you choose not to store the Notebook under the original sequence or if you are saving an untitled Notebook, the Liberator asks you to select the icon sequence that you want to store the Notebook under. Choose an icon sequence (you can use from one to four icons) and then activate ENTER.

The icon sequence that you choose is completely independent of any messages that you have stored. This means you can have a Notebook and messages stored under the same icon sequence.

### **pNote:**

You can **speak** a Notebook by going to screen 2 of the NOTEBOOK MENU and activating option #3 or #4. You can also open a Notebook, highlight its contents and activate SPEAK LAST SELECTION. Or, you can store the SPEAK NOTEBOOK tool (from the All Tools List) under a sequence or assign it to a key.

## Open a Different Notebook

When you are working in one Notebook and decide to open another, activate OPEN/CLOSE NOTEBOOK

Do you wish to save the current Notebook under its original sequence shown below?

BOOK FROG

Answer YES or NO

### YES

Either enter the sequence for the Notebook you want to open

**OR**

Enter a new sequence to create a new Notebook.

### NO

You are asked to save the current Notebook under an icon sequence. This is like the SAVE AS command on a computer. You can select new icons to save the Notebook under

**OR**

activate ENTER without doing anything.



If you activate ENTER without doing anything: you can answer YES to the prompt and save your Notebook as it was originally

**OR**

answer NO and throw away the whole Notebook.

## Opening a Different Notebook

## You Can Open Different Notebooks

---

### Summary:

Select option #2 of the NOTEBOOK MENU. After saving the Notebook you were using, you are asked to enter the icon sequence of the Notebook that you want to open.

---

Imagine yourself sitting at a desk. You have a number of Notebooks on the shelf, but only have room for one Notebook on your desk. When you are ready to use a different Notebook, you need to put the current one away and get a different one from the shelf. In the Liberator, this is what you do when you open a different Notebook: you put the one you are using away first, then open the different one. To open a different Notebook, open the NOTEBOOK MENU. This time choose option #2.

Since only one Notebook can be "off the shelf" at a time, the first thing that the Liberator does when you choose to open a different Notebook is to put away the Notebook that you were using. If the Notebook has already been saved under an icon sequence, the Liberator asks you if you want to save the Notebook under the same sequence. Answering YES means that any current changes you made to the Notebook are saved.

If you do not want to alter the original Notebook, answer NO. The Liberator asks you to choose the icon sequence that you want to save the Notebook under. This is like a SAVE AS prompt on a computer. If you select new icons, the current Notebook will be saved just as it is under a new sequence. If you do not want to save the current Notebook, just activate ENTER without doing anything else.

After you choose an icon sequence for the Notebook or choose not to save it at all, the Liberator asks you to enter the icon sequence of the Notebook that you want to open. If you want to open a new (empty) Notebook, activate ENTER before selecting any icons. The Liberator will open an Untitled Notebook.

NOTE  
BOOK  
MENU

Open the Toolbox and  
activate NOTEBOOK MENU.  
Activate option #7 and go  
to screen 3.

-----Notebook Menu (Screen 3)-----

1. Choose Notebooks = BY ICON SEQUENCE
2. Allow UNTITLED Notebooks = OFF

5. Exit
6. Prev Screen
7. First Screen

Select Notebook Operation or Exit Menu

Activate option #1

Choose Notebooks = FROM MENU LIST

Activate option #1 again:

Choose Notebooks = ICON(S) THEN MENU

Activate option #2: ON

## Switch Notebooks: New Liberator II NOTEBOOK MENU Options

## Now You Can Select Notebooks from a Menu of Notebook Names and You Can Choose to Turn the Untitled Notebook Option OFF

---

The Liberator II software gives you a new way to change Notebooks.

Open the NOTEBOOK MENU in the Toolbox and go to screen 3. Look at options #1 and #2.

Activate option #1. This option allows you to select a Notebook by: entering the icon sequence of the Notebook; selecting the Notebook you want from a menu made up of the first lines in each of your Notebooks; or you can select a number of related Notebooks by entering the beginning sequence and then selecting the specific Notebook from a menu.

If you want to choose Notebooks from a *menu*, the Liberator uses the first line of text in your Notebooks as their 'titles'. When you see a menu of Notebooks, you see the first line (or 'title') of each Notebook rather than the icon sequence you saved the Notebook under. Just select the Notebook you want from the menu.

Activate option #2. The default for this option is OFF which means that you can no longer open an untitled Notebook. In order to open a new (as yet unused) Notebook, you must first name it by giving it an icon sequence to be stored under. If you turn this menu option ON, you can open a Notebook that will remain untitled until you go to close it. At that time the Liberator will ask you to name the Notebook.



### Recommendation:

We **strongly** recommend that you leave UNTITLED NOTEBOOKS turned **OFF**.

These new options are discussed in the next few pages.

-----Notebook Menu (Screen 3)-----

1. Choose Notebooks = FROM MENU LIST
2. Allow UNTITLED Notebooks = OFF

5. Exit
  6. Prev Screen
  7. First Screen
- Select Notebook Operation or Exit Menu

Set option #1 to: FROM MENU LIST

Go to screen 1 (activate #7)

-----Notebook Menu (Screen 1)-----

1. Save Current Notebook
2. Open Different Notebook
3. Print Current Notebook
4. Erase Previously Stored Notebook
5. Exit
6. Final Screen
7. Next Screen

Select Notebook Operation or Exit Menu

Activate #2: Open a Different Notebook.

-----Notebook Title Menu-----

1. Department of Bureaucratic Technospeak
2. Four score and seven years ago
3. My summer vacation
4. The daffodils started to bloom in March
5. Exit

Select Notebook from First Line in Title

All of your notebooks are displayed with their first lines of text as the 'titles'. Select a title.

Select a Notebook from a Menu of  
First Line 'Titles'

## Select a Notebook from a Menu of First Line Titles

---

In option #1 on the third screen of the NOTEBOOK MENU, you can choose a Notebook from a menu list (FROM MENU LIST). When you save your Notebooks, the Liberator now also saves the first line of each Notebook as that Notebook's "title."

When you select to choose Notebooks from a menu list and you want to open a Notebook, or switch from the Notebook you are using to another one, activate OPEN DIFFERENT MENU (option #2) from screen 1 of the NOTEBOOK MENU. On the Liberator display you will see a list of the first lines of all your Notebooks. These are your Notebook "titles." Select a Notebook from the menu.

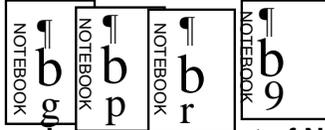
If you have selected the 'FROM MENU LIST' option, and you don't have any Notebooks saved yet, you will hear an error beep when you try to see a list of Notebooks. The Liberator cannot list your Notebooks if you don't have any.

### **pNote:**

Prior to this version of Liberator software (2.0), the Liberator **did not** speak the titles (first line) of your Notebooks when you activated SPEAK NOTEBOOK. With 2.0 software, the Liberator **will speak** the first line of your Notebook if you activate SPEAK NOTEBOOK.

**If you do not want the first line, or part of the first line, spoken when you activate SPEAK NEOTEBOOK:**

activate a RETURN anywhere within the first 36 characters of the Notebook. When the Liberator sees a RETURN it will not speak any text that comes **before** the RETURN.



**When you have saved a lot of Notebooks in different categories:**

Select ICON(s) THEN MENU from option #1, screen 3 in the NOTEBOOK MENU. Then go to screen 1.

```
-----Notebook Menu (Screen 1)-----  
1. Save Current Notebook  
2. Open Different Notebook  
3. Print Current Notebook  
4. Erase Previously Stored Notebook  
5. Exit 6.Final Screen 7.Next Screen  
Select Notebook Operation or Exit Menu
```

Activate option #2.  
Activate the icon(s) of the category you want.  
Activate ENTER.



```
----- Notebook title Menu-----  
1. During my summer vacation I spent  
2. Drama in the eighteenth century  
3. Notes from Lit Class  
4. Reading assignments  
5. Exit 6. Final Screen 7.Next Screen  
Select Notebook or Exit Menu
```

Select the notebook you want.

**Note:**  
If you can't remember the sequence you want,  
just activate ENTER. You will see the whole  
Notebook list.

**Enter Icons, then Select a Notebook  
from the Menu**

## Choose a Notebook by Entering the Icon Sequence and then Selecting from a Menu of Titles

---

The third choice in option #1 on screen 3 of the NOTEBOOK MENU is to select a Notebook by entering icons first and then choosing the Notebook from a menu (ICON(S) THEN MENU). If you can't remember the icons for a particular Notebook, just activate ENTER. You will see the entire listing of Notebooks. If you have a lot of Notebooks and saved them according to some kind of category or system, you may find this option to be helpful.

Let's say you are in school. You have a Notebook for each subject you are taking. You might save all your Notebooks with the same first icon, e.g., ■■■[NOTEBOOK]. Since these Notebooks are all school related, the second icon might be ■■■[THINK]. The English Notebook might have □ [BOOK] as a third icon; the science Notebook might have ■■■[FROG]; the math Notebook might have ■■■[WRONG].

Let's say that you want a school Notebook but you aren't sure which one. If you choose, "Open a different Notebook" from the first screen of the NOTEBOOK MENU, the display will ask you to select an icon sequence. You would select ■■■ and then activate ENTER. The Liberator will show you a list of all the first lines of text from the Notebooks you have stored that begin with ■■■ NOTEBOOK THINK. Now you can select the Notebook you want.

When you use a lot of Notebooks, if you remember to save them in a similar manner to the one described here, this option makes choosing Notebooks easy.

## **Allow Untitled Notebooks = OFF**

NOTEBOOK MENU, Screen 3, option 2

### **Go to screen 1 ; activate option 2**

You can open an existing Notebook  
OR  
activate a new sequence to create a new  
Notebook

### **If you turn "Allow UNTITLED Notebooks = ON"**

You can open an existing Notebook  
OR  
you can open an untitled Notebook by  
just activating ENTER.

---

### **Important Note!**

Because untitled Notebooks often get "lost" or forgotten,  
and because this can cause problems in the Liberator:

**We highly recommend that you leave  
"Allow Untitled Notebooks" turned to  
OFF.**

This way you know that all your Notebooks  
will be saved with a name.

## Untitled Notebooks

## **You Can Choose To Have Untitled Notebooks or Not**

---

Option #2 on screen 3 of the NOTEBOOK MENU gives you the choice of being able to open UNTITLED Notebooks or not.

If you select OFF (the default) for this option, every time you open a new Notebook, the Liberator will ask you to name it **first** before you can use it. You just enter an icon sequence for the new Notebook.

If you select ON, every time you want to open a new Notebook you are asked to activate ENTER. The Notebook remains untitled until you close it and are asked to enter an icon sequence. Depending on which Liberator operations you are using, (e.g. downloading vocabulary, switching Notebooks by using macros) allowing the UNTITLED Notebook option can cause great confusion.

### Recommendation

We **strongly** recommend that you allow this option to remain **OFF** and simply title new Notebooks when you open them.

## Erase Notebooks

Activate NOTEBOOK MENU.  
Activate option #4 from Screen 1.

### Select One Notebook to Erase

Enter the Icon Sequence of the  
Notebook that you wish to erase

Select Icon Sequence--then ENTER

| >

|

Activate the icon sequence for the Notebook  
you want to erase, then activate ENTER.

### Select Erase ALL Notebooks

CAUTION!! FINAL WARNING!!!!  
Every Notebook currently stored  
in USER AREA 4 will be erased  
Are you SURE this is OK?

Answering YES erases all Notebooks

**Only** answer YES if you are sure you want to  
get rid of all your Notebooks.

## Erasing Notebooks

## **You Can Erase Any or All of Your Notebooks**

---

You may find that your Notebooks become outdated. Perhaps you kept class notes in a Notebook and then passed the class! You might like to get rid of that Notebook. Also, Notebooks take up a lot of the Liberator's memory and a good way to free up more memory is to erase old Notebooks that you don't use much.

You can erase a single Notebook, or you can erase all the Notebooks in your Area.

### **To Erase a Notebook:**

1. Activate NOTEBOOK MENU.
2. Activate option #4 from Screen 1
3. Option #1 (Select one Notebook to erase) from the Erase Notebook Menu asks you to enter the icon sequence of the Notebook you want to erase. If you have "Icon Prediction" turned On, the icons under which you have saved Notebooks will light up.
4. Activate the icon sequence and then activate ENTER
5. Option #2 (Erase ALL Notebooks), displays a WARNING screen that asks you to answer YES if you are sure you want to erase all the Notebooks in your Area.
6. Activate YES (or NO if you change your mind).

## **Print Current Notebook**

Open a Notebook for the Liberator to print.

Open the NOTEBOOK MENU.

Activate option #3 on screen 1.

If you are set up to use an external printer, the Liberator will print the Notebook on the external printer.

If you are not set up to use an external printer, the Liberator will print the Notebook on its internal printer.

## Printing a Notebook

## **Print the Current Notebook**

---

If you want to print out a Notebook, make sure the Notebook you want to print is opened. Then open the NOTEBOOK MENU and activate option #3 on screen 1.

If you are connected to an external printer and it is set up in the OUTPUT MENU, the Liberator will print the current Notebook on the external printer.

If you are not connected to an external printer, the Liberator will print the current Notebook on its internal printer.

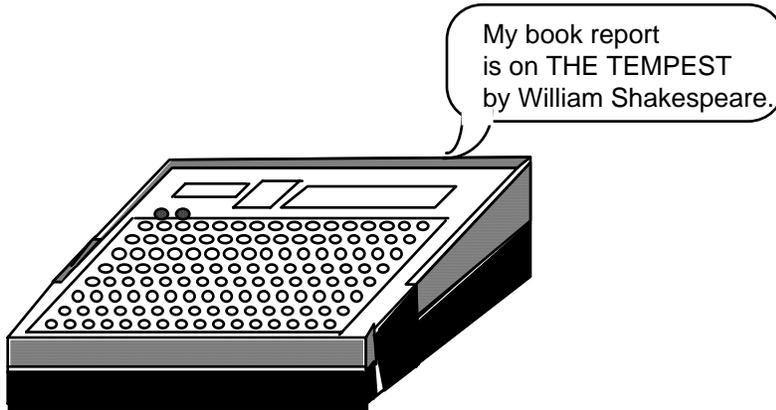
To print part of a Notebook, use BLOCK MARK to highlight the text you want to print. Activate the PRINT key (E4] in the Toolbox.

### **pNote:**

You can copy a problem from the Scratchpad to a Notebook and then print the Notebook. See the **SCRATCHPAD** chapter in this manual for more information.

## Speak Current Notebook

Activate option #3 from screen 2  
of the NOTEBOOK MENU.



### Store SPEAK NOTEBOOK on your custom overlay:

Activate STORE.  
Activate FUNCTION INSERT.  
Begin to Spell: Sp  
Select SPEAK NOTEBOOK from the menu.  
Activate STORE.  
Select an icon sequence.  
Activate ENTER.

## Speak Current Notebook

## Speak Current Notebook

---

Speak Current Notebook is a tool that allows you to give speeches, sing songs, read reports or present any information that you have put in your Notebooks.

When you activate option #3 from screen 2 of the NOTEBOOK MENU, you are telling the Liberator to speak whatever Notebook is currently open.

If you activate option #4, you can speak a different Notebook, even though you already have a Notebook open. This option allows you to speak Notebooks without having to open and close each one.

Because Speak Notebook is such a handy tool to have, you might want to store it under an icon sequence on your overlay.

### To Store the Tool SPEAK NOTEBOOK On Your Overlay:

1. Activate STORE.
2. Activate FUNCTION INSERT
3. Begin to spell "sp"
4. Select SPEAK NOTEBOOK from the menu.
5. Activate STORE.
6. Activate the icons on your overlay that you want to store SPEAK NOTEBOOK under.
7. Activate ENTER.

### **pNote:**

If you don't want the Liberator to speak the title of your Notebook, follow the title with a RETURN. If you only want part of your title spoken, activate a RETURN within the first 36 characters of the title. Any text that comes **before** the RETURN will not be spoken.

## Hide a Notebook

Activate NOTEBOOK MENU.

Activate option #2.

Activate an icon sequence for a NEW Notebook.

**As soon as you see the blank screen**  
for your new Notebook:

Activate the **UP ARROW** to make sure  
you are on the top line of the notebook.

Activate **CTRL**

Activate **U**



A small symbol appears in the top left corner  
of the display. This tells you that the Liberator  
will hide the Notebook when you close it.

### **R Remember:**

Activate **CTRL U** before you do anything  
else in the new Notebook!

## Hide a Notebook

## **Hide Your Notebook So No One Else Can Read It**

---

So far we have been discussing saving, finding and using Notebooks that you probably wouldn't care if anyone read. They are listed when you choose a Notebook from a menu and, if you are using icon prediction, your Notebook sequences are lit on your keyboard.

But you may want to use a Notebook as a diary or have a Notebook of letters that you don't want anyone else to read.

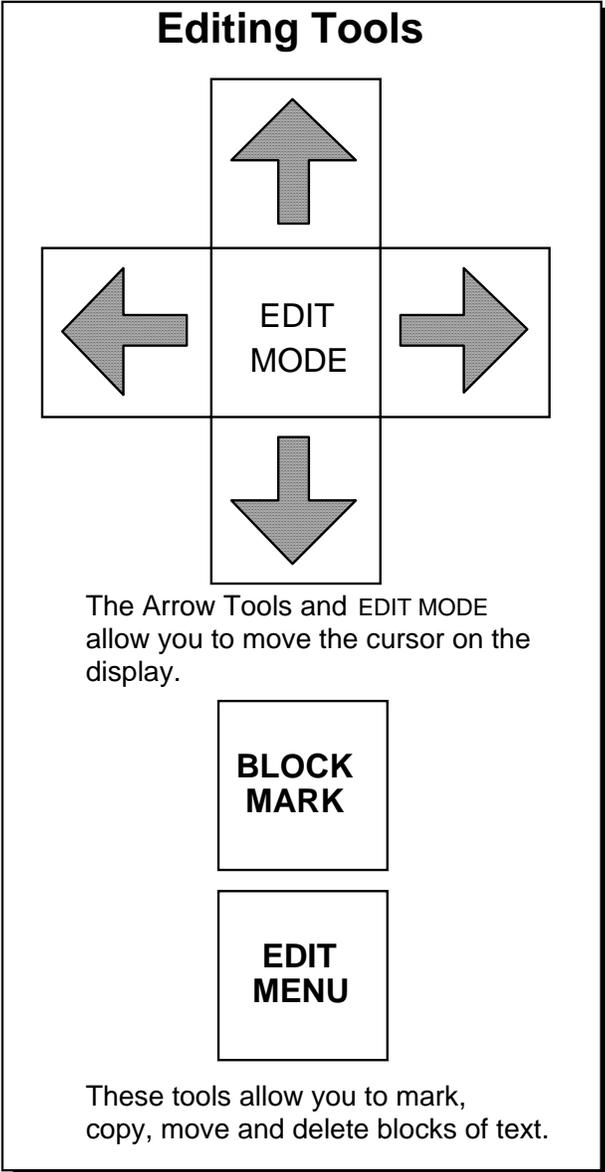
You can tell the Liberator to "hide" a Notebook. When a Notebook is hidden, it will not appear as a choice on the Notebook list and its icons will not be lit when Icon Prediction is turned on.

### **To "Hide" a Notebook:**

Open a **new** (unused) Notebook.

*Before you do anything else*, activate **CTRL** and then activate U [D8 and I5 on the sample overlay].

This tells the Liberator to "hide" the Notebook when you close it.



## Arrows and Editing Tools

## **There are Several Editing Tools on the Sample Overlay**

---

### **Summary:**

There are seven editing tools: -, =, +, [, EDIT MODE, BLOCK MARK and EDIT MENU. To use these tools to edit text, you must add several, or all, of them to your overlay if they are not already there.

---

There are seven editing tools in the Toolbox. They are also on the sample overlay. These Tools are: -, =, +, [, EDIT MODE, BLOCK MARK and EDIT MENU. Below is a short description of each tool. The next several pages in this chapter explain these tools in detail.

+-+[- The Arrow keys move the cursor in the direction of the arrow. (The Arrow keys can be found at [O1], [P2], [O3] and [N2] on the sample overlay.)

**EDIT MODE** - Determines **how far** the Arrow keys move the cursor. (EDIT MODE can be found at [O2] on the sample overlay.)

**BLOCK MARK** - Allows you to highlight a block of text. (BLOCK MARK can be found at [N3] on the sample overlay.)

**EDIT MENU** - Allows you to highlight a block of text and then move or copy the block of text somewhere else in the text. It also allows you to delete the block of text that you marked. (EDIT MENU can be found at [P3] on the sample overlay.)

Look at the next few pages to see how the editing tools work. You can then decide which tools you want to add to your overlay, if they are not already there.

### **pNote:**

**PERSONALIZING YOUR OVERLAY** in the *Setting Up* manual explains how to add tools to your overlay.

## Using the Arrow Keys

You want to insert a word here

Dear Jane,  
I am writing to thank for the good  
time I had at your party. |

You can activate the  (UP arrow) and

then activate the  (LEFT arrow) until  
you reach the place you want to insert a  
word

Dear Jane,  
I am writing to thank for the good  
time I had at your party. |

Type the word you want to insert

Dear Jane,  
I am writing to thank you for the good  
time I had at your party. |

Use  | **ux**

to delete word, characters, icons or the last selection.

## Editing Text

## Move the Cursor Around on the Display With -, =, + and [

---

If you want to edit text, you need to be able to move the cursor around on the display. In the Liberator, you move the cursor with the Arrow tools. Each time an Arrow is activated, the cursor moves in the direction of the arrow.

If you activate - or =, the cursor moves one character to the right or left. Similarly, activating + or [ moves the cursor one line up or down. When you move the cursor through text, the cursor flashes on each character that you move to.

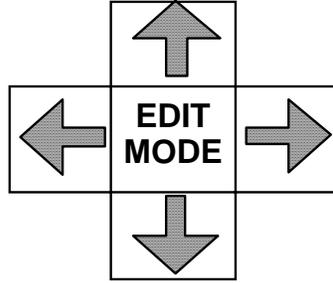
Once you have moved the cursor into the text on the display, you can add to the text by spelling or retrieving stored messages in Minspeak. The messages that you add to the display will appear directly in **front** of the cursor.

In a similar manner you can delete characters from the display by moving the cursor to the text that you want to delete and then activating DELETE CHARACTER. Each time DELETE CHARACTER is activated, the character to the **left (or in front of )** of the cursor will be erased.

Turn the page to see how you can move through the text in the Notebook or Workspace in bigger steps.

### **pNote:**

If you are using Word Prediction, the Arrow keys share the same location as the Word Prediction Selector keys. Turn Word Prediction **OFF** in order to use the keys as regular Arrow keys. (This is true for all editing tools on the sample overlay.)



EDIT MODE	Mode	 	 
Do not activate	Normal	Moves cursor one character left or right	Moves cursor one line up or down
Activate 1 time	 WORD   SCREEN 	Moves cursor one word left or right	Moves cursor one screen up or down
Activate 2 times	 SENTENCE   START/END 	Moves cursor one sentence left or right	  moves cursor to top or bottom of current session;   or   moves to top or bottom of Notebook or Workspace
Activate 3 times	 PARAGRAPH   BOOKMARK 	Moves cursor to each paragraph	Moves cursor to each bookmark <b>(Must be set in EDIT MENU )</b>
Activate 4 times	 SEARCH   REPLACE  <b>(Must be set in EDIT MENU )</b>	Moves cursor to each instance of the search word	Moves cursor to each instance of word to be replaced

## The Arrow Keys and EDIT MODE

## Use EDIT MODE to Move Arrows through Text in Different Ways

---

### Summary:

EDIT MODE determines how the Arrows move through text. You can choose to move by WORD (left or right) or SCREEN (up or down), by SENTENCE (left or right) or by START/END (up or down), by PARAGRAPH (left or right) or by BOOKMARK (up or down), by SEARCH (left or right) or by REPLACE (up or down).

---

The *distance* that the cursor moves is determined by the EDIT MODE tool. The Liberator has a number of editing modes. The normal mode is the distance that the cursor moves if EDIT MODE is **not** activated before an Arrow is activated. The cursor moves character by character or line by line (explained on the previous page).

If you activate the EDIT MODE Tool once, the bottom line of the display tells you that you are in the WORD/SCREEN mode. If you activate - or = the cursor moves one *word* to the left or right. Activating + or [ moves the cursor one *screen* up or down.

If you activate the EDIT MODE again, you are in the SENTENCE START/END mode. Activate - or = to move the cursor one sentence to the left or right (or, if you are within a sentence, to the end or beginning of the sentence). Activate + to move the cursor to the beginning of the current session. Activate + again to move the cursor to the beginning of the Workspace or Notebook. Activate [ to move the cursor to the end of the Workspace or Notebook.

Activate EDIT MODE again and you are in the PARAGRAPH/BOOKMARK mode. Activate - or = to move the cursor from paragraph to paragraph. Activate + or [ to move between any bookmarks you have set. (Bookmarks are explained on page 85).

Activate EDIT MODE again and you are in SEARCH/REPLACE mode. Activate - or = to search for a word you want to replace. Activate + or [ to replace a word with a new one.

Each edit mode remains active only as long as you are moving an arrow. As soon as you activate a different tool or key, you return to normal editing mode.

## Delete Words to the Right or Left of the Cursor

Dear Jane,  
I am writing to thank you for the good  
time I had at your party. I never knew  
that | John was such a story-teller

Activate { [DELETE WORD] on your overlay

Dear Jane,  
I am writing to thank you for the good  
time I had at your party. I never knew |  
John was such a story-teller

When the cursor is **between** two words,  
the word to the **left** of the cursor is deleted.

Dear Jane,  
I am writing to thank you for the good  
time I had at your party. I never knew  
that | John was such a story-teller

Activate { [DELETE WORD] on your overlay

Dear Jane,  
I am writing to thank you for the good  
time I had at your party. I never knew  
| John was such a story-teller

When the cursor is **within** a word, that word is  
deleted. The cursor moves to the beginning  
of the following word.

## Deleting Words to the Right or Left

## Delete Words to the Right or Left of the Cursor

---

### Summary:

If the cursor is at a space when you activate DELETE WORD, the word to the left of the cursor is deleted. This allows you to delete words to the left. If the cursor is within a word when you activate DELETE WORD, that word is deleted and the cursor ends up on the first letter of the following word. This allows you to delete words to the right.

---

The Liberator gives you the option of deleting words forward or backward on the display. Deleting words forward means that you are deleting words to the right. Deleting words backward means that you are deleting words to the left. If you activate DELETE WORD when you are at the end of the Workspace, you delete backward.

If you are editing text and want to **delete backward (left)**, move the cursor to the **space following the word** you want to delete. Activate DELETE WORD. The word to the left of the cursor will be deleted and the cursor will again appear on the space between the two words. Each time DELETE WORD is activated, the word to the left of the cursor is deleted.

On the other hand if you want to **delete forward (right)**, move the cursor to a **character within the word** and activate DELETE WORD. The word containing the cursor is deleted and the cursor ends up on the first letter of the following word. Each time DELETE WORD is activated, the word containing the cursor is deleted and the cursor ends up on the first letter of the following word.

## Highlighting Text

Move the cursor to the **beginning** of the text that you want to highlight.

cursor → Dear Jane,  
I am writing to thank you for the great  
party. The food was so good and who knew  
John was such a good  
story teller.

Activate

BLOCK  
MARK

Move the cursor to the **end** of the text that you want to highlight.

Dear Jane,  
I am writing to thank you for the great  
party. The food was so good and who knew  
John was such a good story teller.

Activate

BLOCK  
MARK

Dear Jane,  
I am writing to thank you for the great  
party. The food was so good and who knew  
John was such a good story teller.

## Highlighting Text

## **Highlight Text With BLOCK MARK**

---

### **Summary:**

You can highlight a block of text by moving the cursor to the text that you want to mark, activating BLOCK MARK, moving the cursor to the end of the text to be marked, and then activating BLOCK MARK again.

---

If you want to delete a large chunk of text, copy text from one place to another or move a word or sentence to another place in the Workspace or Notebook, you must first highlight the text that you want to delete or move.

### **To Highlight Text:**

1. Use the Arrows to move the cursor to the beginning of the text you want to highlight.
2. Activate BLOCK MARK [N3]. This tells the Liberator that you are ready to mark a block of text.
3. Move the cursor to the end of the text that you want to highlight. As you move the cursor, all characters that you pass over will become highlighted. Move the cursor until all the text that you want to move is highlighted.
4. Activate BLOCK MARK again. This time you are telling the Liberator that you are finished marking the block. You can now move your cursor around on the display without affecting the highlighted text.

In the next few pages you will learn to move, copy and delete the block of text that you marked.

## Copy Text and Paste it Somewhere Else

1. Mark the block of text that you want to copy.  
Use the BLOCK MARK tool.

We were referred to the Department of  
Bureaucratic Technospeak. When we arrived  
at the government building we had to speak  
to the Undersecretary of the

2. Open the EDIT MENU
3. Activate option #1 to **copy** the text.

We were referred to the Department of  
Bureaucratic Technospeak. When we arrived  
at the government building we had to speak  
to the Undersecretary of the |

4. Place cursor where you want to paste the copied text.
5. Open the EDIT MENU again and activate option #3 to **paste** the text.

We were referred to the Department of  
Bureaucratic Technospeak. When we arrived  
at the governmen building we had to speak  
to the Undersecretary of the Department  
of Bureaucratic Technospeak

6. Copied text is pasted in where cursor was.

## Copy Highlighted Text

## Copy Highlighted Text

---

When you open the EDIT MENU (either on your overlay or in the Toolbox), option # 1 allows you to copy highlighted text from a Notebook or workspace. The Liberator can hold one item of copied text at a time. You can paste the same item any number of times.

When you highlight and copy a block of text, the block is not cut from the original text, it is just copied. Let's say you have to write a paper that contains a long name that is repeated over and over in the paper (e.g., "The Department of Bureaucratic Techno-Speak"). Instead of typing out the name each time, you can type it once the first time you mention it in your paper, highlight and copy it, and then paste it into your paper wherever it is needed.

### **To Highlight and Copy a Block of Text:**

1. Place the cursor at the beginning of the text you want to copy.
2. Activate BLOCK MARK.
3. Move the cursor to the end of the text that you want to copy. As you move the cursor, the text should be highlighted.
4. Activate BLOCK MARK.
5. Activate EDIT MENU.
6. Activate option #1. The text is copied and the Liberator automatically exits the menu.

### **To Paste the Text into the Document:**

1. Place the cursor where you want your copied text to go.
2. Open the EDIT MENU.
3. Activate option #3. The Liberator automatically exits the menu.
4. The text is pasted into the document.

To 'unhighlight' any text, activate BLOCK MARK **twice**.

## Cut Highlighted Text

1. Mark the block of text you want to cut.

We were referred to the Derpartment of  
Bureaucratic Technospeak When we arrived at  
the government building we had to speak to the  
Undersecretary of the Department of  
Bureaucratic Technospeak.

2. Open the EDIT MENU.
3. Activate option #2 (Cut)

When we arrived at the government building we  
had to speak to the Undersecretary of the  
Department of Bureaucratic Technospeak.

4. Text is deleted from the screen.

Cut Highlighted Text

## Cut the Highlighted Text

---

Option #2 in the EDIT MENU allows you to cut (delete) a block of highlighted text from your Notebook or workspace and paste it somewhere else. You can paste a cut item as many places as you want. A cut item remains in the cut buffer until you cut or copy a new item of text.

If you have written a paper and you decide that paragraph four is not necessary, or perhaps would sound much better if it were paragraph one, you could cut paragraph four altogether. Or, you could cut it and then paste it in as paragraph one.

### To Highlight and Cut a Block of Text:

1. Place the cursor at the beginning of the text you want to cut.
2. Activate BLOCK MARK.
3. Move the cursor to the end of the text that you want to cut.. As you move the cursor, the text should be highlighted.
4. Activate BLOCK MARK.
5. Activate EDIT MENU.
6. Activate option #2. The text is cut and the Liberator automatically exits from the menu.

### To Paste Cut Text into the Document:

1. Place the cursor where you want the cut text to go.
2. Open the EDIT MENU.
3. Activate option #3.
4. The text appears where you want it on the display.

### **pNote:**

To 'unhighlight' the text, activate BLOCK MARK **twice**.

## Search and Replace

Open the EDIT MENU.  
Activate option #4 (Search and Replace Operations)

```
----- Search and Replace (Screen 1)-----  
1. Search: No Search Item Entered!  
2. Replace: No Replace Item Entered!  
3. Swap Search and Replace Items  
4. Confirm Replacements: No  
5. Exit 6.Final Screen 7. Next Screen  
Select Search and Replace Operation or Exit
```

**For example: Activate #1 on Screen 1**

bunnies

Edit Search Item (hit CLEAR DISPLAY to  
start fresh) then activate ENTER.

Type in item to search for and activate ENTER

Then, activate option #2

rabbits

Edit Replace Item (hit CLEAR DISPLAY to  
start fresh) then activate ENTER.

Type in replacement item and activate ENTER

Activate #5 to exit menu.

### TO BEGIN A SEARCH

Activate EDIT MODE until you see  
Edit Mode = SEARCH REPLACE 

## Search and Replace Operations

# Search and Replace Operations

---

The Liberator will look for a word in your text and replace it with another word.

1. Open the EDIT MENU
2. Activate #4 (Search and Replace Operations).

## Search and Replace Options (Screen 1)

### **Search = No Search Item Entered!**

Activate this option when you want the Liberator to search for a word. Type the word onto the display and activate ENTER. On the display, "No Search Item Entered!" will be replaced with the word you just entered.

### **Replace: No Replace Item Entered**

Activate this option if you want the Liberator to replace the "search" word with another word. Type the replacement word onto the display and activate ENTER. On the display, "NoReplacement Item Entered" will be replaced with the word you just entered.

### **Swap Search and Replace Item: No**

Activate this option if you make some replacements and then decide you would rather have the originals back. The Liberator will swap the replacement word for the original word.

### **Confirm Replacements: No**

If you set this to Yes, the Liberator will ask you each time it comes to a search item if you want to replace it. Activate "Y" (yes) or "N" (No). The search item will be highlighted.

After you select the parameters in the EDIT MENU, you must activate EDIT MODE until you see "Edit Mode = SEARCH REPLACE" on the bottom of the display. Use the arrow keys to search your text.

## Search and Replace (screen 2)

```
----- Search and Replace (Screen 2)-----  
1. Case Sensitive Search/Replace; No  
2. Replace All Occurrences of Search Item  
  
5. Exit 6.Final Screen 7. Next Screen  
Select Search and Replace Operation or Exit
```

If you change option #1 to YES you can match capital and lower case letters in the search items:

If you activate option #2, the Liberator will automatically replace your search item with your replace item.

### TO BEGIN A SEARCH

Activate EDIT MODE until you see  
Edit Mode = SEARCH REPLACE 

## Search and Replace Options (Screen 2)

## Search and Replace Options (Screen 2)

### Case Sensitive Search/Replace: No

If you set this to Yes, the Liberator will look for an exact match of UPPER and lower case letters during a search. If this is set to NO, the Liberator won't look for a match; that is, a small "a" and a capital "A" will look the same to the Liberator.

### Remember

Set **EDIT MODE** to =SEARCH- + REPLACE[ after you select your options and exit the EDIT MENU. Begin the search by activating the left (=) or the right (-) arrow. When the word you want to replace is highlighted, activate the up (+) or down (I) arrow to replace the word. If you set "Confirm Replacements to YES, you will have to active "Y" for the replacement to take place.

### Replace All Occurrences of Search Item

If you activate this option, the Liberator will search from the beginning of the current Notebook or workspace for the search item. If you have **Confirm Replacements On**, it will ask you if you want it to replace the highlighted word. If **Confirm Replacements** is Off, the Liberator will automatically replace the Search word with the Replace word.

**pNote:** If you select this option (Replace All Occurences of the Search Item), you **do not** have to activate EDIT MODE.

## Bookmark Operations

**Make sure you are in a Notebook.**

Move the cursor to where you want to set a bookmark.

Open the EDIT MENU. Go to screen 2.

Activate option #1.

```
----- Bookmark Operations (Screen 1)-----
```

1. Set Bookmark 1
2. Set Bookmark 2
3. Jump to Bookmark 1
4. Jump to Bookmark 2
5. Exit 6.Final Screen 7. Next Screen

```
      Select Bookmark Operation or Exit
```

Activate #1 to set your bookmark (where you put the cursor).

If you want a second bookmark, return to your Notebook. Move the cursor where you want the second bookmark to go.

Return to the EDIT MENU and activate "Set Bookmark 2"

Use the "jump" options (#3 and #4 and #1 on screen2) to move between your bookmarks.

## Book Mark Operations

# Bookmark Operations

---

Bookmarks can only be used when you are in a Notebook.

Bookmarks are electronic markers you can use to save your place in a Notebook. You can use one or two bookmarks and jump between them if you wish. Bookmarks are saved when a Notebook is closed and restored when it is re-opened.

1. Open the EDIT MENU.
2. Activate #7 (Next Screen).
3. Activate #1 (Bookmark Operations)

## Bookmark Operations (Screen 1)

### Set Bookmark 1

When you activate this option, Bookmark 1 is set to the *present location of the cursor*. You can move the cursor wherever you want to set the first bookmark. (If you are not in a Notebook, you will hear the error beep and no marker will be set.)

### Set Bookmark 2

When you activate this option, Bookmark 2 is set to the *present location of the cursor*. You can move the cursor wherever you want to set the second bookmark. (If you are not in a Notebook, you will hear the error beep and no marker will be set.)

### Jump to Bookmark 1

When you activate this option, the cursor on the display jumps to wherever you set your first bookmark.

### Jump to Bookmark 2

When you activate this option, the cursor on the display jumps to wherever you set your second bookmark.

### Jump to Next Bookmark

When you activate this option the Liberator will jump between your two bookmarks; that is, if you last jumped to bookmark 2 and you activate this option, the Liberator will go to Bookmark 1; if you activate it again, it will jump to Bookmark 2, etc.

## Set Edit Mode

```
----- Edit Menu (Screen 2)-----  
1. Bookmark Operations  
2. Set Edit Mode  
3. Classic Block Operations.  
  
5. Exit 6.Prev Screen 7. First Screen  
  
Select Editing Operation or Exit
```

Activate option #2.

Select the Edit Mode you want.

The Liberator returns you to the workspace.

Use the edit mode as you normally would.

## Set Edit Mode

## **SET EDIT MODE Directly from the Menu Instead of Activating the EDIT MODE Key**

---

Set Edit Mode (option #2, screen 2 of the EDIT MENU) allows you to select the edit mode you want without activating the EDIT MODE key.

For example, if you want to use search/replace but don't want to activate the EDIT MODE key four times, you could open the EDIT MENU and set the option #2 to search/replace.

Also, if for some reason you need an extra key on your overlay, you can use SET EDIT MODE from the EDIT MODE menu and delete EDIT MODE from the key where it is assigned.

## Classic Block Operations

### Copy

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. never knew that John  
was such a story-teller.

Highlight the text that you want to  
copy. Use BLOCK MARK.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. never knew that John  
was such a story-teller. █

Move the cursor to where you want the text to go.

### Liberator II software:

Open the EDIT MENU and select 'Classic Block Operations'  
Activate 'Copy Marked Block Directly to Cursor'.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. I never knew that John  
was such a story-teller. The food was great. █

## Classic Block Operations

## **Classic Block Operations**

---

Menu Selection 3 on Screen 2 of the EDIT MENU is CLASSIC BLOCK OPERATIONS. This refers to the editing operations that are available in pre-Liberator II software. "Classic Block Operations" preserves the old EDIT MENU format.

If you have the old EDIT MENU on your overlay, you can either leave it in place or replace it with the new EDIT MENU.

If you don't have the old EDIT MENU on your overlay but would prefer to have it instead of the new one, you can assign BLOCK MENU to a key or icon sequence. When you assign BLOCK MENU, you must pick it from the Tools menu that you see after you activate FUNCTION INSERT and begin to spell 'Block'.

The next few pages briefly describe "Classic Block Operations.'

## Classic Block Operations

### Copy

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. I never knew that John  
was such a story-teller.

Highlight the text that you want to  
copy. Use BLOCK MARK.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. I never knew that John was  
such a story-teller. |

Move the cursor to where you want the text to go.

### Liberator II software:

Open the EDIT MENU and select 'Classic Block Operations'

Activate 'Copy Marked Block Directly to Cursor'.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party. The food was  
great. I never knew that John was such a  
story-teller. The food was great. |

## Copying a Block of Text—Classic

## Classic Block Operations: Copy a Block of Highlighted Text

---

You can copy a sentence or other block of text to another place in the Workspace or Notebook. When you copy a block of text, it is **not** removed from its original location, but is duplicated at the place that you choose.

### To Copy a Block of Text:

1. Highlight the portion of text that you want to copy. Use BLOCK MARK.
2. Move the cursor to the place where you want to insert the highlighted text.
3. Activate EDIT MENU, select Classic Block Operations and then choose option #3 in the Block Operations Menu.

When you activate BLOCK MARK to start highlighting another block of text, the previously highlighted text will return to normal text. If you want to "unhighlight" some highlighted text, you can activate BLOCK MARK twice without moving the cursor.

### Note:

See the **CALCULATOR** chapter in this manual for information about copying a problem from the Notebook into the Calculator and for information about inserting an answer from the Calculator into the Notebook.

See the **SCRATCHPAD** chapter in this manual for information about copying a problem from the Scratchpad into a Notebook.

If you have highlighted a block of text you can activate SPEAK LAST SELECTION and the Liberator will speak the highlighted text.

## Classic Block Operations

### Move

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. never knew that John  
was such a story-teller.

Highlight the text that you want to  
copy. Use BLOCK MARK.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. | never knew that John was  
such a story-teller.

Move the cursor to where you want the text to go.

### Liberator II software:

Open the EDIT MENU and select 'Classic Block Operations'.  
Activate 'Move Marked Block Directly to Cursor'.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party. I never knew  
that John was such a story-teller. The food  
was great. |

## Moving a Block of Text—Classic

## **Classic Block Operations: Move a Block of Highlighted Text**

---

You can move a sentence or other block of text to another place in the Workspace or Notebook. When you move a block of text, it is removed from its original location and inserted at the place that you choose.

### **To Move a Block of Text:**

1. Highlight the portion of text that you want to move. Use BLOCK MARK.
2. Move the cursor to the place where you want to insert the highlighted text.
3. Activate EDIT MENU and choose 'Classic Block Operations'. Then select option #2 (Move Marked Block Directly to Cursor). The text will appear directly in front of the cursor.

When you activate BLOCK MARK to start highlighting another block of text, the previously highlighted text will return to normal text. If you want to "unhighlight" some highlighted text, you can activate BLOCK MARK twice without moving the cursor.

## Classic Block Operations

### Delete

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. I never knew that John  
was such a story-teller.

>

Highlight the text that you want to delete. Use BLOCK MARK.

### Liberator II software:

Open the EDIT MENU and select 'Classic Block Operations'.

Activate 'Delete Block '.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party. I never knew  
that John was such a story-teller.

>

## Deleting a Block of Text—Classic

## **Classic Block Operations: Delete a Block of Highlighted Text**

---

'Delete Block' lets you erase large chunks of text.

### **To Delete a Block of Text:**

1. Use BLOCK MARK to highlight the portion of text that you want to delete.
2. Activate EDIT MENU, choose "Classic Block Operations" and then activate 'Delete Block'.

## Store Text that is Already On Your Display

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party.  
The food was great. I never knew that John  
was such a story-teller.

|>

|

Use BLOCK MARK to highlight the text that you want to store.

Activate STORE.

Answer YES if you want to store the text,  
or NO if you decide not to.

Make any changes in the text you want to, then  
activate STORE. If you don't want to make  
changes just activate STORE.

Select the icon sequence you want to use.

Activate ENTER.

Dear Jane,  
I am writing to thank you for the good  
time we all had at your party. The food was  
great. I never knew that John was such a  
story-teller.

|>

|

## Storing Text that is Already on your Display

## **With the Editing Keys, You Can Decide to Store a Message *After* You Spell It**

---

### **Summary:**

Sometimes when you are speaking to someone, you may spell a message as a response to a question. After you spell the message you decide that this is one that you could use in other situations and you would like to store it.

---

### **To Store Text that is Already On Your Display:**

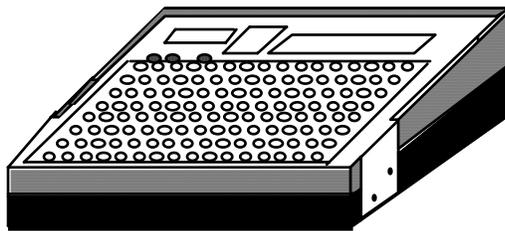
1. Use BLOCK MARK to highlight the portion of text that you want to store
2. Activate STORE. The display asks you if you want to store the highlighted text.
3. Answer YES. The display shows the text that is highlighted and tells you to spell the text you want to store, then activate STORE. This gives you an opportunity to add to or delete from the selection or to include punctuation, capitalization, etc. When you are finished activate STORE. If you don't want to change anything just activate STORE.
4. Select an icon sequence.
5. Activate ENTER.

## SPEAK SENTENCE

I can speak complete sentences using SPEAK  
DISPLAY. But I only want to hear |

Activate:

SPEAK  
SENTENCE



BUT I ONLY WANT  
TO HEAR

**SPEAK SENTENCE** speaks the text where the  
cursor is on the display.

Speak the Text Where the Cursor is  
on the Display

## You Can Activate SPEAK SENTENCE to Hear How the Sentence You are Working On Sounds

---

### Summary:

Activating SPEAK SENTENCE allows you to hear how a sentence you are writing sounds. SPEAK SENTENCE works in both Spelling and Minspeak. It also works with the speech turned ON or OFF.

---

SPEAK SENTENCE is another tool for use in editing and/or testing your speech. SPEAK SENTENCE, [A5] in the Toolbox, allows you to hear either part of a message or the whole message on your display. Essentially, wherever the cursor is when you activate SPEAK SENTENCE is what you will hear.

With SPEAK SENTENCE you can make an easy check on the Liberator's pronunciation of a word no matter where the cursor is in the sentence; or you can use it to repeat a particular part of a paragraph without having to speak the entire paragraph.

SPEAK SENTENCE will work whether the speech is turned ON or OFF.

If you find that you use SPEAK SENTENCE often you can move it to your custom overlay (see **PERSONALIZING YOUR OVERLAY** in the *Setting Up* manual).

## Print Part of a Notebook

The sum of two vectors can be found by adding the coordinates of the two vectors or by drawing both vectors from a common vertex and then completing a parallelogram.

The first method can

Use BLOCK MARK to highlight the part of the Notebook that you want to print.

Activate the PRINT key in the Toolbox [E4].

### **Note:**

The tools, PRINT and PRINT LAST SELECTION can also be stored under icon sequences or moved to keys on your overlay. Use FUNCTION INSERT and spell "pr" to see the tools menu.

## Print Part of a Notebook

## Print Part of a Notebook

---

Earlier you learned that you can open the NOTEBOOK MENU and select 'Print' to print all of a Notebook. You can also print part of a Notebook by highlighting the text you want to print.

### To Print Part of a Notebook:

1. Use BLOCK MARK to highlight the part of the text that you want to print.
3. Activate PRINT [E1] in the Toolbox. The display asks you if you want to print the highlighted text.
4. Answer YES. The Liberator prints the highlighted text.

If you are connected to a printer, the Liberator will send the material to that printer.

The tools, PRINT and PRINT LAST SELECTION can be stored under an icon sequence or assigned to keys on your overlay. Use FUNCTION INSERT and spell 'pr' to select the tools from the list of all tools.

### **p**Note:

To **test** that the Liberator's printer is working, activate <CTRL><ALT> and then **hold** the PRINT key. To **feed paper** through the printer without printing anything, activate ALT and then **hold** PRINT . To put a new roll of paper in the printer see the **TUTORIAL** manual.

## Erase the Workspace

- 1 - Activate CLEAR DISPLAY
- 2 - Activate BLOCK MARK
- 3 - Activate EDIT MODE *twice*
- 4 - Activate  *twice*
- 5 - Activate BLOCK MARK
- 6 - Activate EDIT MENU
- 7 - Go to Screen 2
- 8 - Activate # 3
- 9 - Activate #4 (Delete Block)

Erase the Workspace

## **Erasing the Contents of the Workspace**

---

There may be times when you want to erase the contents of the Workspace. The most obvious reason might be that someone else will be using your Liberator. Remember that other users, even if they use a different user Area, can use the Arrows to move up in the Workspace and look at the last 2000 characters that you put on the display.

Whatever the reason, you can erase the contents of the Workspace by following the steps below. If you are familiar with the editing features you will notice that in steps 2-5 you highlight the entire contents of the Workspace.

### **To Erase the Workspace:**

1. Activate CLEAR DISPLAY. (Puts you at the end of the Workspace.)
2. Activate BLOCK MARK. (Starts marking the Workspace.)
3. Activate EDIT MODE **twice**. (Puts you in the START/END edit mode.)
4. Activate + **twice**. (Moves you to the beginning of the Workspace.)
5. Activate BLOCK MARK. (Complete marking the Workspace.)
6. Activate EDIT MENU. (Opens the EDIT MENU.)
7. Activate #7 to go to Screen 2.
8. Activate #3 (Classic Block Operations).
9. Activate #4 (Delete Block).



## Using Minserts

## Fill in the Blanks with Minserts

Good morning \_\_\_\_\_, how are you?

John  
Carol  
Mr. Patterson  
Dr. Gerber  
Aunt Sylvia

I hope we go \_\_\_\_\_ tonight.

shopping  
to the concert  
to town  
home

$$4 + \underline{\quad} = \underline{\quad}$$

2	6
12	16
8	12
0	4

Fill in the Blanks with a Minsert

## **Minserts Can Make Messages Much More Flexible**

---

### **Summary:**

Minserts allow you to put "blanks" into a message that you will fill in when you speak the message. This allows you to have many variations of a particular message with minimum storing.

---

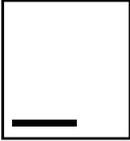
Minserts are blanks that are put into messages while the message is being stored. Later, when you recall the message, the Liberator allows you to fill in the blanks. In this way, Minserts allow you to have one message that can be used in a variety of situations.

For example, consider the question, "Good morning, how are you?" Although this message is functional, consider the personal touch in saying "Good morning *John*, how are you?" or "Good morning *Aunt Sylvia*, how are you?" While it is not possible to store a personal greeting to all the people you could possibly meet, Minserts allow you to insert a name into a more generic greeting.

In addition to giving a personal touch to messages, Minserts also allow you to store fewer messages while having access to many more. The following message could be stored. "I would like to \_\_\_\_ tonight." Later, the blank could be replaced with "go shopping," "stay home," "go to church," "eat at Ponderosa" or any number of other messages. You may use any number of Minserts you want in each stored sequence.

Hi \_

Spell Text to Store - Then select ENTER

Activate  **or**  MINSERT

on your sample overlay in the Toolbox

Hi, <MINSERT>

Spell Text to Store - Then select ENTER

Complete the rest of the message.

Hi, <MINSERT>, how's it going? \_

Spell Text to Store - Then select ENTER

Activate ENTER and finish storing the message.

## Create a "Short" Minsert

## **Minserts are Put into Messages when You Store the Messages**

---

### **Summary:**

When you store a message that contains a Minsert, activate MINSERT whenever you get to a place in the message where you want a Minsert to appear.

---

If you wish to store messages with Minserts, you go to the Toolbox and activate STORE, select FUNCTION INSERT, spell " m i" and then select MINSERT from the menu. Or you can add the MINSERT tool to your overlay if it is not already there. On the sample overlay MINSERT is at location [M1].

A "short" Minsert is one in which you activate only one sequence or one word when you 'fill in the blank' during retrieval of your message.

When storing a message with 'short' Minserts, start the storage process just like you store any other message. After activating STORE, you spell the message. When you get to a place in the message where you want a Minsert, simply activate MINSERT. You will see the word MINSERT between two brackets. This Minsert indicator appears in the message exactly in the place where you will insert text later. Therefore, put a space and/or punctuation around it the same way you would around a word.

After activating MINSERT, spell the rest of the message that you are storing. If you want to add a second Minsert, activate MINSERT when you get to the next place in the message where you want a Minsert.

When you have finished spelling the message, continue the steps that you normally follow to store a message. If you activate SPEAK LAST SELECTION before activating ENTER, the Liberator will speak the message you are storing but will pause slightly at each Minsert. Later, when you recall the message, you will replace the pauses with text.

## Fill in the Minsert

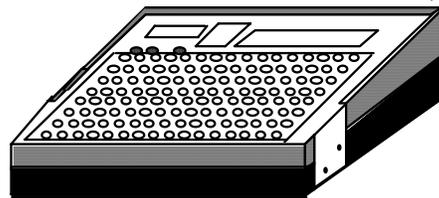
Hi, <l>, how's it going?

INTERJ QUESTION

**Recall a sequence or spell new text  
to fill in the Minsert**

Hi, Sue, how's it going?

NAME GIRL



HI, SUE,  
HOW'S IT GOING ?

**Recall a Message or Spell Text  
to Fill in the Minsert**

## Use "Short" Minserts to "Fill in the Blanks" in your Message

---

### Summary:

Replace Minserts with text by retrieving one sequence or spelling a word or phrase.

---

When you retrieve a message that has a Minsert in it, the message appears on the display, as usual, but it won't be spoken right away. Instead, you will see the number "1" between two brackets. This is to remind you that you must spell or retrieve text to fill in the first Minsert. You have two choices for filling a "short" Minsert: retrieve a sequence or spell new text.

**Retrieving a Sequence:** You are allowed to retrieve one sequence to take the place of a Minsert. After you retrieve the sequence, the contents of the sequence takes the place of the Minsert. The next Minsert (if there is one) will be visible. After you fill all the Minserts, the Liberator speaks the message (if the speech is on). For example, suppose you stored the message "Hi, <MINSERT>, how's it going?" If you retrieve this message, it will appear on the display with the number "1" between the two brackets where you stored the Minsert. Suppose you have the name "Sue" stored under the sequence **NAME GIRL**. If you activate this sequence, "Sue" will take the place of the Minsert. When all the Minserts are filled in, the Liberator speaks your message.

**Spelling:** This means you spell the word you want to replace the Minsert instead of activating a sequence. Spelling is enhanced when Auto-Spell is turned On (in the FEEDBACK menu).

### Spelling with Auto-Spell On:

1. Recall the message that contains the Minsert.
2. Spell the word you want to replace the Minsert.
3. Activate a space.

### To Spell a Word with Auto-Spell Turned Off:

1. Recall the message that contains the Minsert.
2. Activate SPELL/MINSPEAK.
3. Spell the word you want to replace the Minsert.
4. Activate a space.
5. Activate MINSERT.
6. Activate SPELL/MINSPEAK.

You can choose to put nothing into a Minsert by activating ENTER instead of spelling or retrieving text.

**To STORE a Long Minsert:**

Bonnie's Grocery List:

Activate **ALT** \_

on your sample overlay

Bonnie's Grocery List:<ALT><MINSERT>

Spell text to store-then select STORE

Activate STORE then select a sequence.

---

**To Retrieve a Long Minsert:**

Bonnie's Grocery List: <1>.

Activate any keys or sequences where you have stored the names of items you want on your list.

Bonnie's Grocery List: tomato .

APPLE APPLE STOP

When you are finished, activate: \_

## Storing and Retrieving "Long" Minserts

## Storing and Retrieving 'Long' Minserts

---

### Summary:

For a "long" Minsert you will be activating more than one sequence or spelling more than one word to "fill in the blank".

---

Let's say someone is going to the grocery store and you want them to bring you some things. And let's say you have a number of food items stored in your Liberator under various sequences. You'll want some of those food items to be on your grocery list. It's easy to make a grocery list using a "long" Minsert.

You might want to start by storing, "Bonnie's Grocery List: " and after that you will list what you want. You can insert the food items you already have stored in your Liberator by using a MINSERT. However, since you will be activating a number of sequences to retrieve your grocery list (all those keys where you have "milk," "hot dogs," "oranges," "prunes," etc., stored) you will have to tell the Liberator that you are going to use a "long" Minsert. Activate <ALT><MINSERT> when you come to a place where you want to put a "long" Minsert. (Do not put a space between <ALT> and <MINSERT>.) Finish the storing process as usual.

When the time comes to tell your friend your grocery list, activate the sequence where you stored your message with the "grocery list" Minsert. Activate the sequence for each of the items you want on your list. When you have finished your list, activate MINSERT. The Liberator will speak your list.

Remember that you can also switch to Spelling and spell items that you don't have stored in your Liberator.

Activate **STORE**

Type the message up to the Minsert. e.g., Hi,

Activate:

<b>FUNCT. INSERT</b>	<b>I</b>
1	1
<b>N</b>	<b>a</b>
NAME	NOUN
<b>CTRL</b>	
CONTROL	LEFT ARROW
<b>ENTER</b>	
ENTER	MINSERT

Hi, <CONTROL><DEL-ICON><ICON (NAME)>  
<ICON (NOUN)><CONTROL><LEFT><MINSERT>

Finish typing the message. Activate **STORE**.  
Select an icon sequence. Activate **ENTER**

## Stuff a Minsert With **More Than One** Icon

## **"Stuffing" a Minsert With More Than One Icon**

---

### **Summary:**

When the same icons are always used with a Minsert, you can store them with the message. This cuts down on key activations.

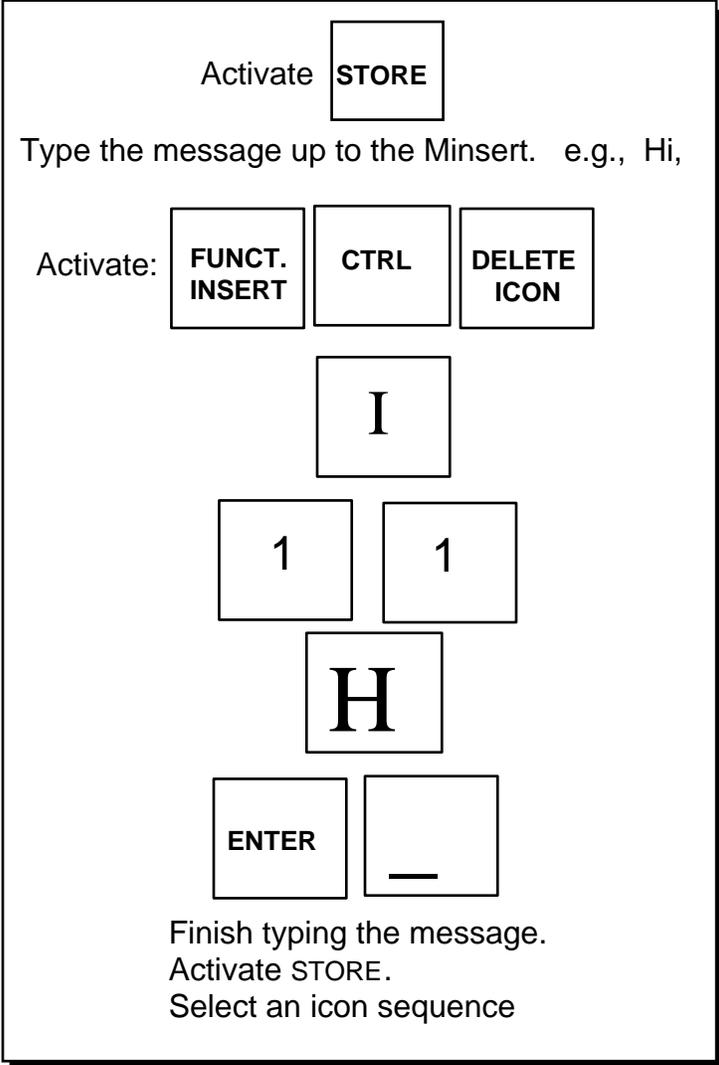
---

Some MAPs, like Unity and Words Strategy, organize vocabulary by category or theme. For example, in Unity, you may store all of the names of people you know under three icon sequences beginning with NAME and ending with NOUN. The middle icon represents the person's name. To use a Minsert in the sentence, "Hi, <MINSERT>, how's it going?" you would have to activate the sequence where the Minsert is stored, then you would have to activate the three icon sequence where the person's name is stored in order to insert it into the Minsert. That's a lot of activations!

However, since the "Hi, <MINSERT>, how's it going?" message is one where you are always going to be filling in the blank with a person's name, there is a way to store this message so that the icons NAME and NOUN with the cursor between them are stored **with** the sentence. Then when you recall the message, all you have to do is activate the icon that identifies the person. You are "stuffing" the Minsert with icons that are always the same for a particular message so you won't have to activate them later.

### **To Stuff a Minsert with More than One Icon**

1. Activate **STORE**
2. Begin to spell the frame sentence, "Hi,
3. Activate **FUNCTION INSERT**
4. Activate the "i" key for **ICON**
5. Select 1 (Icon)
6. Select 1 (Activate Assigned Icon)
7. Activate the icon, **NAME**
8. Activate the icon, **NOUN**
9. Follow the prompts and use **CONTROL LEFT ARROW** to move the cursor **between** NAME and NOUN
10. Activate **ENTER**
11. Activate **MINSERT**
12. Type the rest of the message, "how's it going?"
13. Activate **STORE**. Select a sequence. Activate **ENTER**.



**Stuff a Minsert With Only One Icon**

## "Stuffing" a Minsert With Only One Icon

---

### Summary:

If you are only going to stuff one icon into a Minsert, you must clear the icon buffer before you can insert the icon. Clear the buffer by activating **FUNCTION INSERT, CONTROL** and **DELETE ICON**.

---

When you stuffed **NAME** and **NOUN** (or any icons) into your Minsert message, you may have noticed that the functions **CONTROL** and **DELETE ICON** appeared on your display. If you are inserting **two or more** icons using the **ICON** tool or the **CONTROL-ARROW** tool, the Liberator automatically inserts the functions **CONTROL** and **DELETE ICON** before it does anything else. This automatically clears out the icon buffer so that any icons which were there from before will not interfere with your new message.

If you are only going to insert **one** icon, however, the Liberator does not automatically clear the icon buffer, you must tell it to do so. This means you have to insert the **CONTROL** and **DELETE ICON** functions yourself before you activate the **ICON** function.

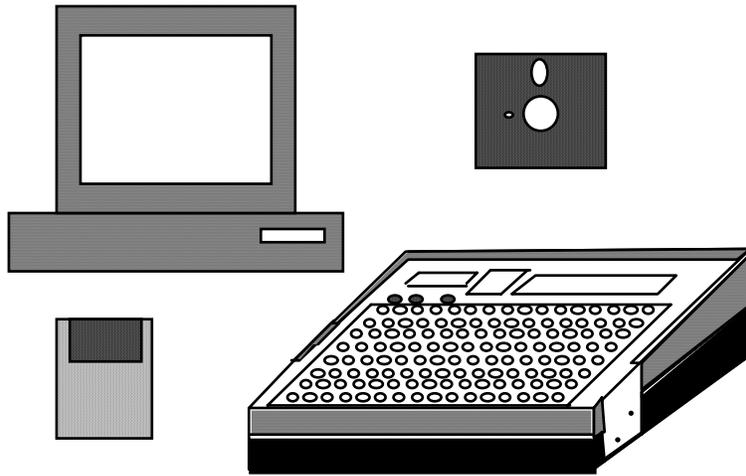
### To Stuff a Minsert with Only One Icon

1. Activate **STORE**
2. Begin spelling the text you want to store
3. When you come to the Minsert, activate **FUNCTION INSERT**
4. Activate **CONTROL** and **DELETE ICON**
5. Activate the "i" key for **ICON**
6. Activate 1
7. Activate 1
8. Activate the icon you want
9. Activate **ENTER**
10. Activate **MINSERT**
11. Continue typing the rest of the message
12. Activate **STORE** and the icon sequence you want to store the message under. Then Activate **ENTER**.

Remember, if you are stuffing **more than one** icon into a Minsert, the Liberator automatically clears the icon buffer. If you are only stuffing **one** icon, you must clear the buffer yourself by activating **FUNCTION INSERT, CONTROL** and **DELETE ICON** before you insert any icons.



# **Transfer Memory**



Save the Liberator's Memory on a Diskette

## **Save the Liberator's Memory on a Computer Diskette**

The memory that you store in the Liberator is what makes the Liberator a versatile and effective communication aid.

The engineers at Prentke Romich made every reasonable effort to protect the Liberator's memory contents, but strong shocks of static electricity, accidental drops and extreme battery discharge are all a potential cause of memory loss and cannot always be safeguarded against. Although memory loss is an infrequent occurrence, if it happens the process of restoring the memory is a long and tedious one.

The Memory Transfer Interface (MTI) is insurance against memory loss. It allows you to put the Liberator's entire memory onto a computer diskette. If at some point your Liberator does lose its memory, you can restore it in a few minutes using your diskette.

The MTI consists of two major parts: a program diskette and a cable. The cable is used to connect the Liberator to a computer. The diskette contains the program that allows you to send the Liberator's memory to the computer, store it and send it back to the Liberator at a later date. The MTI will work with all Macintosh and all true IBM compatible computers.

We recommend that you make a back-up copy of your MTI program and use the back-up for memory transfers. This way you will always have your original copy to use in an emergency, if you have to.

### **pNote:**

The MTI backs up the Liberator's memory **except for** the Word Prediction Dictionary. You must save the Word Prediction Dictionary from screen 2, option 2 of the WORD PREDICTION MENU.

## ] **Warning!** **Please Read**

- The Liberator's battery charger should be plugged in for all memory transfers.
- Remove any older software versions of the MTI from your computer **before** you install this MTI.
- Before beginning a transfer, have a formatted disk available to put your vocabulary on.
- If you are using Windows '95, depending on the speed of your computer, the MTI may not run. If this happens, reboot your computer and use DOS mode to run the MTI program.

# Memory Transfer—IBM Instructions

## (MTI-IBM)

---

Remove any older software versions of the MTI from your computer **before** you install this MTI.

The Liberator's battery charger should be plugged in before starting any memory transfers.

Before beginning a transfer, have a formatted disk available to put your vocabulary on.

If you are using Windows '95, the MTI may not run. If this happens, reboot your computer and use DOS mode to run the MTI program.

### **Connect to the Computer:**

Find the cable that came with your MTI. Plug the small round end into the connector labeled RS232 on the left side panel of the Liberator. Plug the large end into the appropriate serial port on your computer. (Do not plug the cable into the printer port!)

Turn the computer On and insert the MTI disk. Make sure you are using the drive that contains the MTI disk.

On your computer, type: MTI and press <RETURN>

Turn the Liberator On and open the Toolbox.

**Note: If you need the MTI on a 5 1/4" disk, please call PRC.**

### **Open the TRANSFER MEMORY MENU [N2] in the Liberator's Toolbox**

Activate the TRANSFER MEMORY MENU in the Toolbox. You should see the Transfer Memory Menu on the Liberator's display and a new screen on your computer.

If nothing happens when you activate the TRANSFER MEMORY MENU, you will see a message on the Liberator's display stating that communication is not established. Recheck your computer/Liberator connections and make sure the cable is securely plugged in on both ends. Make sure you are in the correct drive. Re-activate TRANSFER MEMORY MENU.

**There are two screens to the TRANSFER MEMORY MENU.**

**Screen 1:**

Option 1 = save everything in the Liberator's memory onto a disk.

Option 2 = load everything you saved back into the Liberator.

Option 3 = save only what is in a specific user area.

Option 4 = load the area you saved back into an area in the Liberator.

**Screen 2**

Option 1 = make a Liberator-to-Liberator memory transfer.

Option 2 = the MTI default baud rate (the speed at which information will be sent to the computer). This is important in a Liberator-to-Liberator transfer.

Option 3 = load or save menu settings. Default is YES. If you do not want any Liberator settings to be saved, set this to NO before you start a transfer.

**If you Choose to Save (or Load) the Liberator's Entire Contents:**

Activate option 1 or 2 on screen 1. Then look at your computer screen.

**If you Choose to Save (or Load) One Area:**

Activate option 3 or 4 on screen 1. The Liberator shows you a menu of areas that are created or can be created. Select the area that you want to save (or load memory into). Then go to your computer.

**On Your Computer**

If you are saving: type a name for the file you are going to save, e.g, Voc.6/96 (There is an 8 character limit for the name).

If you are loading: from the computer directory, select the name of the file you want to load. (If you can't find the file you want, try another drive.)

**Once You Have Selected a File From Your Computer**

The MTI program displays a box on your computer screen that contains the message, 'You are about to transfer Vocabulary....' Press <F1> to continue the transfer. Or you can press <ESC> if you decide not to transfer anything.

**On Your Computer:**

While the transfer is in progress, your **computer** displays either a screen that tells you what percentage of the transfer has taken place until the transfer is completed, or you see a bouncing ball for the duration of the transfer. When the transfer is complete, activate <F10> to return to the original Memory Transfer screen.

**On the Liberator:**

While the transfer is in progress, the **Liberator** displays a "Memory Transfer in progress. Please Wait." warning. When the transfer is complete the display returns to the TRANSFER MEMORY MENU.

**Note:**

If you are using Word Prediction and want to save the **Word Prediction Dictionary** to a disk, do it now, before exiting from the MTI. Go to the WORD PREDICTION MENU (SYSTEM FUNCTION MENU, screen 5, option 1) and select Option 2 from screen 2 of the Word Prediction Menu.

**On Your Computer:**

When you are finished transferring memory, activate <F6>.

**On Your Liberator:**

When you are finished transferring memory, activate Option 5 to exit the MTI.

At this point, you can eject your floppy disk and unplug the cable connecting your computer and Liberator. Store the disk in a safe place.

**Note:**

The MTI allows you to transfer Touch Talker and Light Talker memories from a computer into a Liberator. Use the MTI that came with the Touch Talker or Light Talker to store the memory on the computer. Then use the Liberator MTI to load the memory from the computer into the Liberator.

# ] **Warning!**

## **Please Read**

- ❑ The Liberator's battery charger should be plugged in for all memory transfers.
- ❑ Remove any older software versions of the MTI from your computer **before** you install this MTI.
- ❑ Before beginning a transfer, have a formatted disk available to put your vocabulary on.

## **Memory Transfer—Macintosh Instructions (MTI-MAC)**

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pHave a formatted disk available to put your vocabulary on.

pRemove any older software versions of the MTI from your computer **before** you begin to install this MTI.

pThe Liberator's battery charger should be plugged in before starting any Memory Transfers.

pIf you have AppleTalk on your computer system, make sure it is set to **INACTIVE** before you start a memory transfer.

### **Connect to the Computer:**

Find the cable that came with your MTI. Plug one end of the cable into the connector labeled RS232 on the left side panel of the Liberator. Plug the other end into the port on the back of your computer that has a picture of a telephone handset above it.

Turn the computer On and insert the MTI disk. Double click on the MTI icon to open the program; then double click on "PRC." Click on "Liberator."

Turn the Liberator On and open the Toolbox.

### **Open the TRANSFER MEMORY MENU [N2] in the Liberator's Toolbox**

Activate the TRANSFER MEMORY MENU in the Toolbox. You should see the Transfer Memory Menu on the Liberator's display and a new screen on your computer.

If nothing happens when you activate the **TRANSFER MEMORY MENU**, you will see a message on the Liberator's display stating that communication is not established. If this happens, recheck your computer/Liberator connections and make sure the cable is securely plugged in on both ends. Re-activate TRANSFER MEMORY MENU.

**There are two screens to the TRANSFER MEMORY MENU.**

**Screen 1:**

Option 1 = save everything in the Liberator's memory onto a disk.

Option 2 = load everything you saved back into the Liberator.

Option 3 = save only what is in a specific user area.

Option 4 = load the area you saved back into an area in the Liberator.

**Screen 2**

Option 1 = make a Liberator-to-Liberator memory transfer.

Option 2 = the MTI default baud rate (the speed at which information will be sent to the computer). This is important in a Liberator-to-Liberator transfer.

Option 3 = load or save menu settings. Default is YES. If you do not want any Liberator settings to be saved, set this to NO before you start a transfer.

**If you Choose to Save (or Load) the Liberator's Entire Contents:**

Activate option 1 or 2 on screen 1. Then look at your computer screen.

**If you Choose to Save (or Load) One Area:**

Activate option 3 or 4 on screen 1. The Liberator shows you a menu of areas that are created or can be created. Select the area that you want to save (or load memory into). Then go to your computer.

**On Your Computer**

If you are saving: type a name for the file you are going to save, e.g, Joe's Voc. 6/96. **Do not** save the file on your MTI disk.

If you are loading: from a list of your folders and files, select the name of the file you want to load.

**Once You Have Selected a File From Your Computer**

The MTI program displays a box on your computer screen that contains the message, 'You are about to transfer Vocabulary....' Click on CONTINUE to continue the transfer.

**On Your Computer:**

While the transfer is in progress, your **computer** displays either a screen that tells you what percentage of the transfer has taken place until the transfer is completed, or you see a bouncing ball for the duration of the transfer. When the transfer is complete you see a message on the screen saying the transfer is complete. Click on EXIT TO BEGINNING.

**On the Liberator:**

While the transfer is in progress, the **Liberator** displays a "Memory Transfer in progress. Please Wait" warning. When the transfer is complete the display returns to the TRANSFER MEMORY MENU.

**pNote:**

If you are using Word Prediction and want to save the **Word Prediction Dictionary** to a disk, do it now, before exiting from the MTI. Go to the WORD PREDICTION MENU (SYSTEM FUNCTION MENU, screen 5, option 1) and select Option 2 from screen 2 of the Word Prediction Menu.

**On Your Computer:**

When you are finished transferring memory, click on QUIT MTI.

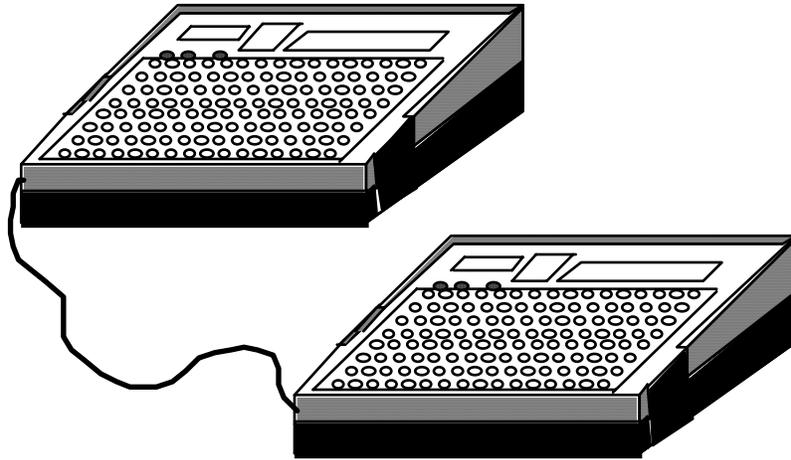
**On Your Liberator:**

When you are finished transferring memory, activate Option 5 to exit the MTI.

At this point, you can eject your floppy disk and unplug the cable connecting your computer and Liberator. Store the disk in a safe place.

**pNote**

The MTI allows you to transfer Touch Talker and Light Talker memories from a computer into a Liberator. Use the MTI that came with the Touch Talker or Light Talker to store the memory on the computer. Then use the Liberator MTI to load the memory from the computer into the Liberator.



**On Each Liberator:**

Turn the Liberator ON.  
Make sure the Toolbox is open.  
Open the TRANSFER MEMORY MENU.

Setting Up for Liberator-to-Liberator  
Memory Transfer

## Liberator-to-Liberator Instructions

---



### **Warning!**

**Follow these instructions carefully.  
A mistake can result in memory loss.**

¶If you are using **Word Prediction**: the MTI **will not** transfer the the Word Prediction Dictionary from the MEMORY TRANSFER MENU. You must transfer it from the WORD PREDICTION MENU.

¶The Liberator's battery charger should be plugged in before starting any Memory Transfers.

### **Connect the Two Liberators:**

You received a cable with your MTI-MAC. Plug one end of the cable into the RS232 port on one of the Liberators. Plug the other end of the cable into the RS232 port on the other Liberator.

### **On Each Liberator:**

Turn each Liberator ON.

Make sure the Toolbox is open on each Liberator.

Activate the TRANSFER MEMORY MENU on **each** Liberator.

If you do not see the menu on each display, you will see a message stating that communication is not established. Recheck your connections and make sure you have turned both Liberators On and activated TRANSFER MEMORY MENU.

### **Baud Rates:**

Go to screen 2 of the MEMORY TRANSFER MENU.

Make sure the baud rate (option 2) for each Liberator is 38400.

If they are different set them to 38400.

**Remote Transfer Mode:**

One of the Liberators will be the Remote Liberator. The Remote Liberator acts as the "computer." The non-Remote Liberator acts as the "regular" Liberator. Decide which Liberator is going to be the Remote Liberator. It makes no difference which Liberator you select.

**On the Remote Liberator:****Make sure you are using the Remote Liberator in this step!**

Select option #1(Remote Transfer Mode) from screen 2 of the TRANSFER MEMORY MENU. The Remote Liberator's display will read, "Liberator is in Remote Transfer Mode."  
"

**Saving or Loading Memory****On the Regular Liberator:**

To load vocabulary from the Regular Liberator into the Remote Liberator, activate option 3 (Save One User Area) on the Regular Liberator. Then activate the area on the Regular Liberator where the vocabulary is stored.

(You are 'saving' what is in the Regular Liberator and 'loading' it into the Remote Liberator.)

To load vocabulary that is in the Remote Liberator into the Regular Liberator, select option 4 (Load One User Area) on the Regular Liberator.

Activate the area in the Regular Liberator where you want the vocabulary to be loaded. The display will read, "Select on other Liberator area to transfer to."

**On the Remote Liberator**

If you are 'saving' (transferring vocabulary from the Regular Liberator into the Remote Liberator), activate the area in the Remote Liberator where you want the vocabulary to go.

If you are 'loading' (transferring vocabulary from the Remote Liberator into the Regular Liberator), activate the area in the Remote Liberator where the vocabulary you want to transfer is stored.

You will see "Please wait. Memory Transfer in Progress" on both Liberators. When the transfer is complete, disconnect the Liberators.

## Save a Notebook Onto a Disk or Load a Notebook from a Disk into Your Liberator

---

¶The Liberator's battery charger should be plugged in before starting any Memory Transfers.

You can save your Notebooks on a disk or transfer text files from your computer to a Liberator Notebook using the MTI. You can open the Notebook on your computer and use a word processing program to add to/edit the text in your Notebook, if you wish. When you reload the Notebook from your computer into your Liberator, the Notebook will contain whatever changes you made to it.

### To save a Notebook Onto a Disk:

1. Connect the RS-232 cable that came with your MTI to your Computer and your Liberator. Turn your computer On and insert the MTI disk. Open the MTI program.
2. Activate NOTEBOOK MENU on the Liberator.
3. Go to Screen 2 and activate option 1.
4. Open Notebook you want to save by either entering the icon sequence or choosing it from the menu.
5. The Liberator will search for the host computer. If the connections between the Liberator and your computer are correct, the computer will ask you to type in the name of the file (Notebook) you want to save. Do so, and then continue to follow the instructions on your computer screen.
6. Choose "YES" if you want to merge the new vocabulary with the old one. Choose "NO" if you want new vocabulary to replace the old one.

Follow the same format for loading a Notebook (or computer file) back into your Liberator, only this time choose option 2 from the NOTEBOOK MENU. Follow the prompts on the Liberator and the computer display screens.

### ¶Note:

Notebooks or files in your computer which you want to move to the Liberator **must** be saved on the computer in either the **ASCII format** (IBM) or **TEXT ONLY format** (Macintosh, Apple).

## **Load or Save Feedback Settings = Y or N**

---

If you are backing up your memory, the chances are good that you will want to save all the menu settings you have been using. However, if you are loading someone else's vocabulary into your Liberator, you may not want to load all their settings. You can tell the Liberator to load/save the feedback settings or not to load/save them.

Just activate option 3 from the second screen of the TRANSFER MEMORY MENU until you have toggled to the choice you want.

## **Reviewing the Liberator's Memory**

## **REVIEW MEMORY MENU**

### **Review**

Minspeak Sequences  
Icons  
Key Assignments  
Minspeak Modules  
Sequences by Frequency of Use

Create Minspeak Modules  
Make Modules Active or Inactive

Send Review to Internal or External  
Printer  
See Review on the Liberator's Display  
Review Automatically  
or  
Step through Review

Review Many Parts of the Liberator Memory  
with the REVIEW MEMORY MENU

## You Can Review Different Parts of the Liberator's Memory

---

### **Summary:**

The REVIEW MEMORY MENU allows you to do a number of different things: review individual icons, Minspeak sequences and key assignments; list how often a particular sequence has been used; create vocabulary modules, turn them On or Off and review what's in them; and review everything in an Area.

---

Are you interested in finding out the different Minspeak sequences in the Liberator and how often they have been used? Maybe you'd like a list of all the icons on the keyboard and where they are assigned; perhaps you want to know all the key assignments for your overlay. You can find out all this information in the REVIEW MEMORY MENU.

The REVIEW MEMORY MENU also offers you the opportunity to assign vocabulary to modules. Vocabulary modules can be made active or inactive. The vocabulary in modules can be predicted and reviewed if you wish.

You can print a memory review on the Liberator's printer or on an external printer if you are connected to one. You can also see the review on the Liberator's display screen.

The following pages explain the different options in this menu.

H  
2 **REVIEW  
MEMORY  
MENU**

Review Memory Menu (Screen 1)-----  
1. Minspeak Sequences  
2. Icons  
3. Key Assignments  
4. Complete Area  
5. Exit 6. Final Screen 7. Next Screen  
Select part of memory to review

**MINSPEAK SEQUENCES**  
Select all sequences or parts of sequences  
to be reviewed

**ICONS**  
List all the icons in an area, where they are assigned  
and whether they are used in sequences.  
  
You can select unassigned icons from a menu  
and you can select icons from a menu of All Icons.

**KEY ASSIGNMENTS**  
Select Spell Mode assignments, Minspeak mode assignments  
or both.

**COMPLETE AREA**  
List the contents of a single area or all areas.

**REVIEW MEMORY MENU (Screen 1)**

## **Screen 1 Gives You the Basic Review Memory Choices**

---

### **Summary:**

You are given the choice of listing Minspeak Sequences, Icons, Key Assignments or the complete contents of a User Area. Depending on the choice you make, you will be asked to specify which memory to list.

---

Screen 1 of the REVIEW MEMORY MENU is where you tell the Liberator what it is that you want to review. Whether you are setting "use counts" on screen 2 or creating vocabulary modules on screen 3, if you want to review use counts or module vocabulary, you must return to screen 1 and select one of the options

Option 1 tells the Liberator that you want to list Minspeak Sequences. After choosing 1, you decide if you want to see all sequences or only those sequences that you define by selecting specific icons or words.

Option 2 will give you an alphabetical list of the all the icons as well as information on where the icons are assigned and whether they are used in sequences.

Option 3 allows you to see key assignments. You specify whether to review Spelling assignments, Minspeak assignments or the key assignments in both the Spelling and Minspeak .

Option 4 gives you a list of the complete contents of a specific area. If you want, you can select to see the contents of all the areas that are used in your Liberator.

The Display, Printer or Both Display and Printer options are explained at the end of this chapter.

## **Reviewing Icon Sequences**

### **Review Sequences Menu**

#### **All Sequences**

Displays and/or prints all icon sequences in an area.

#### **Beginning with Specific Icon(s)**

Choose the icon(s) you want from:  
assigned icons on your overlay;  
unassigned icons in a menu;  
a menu of all icons.

#### **Containing Specific Icon**

Choose the icon you want from:  
assigned icons on your overlay;  
unassigned icons in a menu;  
a menu of all icons.

#### **Containing Specific Word(s)**

Type the word you want, then select  
STORE.

Choose the Sequences to be Reviewed

## Choose Which Sequences You Want to Review

---

### Summary:

You have the choice of listing all sequences, sequences that begin with one or two icons that you specify, or sequences that contain a specified icon or specific word.

---

If you chose to list Minspeak Sequences, you have four choices: (1) you can list all the sequences in the user area; (2) you can list sequences that start with one or two specific icons; (3) you can list sequences that contain a particular icon; and (4) you can list sequences that contain a particular word(s).

If you choose to list all sequences, the next step is to choose whether the sequences will appear on the display, the printer, or both. The Liberator will then list all the sequences in the area you are currently using.

Option 2 (sequences beginning with specific icons) is particularly helpful in finding the contents of a one or two icon Theme. If you select this option you are asked to select the icons you want from a list of assigned icons, unassigned icons, or a menu of all icons. If you are looking for a one or two icon Theme you will want to select the icons from either the list of assigned icons (your Theme icons) or, if you have forgotten the Theme icons, from a list of all icons. Then activate the icons you are interested in and then activate ENTER. **Be sure that you choose the icons and ENTER from your user area overlay, not the Toolbox overlay.** After you choose one or two icons and activate ENTER, choose display, printer or both.

Choose option 3 if you only want to list the sequences that contain a particular icon. Choose the icon from a list of assigned icons, unassigned icons or from a menu of all icons. Activate the key where the icon is assigned in your area. After the icon is selected select display, printer or both.

Option 4 allows you to see all the sequences that contain a certain word. Type in the word you want, then activate STORE. Select to see the list on the display, printer or both.

----- ---Review Memory Menu-----

1. Minspeak Sequences
  2. Icon(s)
  3. Key Assignments
  4. Complete Area
  5. Exit Menu
- Choose Sequences You Want to Review

Activate #2, then select display or printer or both

Icon	Assignment	Orig. Loc.	Used
Animal	D2	A1	Yes
APPLE	C6,K3	C6	Yes
CHAIR	Unassigned	F7	Yes
BEE	D4	E4	No

Activate Upper to step; Lower to quit

Write down any Unassigned but Used (Yes) icons, then go to Review Sequences Menu.

----- Review Sequences Menu-----

1. All sequences
  2. Beginning with Specific Icon(s)
  3. Containing Specific Icon
  4. Containing Specific Word(s)
  5. Exit
- Choose sequence you want to review

Pick #2 or #3, then select the icon(s) you copied which were Unassigned but Used.

If there are messages stored under the icon(s) you selected, the Liberator will list them.

Look for "Lost" Sequences by Reviewing Icons

## Reviewing for 'Lost' or 'Forgotten' Messages by Reviewing Icons First

---

### Summary:

If you add a tool to a key that already has an icon and contains messages, you will not be able to access those messages from your keyboard (a tool overrides an icon). But, you can tell the Liberator to review those messages so you can find out what they are.

---

Remember, when you add a tool to a key, the icon that was assigned to that key is no longer available to you unless you move it somewhere else. Perhaps you assigned a tool to a key whose icon contained a number of messages that you forgot were there. If you want to review those messages to see what they are, you must tell the Liberator which icon they are stored under.

1. To see if you have any inaccessible messages, choose option 2 from screen 1 (icons). Then select display, printer or both. The icon list will tell you whether icons have been assigned to a key or not and if they are used (that is, contain messages). If you see that an icon is UNASSIGNED but is also listed as USED you will know that you have some inaccessible messages stored there. Write down the names of any UNASSIGNED but USED icons.
2. To review the messages, select option 1 from the REVIEW MEMORY MENU (Minspeak Sequences). Then select 2 or 3 from the Review Sequences Menu. Select 2 or 3 from the Icon Selection Method Menu. Then select the first UNASSIGNED but USED icon(s) from the list you made.
3. If there are any messages stored under the icon(s), the Liberator will display them. You can decide whether you want to move the icon (and its messages) to another key, erase the messages, or leave the icon and messages where they are. (See **MOVING ICONS.**)

## Review Key Assignments

----- Review Key Assignments Menu -----

1. SPELLING only
2. MINSPEAK only
3. SPELLING and MINSPEAK

5. Exit Menu

Choose Assignments You Want to Review

Choose #1 if you want to review the spelling characters and tools that are assigned in your user area.

Choose #2 if you want to review the icons and tools that are assigned in your user area.

Choose #3 if you want to review the spelling characters, icons and tools that are assigned in your user area.

Choose which Key Assignments  
You Want to Review

## **Key Assignments: Choose Spell Mode, Minspeak Mode, or Both**

---

### **Summary:**

If you chose to list Key Assignments, you must specify which assignments you want to review. You have the choice of listing Spell Mode Assignments, the Minspeak Mode Assignments, or both the Spell and Minspeak Assignments.

---

If you chose to list Key Assignments, you must tell the Liberator which Assignments you want to list. You have three choices: (1) Spell Mode Assignments; (2) Minspeak Mode Assignments; or (3) both the Spell Mode and Minspeak Mode Assignments.

Reviewing Spelling assignments will give you a list of Spelling characters and tools. Reviewing the Minspeak Assignments gives you a list of the icons and tools. Reviewing both the modes gives you a list of Spelling characters, the icons and the tools. Since tools are assigned in both Spelling and Minspeak, they are listed regardless which list you review.

After you choose which assignments you want to review, select display, printer or both.

## Reviewing User Areas

-----Review Complete Area Menu-----

1. AREA-4 Only
2. All AREAs

5. Exit Menu  
Choose AREA(s) You Want to Review

Choose #1 to review the contents of the area you are currently using.

Choose #2 if you want to list the entire contents of **all** areas.

When you review an entire area, the Liberator will show the sequences, key assignments, icons and the contents of any Notebooks stored in the area.

- Printing the entire contents of an area or all areas may take a long time. Once the printing begins, the Liberator can be used for normal operations.

Choose to Review the Contents  
of the Current Area or All Areas

## **Complete Areas: Choose Whether You Want to Review All Areas or Only the One You are Currently Using**

---

### **Summary:**

If you chose to list a complete area, you must specify whether you want to list the contents of all areas or only the contents of the area that you are currently using.

---

When you choose to review a complete area, you are asked to choose whether you want to list the contents of all areas or only the area that you are currently using. The area that you are currently using is indicated on the Status Panel on the front of the Liberator.

When you choose to review a complete area, first you will see a list of all the sequences in the area, then a list of the icons, then a list of the key assignments in both the Spell Mode and Minspeak Mode. Finally, you will see the contents of any Notebooks.

If you decide to list the contents of *all* areas the Liberator will begin with Area-1, then Area-2, then Area-3 and finish with Area-4.

### **pNote:**

Whether you print the contents of one or all areas, the review could take a **long** time. The Liberator will give you a choice of pausing or stopping the review on the display. If you send the review to a printer, the Liberator reverts to normal operations as soon as the printing begins.

## Send a Review to the Display, a Printer or Both

----- Print Destination Menu -----

1. Display
2. Printer
3. Display and Printer

5. Exit

Choose where the Listing is to Appear

Choose #1 if you want the review to appear on the Liberator's display.

Choose #2 if you want the review to be printed on a printer.

Choose #3 if you want the review to appear on the Liberator's display as well as to be printed on a printer.

### Choose Where You Want to Send the Reviewed Memory

## Choose to Send the Review to the Display, a Printer or Both

---

### Summary:

Choose whether you want to send the memory contents that you are reviewing to the Liberator's display, to a printer, or to both the display and a printer.

---

Sending the review to the Liberator's display is a good choice if you want to check a certain part of memory but do not need a printed copy. For example, you may simply want to check to see if a certain icon is used in any sequences or not. Also, if you do not have an on-board printer or a printer to connect to the Liberator, you can send the list to the display and copy the information on paper as it appears on the display.

Option 2 is to send the list of memory to a printer. The printer can be on-board or a separate printer that you connect to the Liberator. This is a good choice if you want a list of the memory that you can refer to later. See the instructions in **CONNECTING TO OTHER DEVICES** for information on how to connect a printer to the Liberator. If you choose option 2, you can continue to use the Liberator for other things while the memory is being printed on the printer.

Option 3 sends the list of memory to both the display and to a printer. This allows you to see the memory contents on the display while it is also being sent to a printer.

## Choose a Display Speed

----- Display Speed Menu-----

1. Step
2. Standard Scan Speed (5 sec/screen)
3. Custom Scan Speed (x sec/screen)
4. Change Custom Scan Speed
5. Exit

Select a Display Speed

Select #1 to step through the screens by activating a key each time you want the screen to change.

Select #2 or #3 to have the Liberator change the screens automatically after a given amount of time passes.

Select #4 to have the Liberator change the screens automatically after the amount of time that you choose passes .

----- Change Custom Scan Speed-----

Current Speed is: x sec/screen

1. Faster
2. Slower

5. Exit Change Setting or Exit

## Choose a Display Speed for the Review

## **If the Review is Sent to the Display, Select a Speed for Displaying the Memory**

---

### **Summary:**

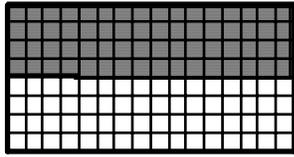
If you chose to send the memory to the display, you must choose how fast you want the memory to be displayed. If you chose to send the memory to the printer only, skip this step. The Liberator will automatically start printing the information while going back to normal operation.

---

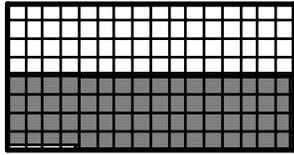
If you choose to step through the screens, you will view a new display screen each time you activate any key in the upper half of the keyboard. If you do not activate a key, the screen will not change. If you want to quit reviewing, you can activate any key in the lower half of the keyboard and the Liberator will exit the Review Memory Mode.

If you chose to let the Liberator scan through the review (options 2 or 3), you select how fast you want the memory to appear on the display. The standard scan speed is 5 seconds. This means that every five seconds a new review screen will appear on the screen or be printed out. The custom scan speed is 3 seconds which is slightly faster. You can select option 4 and change the scan speed to one of your own choosing.

## Stepping Through the Review



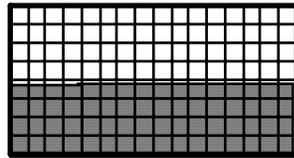
**Show Next Screen**  
(any key on upper half  
of keyboard)



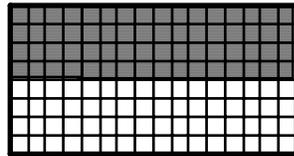
**Quit Reviewing**  
(any key on lower half  
of keyboard)

---

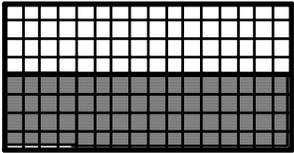
## Scanning the Review



**Pause Scanning**  
(any key on lower half  
of keyboard)



**Resume Scanning**  
(any key on upper half  
of keyboard)



**Quit Reviewing**  
(activate any key *twice*  
on lower half of key-  
board)

Stop the Review on the Display

## You Can Stop Reviewing Memory on the Display at Any Time

---

### Summary:

If you want to stop a review on the display, you can quit by activating a key in the bottom half of the keyboard. If the Liberator is automatically scanning through the review, you must activate a key in the lower half *twice* to quit reviewing.

---

You may have a lot of memory in your Liberator. You may also want to print out all, or a large part, of the memory. This can take a long time. Once you start printing a review, the only way to **stop** is to turn the Liberator OFF. However, the Liberator does return to normal while the printing is taking place. This means you can use the Liberator even though it is printing out a review.

If you are stepping through the review on the display and you want to stop, activate any key in the **bottom half** of the keyboard. The Liberator will return to normal operation.

If the Liberator is scanning through the review on the display, you can *pause* the review by activating any key in the **lower** half of the keyboard. This will pause the review to allow you to look at a particular screen for a longer time. To *resume* reviewing, activate any key in the **upper** half of the keyboard. The Liberator will continue the review. If you want to *stop* reviewing, activate any key in the **lower** half of the keyboard **twice**. The Liberator will return to normal operation.

## Review Samples

### List of Sequences

```

INTERJ HAMMER
ouch!
INTERJ THMBS UP
okay
INTERJ FLOWERS
thank you
Hit UPPER to step;          LOWER to quit

```

### List of Icons

Icon	Assignment	Orig. Loc.	Used
? WORD	J1	I2	Yes
ADJ+ER	J2	H1 DEPEND	Yes
ADJ+EST	K2	I1 DEPEND	Yes
ADJ.	I2, J2, K2	G1	Yes
ADVERB	K1	E1	Yes

Hit UPPER to step; LOWER to quit

### List of Key Assignments

```

A1 - MIN - Tool: SPEAK DISPLAY
    - SPELL - Tool: SPEAK DISPLAY
B1 - MIN - Tool: SPEAK SENTENCE
    - SPELL - Tool: SPEAK SENTENCE
C1 - MIN - Tool: SPEAK WORD
    - SPELL - Tool: SPEAK WORD
Hit UPPER to step;          LOWER to quit

```

### List of Module and Use Count

NOUN (sample nouns)	Used:0
SUN NOUN	Used:0
HOUSE NOUN	Used:1

Hit UPPER to step; LOWER to quit

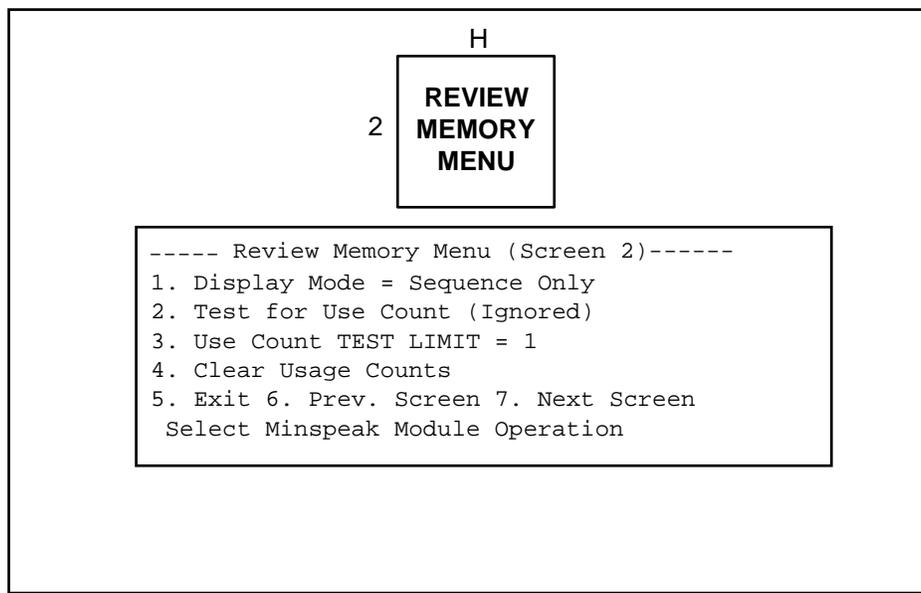
## Sample Lists of Reviews

## **Sample Lists of Reviews**

---

On the facing page is an example of what you will see when you send a review to the display or a printer. These samples are of basic, screen 1 operations.

The next few pages describe setting up vocabulary modules, the use count and reviewing sequences once these two things have been established.



## REVIEW MEMORY MENU (Screen 2)

## **Review Memory Menu (Screen 2)**

---

### **Summary:**

This screen controls what information is reported for each sequence in your vocabulary when you generate a Review Memory report. Use Count allows you to keep track of how often a particular sequence is used. Set a Test Limit, tell the Liberator to report any use that is over the limit, under the limit or equal to the limit.

---

The options on screen 2 of the REVIEW MEMORY MENU will probably be used by teachers and therapists. These options allow someone to find out how often sequences are being used. This can be helpful if you are teaching certain communication skills or language applications.

### **Display Mode**

This allows you to tell the Liberator what you want to find out when you review the sequences in the Liberator's vocabulary. If you select to review "Sequence Only" you will pick option #1 (Minspeak Sequences) on the first screen of the REVIEW MEMORY MENU, then you will choose one of the options from the Review Sequences Menu.

If you select "Module Membership", the Liberator will report what module(s) the vocabulary sequences you selected are in.

If you select "Use Count" the Liberator will tell you how many times the sequences have been used according to the limits you set in options # 2 and #3.

If you select "Module and Use Count," the review will include both the module membership and the number of times sequences have been used.

### **Test for Use Count and Use Count TEST LIMIT**

The Use Count allows you to limit which sequences will appear in the Review Memory report based on the Use Count for each sequence. The Use Count TEST LIMIT is set in option #3 and Use Count (option #2) chooses whether to test sequences for Use Counts that are "greater than or equal," "less than or equal," or "exactly equal" to the TEST LIMIT.

For example, if you want to know how often the sequences containing the NOUN icon have been used, you decide what your TEST LIMIT is to be. Perhaps you would like to know if any sequences have been used 5 times. Your TEST LIMIT might be "5." Then you decide whether you want to know if any noun sequences were used exactly five times, more than five times or less than five times. The Liberator will keep track of how many times NOUN sequences are used according to these settings. When you review the memory, you will see the Use Count listed as part of the information for a sequence. You can also tell the Liberator to ignore Use Count altogether.

### **Clear Usage Counts**

You can clear any usage counts that have been made by selecting this option. This sets all Use Counts back to zero where counting will begin again. The Liberator will count up to 1023 uses. At that point the count for a sequence will freeze until you clear it and start over.



## **Review Memory Menu (Screen 3)**

---

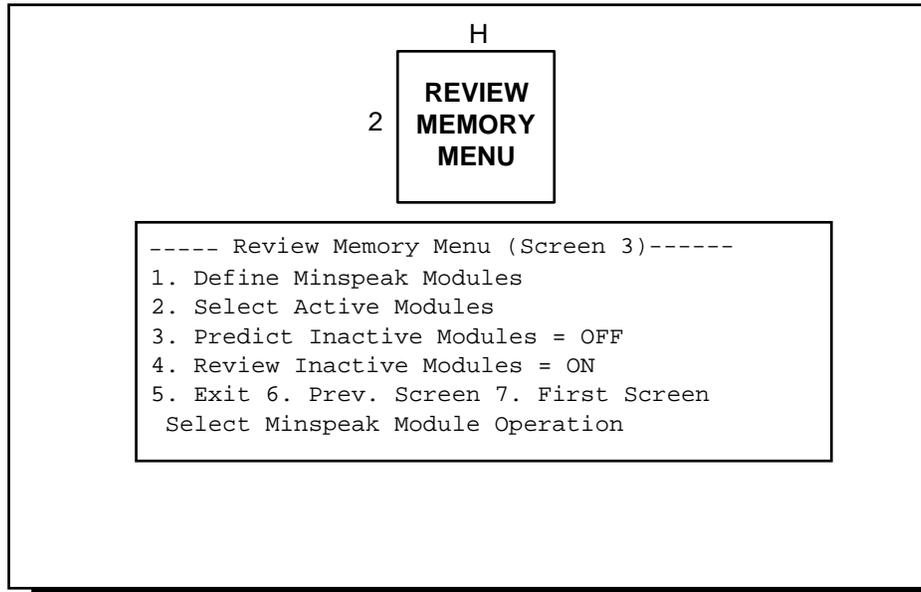
### **Summary:**

A Minspeak Module is a "container" for specific vocabulary. You might create a module that contains all the NOUN sequences on your overlay, or all the sequences that begin with a specific icon. If you turn a module Off, the words or sequences that it contains will not be available for use on your overlay.

---

Modules are created from the vocabulary in your Liberator. If you are using the Unity/128 application, you can create a module to contain specific vocabulary from that application. For example, you might want to teach a lesson on nouns. You could tell the Liberator to put all the sequences that contain the NOUN icon into a NOUN module. You can lock the module so no one can add any words to it or remove words from it. You can make the module active, which means the sequences in it are always available for use or you can make it inactive which means that the sequences are not available for use.

You can tell the Liberator to review your modules. The Liberator will indicate on the display or printout which vocabulary has been assigned to which module.



## REVIEW MEMORY MENU (Screen 3) Create a Minspeak Module

## Create a Module

---

Let's say you want to create a module that contains all the sequences from your sample overlay that contain the NOUN icon.

1. From screen 3 activate option #1 (Define Minspeak Modules).
2. Select option #1 (Rename Minspeak Modules). Naming your module as a first step will help you remember the vocabulary you want to put in it.
3. There is the possibility of having 64 different modules. However, the first module (option #1) contains all of the vocabulary in your Liberator. You cannot use this module. Modules 50-64 are reserved for system use. So, you can actually use modules 2-49. Choose a module to name (e.g., Module #1).
4. Type in the name you want to use, e.g., NOUNS. Activate ENTER.
5. Exit the Module Selection Menu to return to the Define Minspeak Module Menu.
6. Select option #3 (Assign Words to Module).
7. Choose the module that you just named.
8. Choose option #3 (Containing a Specific Icon).
9. Since NOUN is an assigned icon in Unity, activate option #1.
10. On the sample overlay, activate the NOUN icon [L2]. Then activate ENTER.
11. All the sequences that contain the NOUN icon have been placed in your NOUNS module. The Liberator returns you to the Define Minspeak Module Menu.
12. If you want, you can LOCK the module. This means that words cannot be added to or removed from the module. To lock a module, choose option #2 and then select the module you want to lock.
13. Exit the Define Minspeak Module Menu and return to screen 3 of the REVIEW MEMORY MENU. Option #2 allows you to make the module active or inactive. Active means that the vocabulary in the module can be used. Inactive means that the vocabulary in the module cannot be used.
14. Activate option #2 (Select Active Modules). In this menu you can make a specific module active, or all modules active or all modules inactive. To make only your NOUNS module active, activate option #3 (make all modules inactive). Select option #1, then turn #2 (NOUNS) ON.
15. When Icon Prediction is turned On (in the FEEDBACK MENU), you can tell the Liberator to predict any modules you have made inactive (option #3). This is a good option to turn ON when you want to store new vocabulary into the Liberator. When storing, if you have vocabulary in inactive modules that *aren't* predicted, you may mask the inactive vocabulary by mistake. When the module vocabulary is predicted, you will know not to use those sequences.
16. You can tell the Liberator to review any inactive modules (option #4). When you review vocabulary, the Liberator will indicate the vocabulary in inactive modules.

## Remove Vocabulary from a Module

---

When you remove vocabulary from a module, you are, in effect, erasing that module.

1. Activate option #1 (Define Minspeak Module) in the REVIEW MEMORY MENU.
2. Activate option #4 (Remove Words from Module) in the Define Minspeak Module Menu.
3. Activate the module you want to "erase," e.g., the NOUNS module.
4. Now select the same option (from the Select Vocabulary by Sequence Menu) that you chose when you put vocabulary *into* your module. In this case, option #3 (Containing a Specific Icon).
5. Activate option #1. Now activate the specific icon from your overlay and then activate ENTER.
6. The vocabulary from your NOUNS module is removed and the Liberator returns you to the Define Minspeak Module Menu. If you activate option #1 (Rename Minspeak Module) you will see that the name of your module is still in the menu of choices. The vocabulary has been removed but the Liberator still shows the module name. To avoid confusion, you might want to rename the module to something like "Empty" so you will know that it contains no vocabulary and is available to use again.

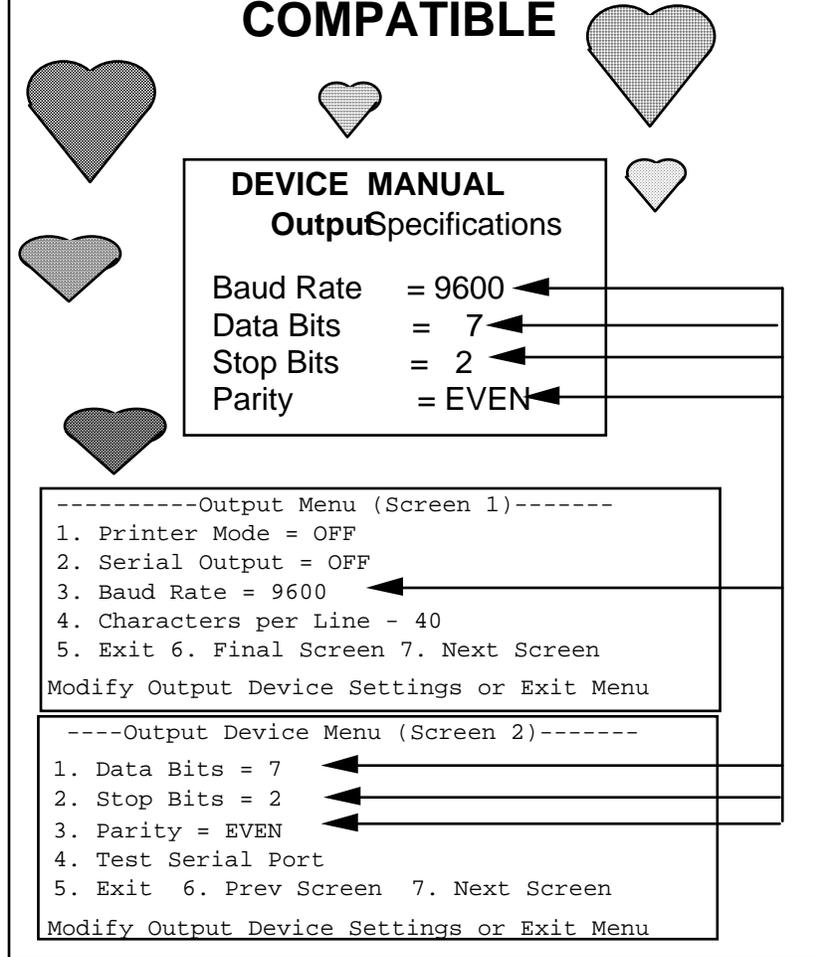
### Note:

You can also erase words from a module by selecting the SETUP MENU from the SYSTEM FUNCTION MENU, activating option #1 in the SETUP MENU, selecting the area you want to work with, selecting "Erase" and then choosing what you want to erase (Minspeak Sequences). Follow the same instructions as above to erase the module.



## **Connecting the Liberator to Other Devices**

# The Output Device and the Liberator Must Be COMPATIBLE



The Output Device and Liberator  
Must Be Compatible

## **Choose a Printer that is Compatible with the Liberator**

---

### **Summary:**

You must be sure to choose a printer that is compatible with the Liberator. The OUTPUT MENU lists all the parameters that must be considered for compatibility

---

The Liberator has the ability to send information to an on-board (internal) or external printer. This ability allows you to get a hard copy of the memory contents of the Liberator as well as print letters, etc.

If you are going to hook up to an external printer, it is important that you choose one that is compatible with the Liberator. (The on-board printer is already compatible with the Liberator.) The OUTPUT MENU lists all the requirements for making a printer compatible with the Liberator.

The Liberator sends RS-232 serial data. Serial data is a method of sending data from a computer to a printer.

Choose a printer that accepts at least one of the Liberator's baud rates (110,300,1200,2400,4800,9600,19200,38400). Baud rate is the speed at which the data is transmitted and received by the Liberator and the printer. The printer must receive data with 7 or 8 data bits and 1 or 2 stop bits with odd, even or no parity. This is the form that the data takes when it is sent to the printer. Your printer must have a "Text Mode" or "Character Mode."

Parallel printers will work if you have serial-to-parallel adapter. These can be purchased at most computer stores.

Laser writers are not compatible with the Liberator. Any printer that requires an entire page to be generated before it is printed is not compatible with the Liberator.

You might want to take this part of the manual along with you when you buy a printer. The salesperson can help you decipher the computer terms and choose a printer that will meet your needs.

## From the OUTPUT MENU

### **Printer Mode = OFF, INTERNAL, EXTERNAL**

- OFF** = The internal printer will work if you activate the PRINT key [E1] in the Toolbox.
- INTERNAL** = Tells the internal printer to print automatically; this means that you do not have to activate the PRINT key; the Liberator will print line by line.
- EXTERNAL** = This tells the Liberator to send information to an external printer to be printed.

### **Serial Output Mode = OFF, IMMEDIATE, DELAYED**

This option is set in conjunction with PRINTER MODE = EXTERNAL

- OFF** = No text will be sent to an external printer. Use the internal printer by activating the PRINT key
- IMMEDIATE** = As soon as text appears on the display, it is immediately sent to the external printer.
- DELAYED** = When text begins to scroll off the top of the display, it is sent to the external printer.

## The OUTPUT MENU

## **The Internal Printer Default is OFF; To Change This You Must Change the Settings for Printer Mode and Serial Output in the OUTPUT MENU**

---

### **Summary:**

Option #1 in the OUTPUT MENU can be set to OFF, INTERNAL, or EXTERNAL. The default is OFF. Option #2 tells the Liberator whether to send information to the output device immediately or to delay it.

---

When you receive your Liberator from the Prenke Romich Company, the internal printer is set to OFF. You can still use the internal printer, however. All you have to do is to activate the PRINT key whenever you want to print something.

Option #1 (Printer Mode) in the OUTPUT MENU sets the mode you are going to use for your printer. The choices are OFF, INTERNAL or EXTERNAL. If Printer Mode is OFF, you must activate the PRINT key, [E1] in the Toolbox, every time you want to print to the internal printer. If Printer Mode is set to INTERNAL, the Liberator will automatically print whatever scrolls off your display into the Workspace. If Printer Mode is set to EXTERNAL, you can print to another printer.

If you are connected to an external printer and want to print, you must also set option #2, Serial Output Mode. If this is set to OFF, no information will be sent to the external printer. If Serial Output Mode is set to IMMEDIATE, as soon as text scrolls off the Liberator's display it is sent to the external printer. If Serial Output Mode is set to DELAYED, you must activate the PRINT key to send information to the external printer.

The serial output settings only effect sending information to an *external* printer. They do not effect the internal printer.

## Internal Printer

---

Printer Mode = OFF

**You activate the PRINT key to print**

Printer Mode = INTERNAL

**The Liberator automatically prints text as soon as it begins to scroll off the display.**

**Note:**

You can select RETURN, CLEAR DISPLAY or the PRINT key to print any text that remains on the display.

With the Internal Printer You Can Print Manually or  
Automatically

## **You Can Choose to Send Information Manually or Automatically to the Internal Printer**

---

### **Summary:**

If you select "Printer Mode = OFF" you must activate the PRINT key on the Liberator in order to print anything. If you choose "Printer Mode = INTERNAL" the Liberator will automatically print your text as it scrolls off the display screen.

---

The Liberator's internal printer can print text line by line as it scrolls off the display or it can print all of the text in the Workspace and on the display that has not been previously printed. Once text has been printed, the Liberator will only print "new" text.

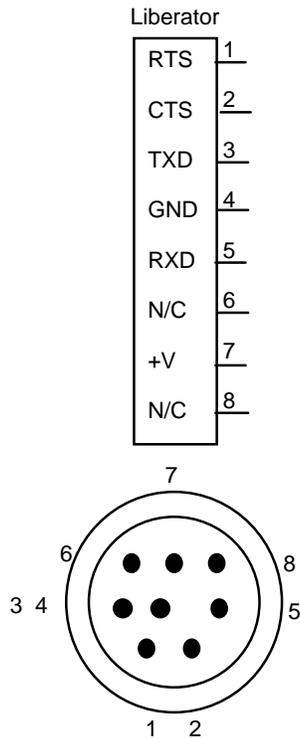
You can set the Printer Mode so that the Liberator's internal printer will not print anything unless you activate the PRINT key. This gives you control over printing and allows you to do things like edit text on your display before it is printed out.

To print manually by activating the PRINT key set the Printer Mode to OFF. When you activate PRINT the Liberator will print everything that is on the display (as well as anything that has scrolled off the screen). If you add some more text to your display and activate PRINT again, the Liberator will print out the new text.

You can also tell the Liberator to automatically print text as it scrolls off the display. To do this, set the Printer Mode to INTERNAL. As soon as the text begins to scroll off your screen the Liberator will print it.

Even if the Liberator is set to print text automatically, you can still activate the PRINT key or CLEAR DISPLAY [P1 in the Toolbox] and the Liberator will print everything on the display that it hasn't already printed. When you start to type again, the Liberator will go back to printing the new text as it scrolls off the top of the display screen.

### 8-Pin Mini-DIN Male Connector



PRC supplies some printer cables.

You may be able to use the cable that came with your printer plus an RS-232 cable.

You may have to have a cable custom made.

A computer store may also be able to supply the proper cable.

Call the PRC Service Department for more information.

1-800-262-1990

### Liberator's RS-232 Port

If you have a **parallel printer**, you will need a serial-to-parallel adapter. This adapter allows you to connect the Liberator to a parallel printer. Adapters can be purchased at most computer stores.

## About Printer Cables

## **Connecting an External Printer to Your Liberator**

---

### **Summary:**

The cable(s) that connect your printer to the Liberator must fit the RS-232 port on the left side panel of the Liberator

---

You will plug a printer cable into the RS-232 port on the left side panel of the Liberator. If one end of your cable does not fit in this port, you will need an adapter or perhaps a custom made cable. You can also show the graphic on the facing page to a salesperson at a computer store. This will help them to locate the cable that will work for you.

The other end of the cable will plug into the output device's serial port connector. Check the manual for your output device if you are not sure where to connect your cable.

Contact PRC's Sales Department, 1-800-262-1933 or the Service Department, 1-800-262-1990 for information about the correct cable(s) to use.

If you already have a parallel printer, you will need a serial-to-parallel adapter. This makes a parallel printer compatible with the Liberator. You can find these adapters at computer stores.

## The Output Device Baud Rate and the Liberator Baud Rate Must be the Same

The default baud rate for the Liberator is 1200.

```
-----Output Menu (Screen 1)-----
```

1. Printer Mode = OFF
2. Serial Output = OFF
3. **Baud Rate = 1200**
4. Characters per Line - 40
5. Exit 6. Final Screen 7. Next Screen

```
Modify Output Device Settings or Exit
```

Baud Rates = 1200, 2400, 4800, 9600, 19200, 38400, 110, 300

Settings 1, 2 and 3 on screen 2 must also match the output device.

```
----Output Device Menu (Screen 2)-----
```

1. Data Bits = 7
2. Stop Bits = 2
3. Parity = EVEN
4. Test Serial Port
5. Exit 6. Prev Screen 7. Next Screen

```
Modify Output Device Settings or Exit
```

### Match the Liberator's Baud Rate to the Printer's Baud Rate

## Among Other Settings, You Must Match the Liberator's Baud Rate to the Output Device

---

### Summary:

Baud rate is the speed at which data is sent from the Liberator to the output device (printer or keyboard interface). The Liberator's baud rate must match the baud rate of the output device. The baud rate can be changed by selecting #3 from the **OUTPUT MENU**.

---

When you are connected to an external printer (or any output device), you must set the baud rate, data bits, stop bits and parity so that they are the same between the external printer and the Liberator.

Baud rate is a computer term that refers to the speed at which data is sent from one device to another. For our purposes, baud rate is the speed at which data is sent from the Liberator to the printer (or other output device). To work properly, the Liberator's baud rate must be matched to the baud rate of the printer. The manual for your printer (or keyboard interface) will tell you the baud rate for your particular output device.

The baud rate is changed in the **OUTPUT MENU**. Option #3 (Baud Rate) shows the current setting of the baud rate. The default is 1200. Each time you activate option #3 a different baud rate is displayed. The lowest is 110 and the highest is 38400. Activate #3 until you have stepped to the baud rate that matches your output device.

You **must match** the baud rate of the Liberator and any output device you connect to the Liberator.

### **p**Note:

Check the manual that came with your printer to find the baud rate. You must also set each of the options on Screen 2 of the **OUTPUT MENU** to match those of the printer. These settings should also be in the manual that came with your printer.

## External Printer Settings

Printer Mode = EXTERNAL

Serial Output Mode = DELAYED

**Liberator automatically prints each line of text as it scrolls off the display screen.**

---

Printer Mode = EXTERNAL

Serial Output Mode = OFF

**External printer will not print.**

**If you activate the PRINT the *internal* printer will print.**

---

Printer Mode = EXTERNAL

Serial Output Mode = IMMEDIATE

Liberator **will not** print to an external printer with serial output set to IMMEDIATE. You must set serial output to DELAYED.

## Printing With an External Printer

## Send Text to an External Printer and Print it Manually or Automatically

---

### Summary:

When you use an external printer or computer, you can print your text automatically or you can activate the PRINT key on the Liberator in order to print.

---

To have your text printed automatically on the external printer, set Printer Mode to EXTERNAL and Serial Output to DELAYED. As soon as your text scrolls off the display it is automatically printed.

To have your text printed only when you want to print it, set the Printer Mode to EXTERNAL and the Serial Output to OFF. Whenever you want to print, activate the PRINT key in the Toolbox (or your overlay if you copied the key to your overlay).

The Liberator defaults to printing 40 characters per line. Your external printer may be a 60 or 80 column printer, instead of 40. To change the number of characters per line activate option #4 on screen 1 of the OUTPUT MENU. Type the number of characters per line you wish to use, then activate ENTER. The Liberator sends a line of text to the printer that comes closest to containing the amount of characters you have chosen without breaking any words in the middle. If you have chosen more than 40 characters per line, **you will not see more than 40 characters per line on your display screen** because the display only holds 40 characters per line. The buffer arranges the text characters in the correct number before they are sent to the printer.

### **p**Note:

If both Printer Mode and Serial Output are set to OFF you can still use the **internal** printer by activating the PRINT key.

**C** Call the PRC Sales Department to order a keyboard emulator.

PRC keyboard emulators come with their own cables. These cables are compatible with the Liberator.

If you are already using an emulator and find that it is not compatible with the Liberator:

**C** Call the PRC Sales or Service Departments to ask about cables that might work with your emulator.

1-800-262-1993 or 1-800-262-1990

Order the Correct Cable for Your  
Keyboard Emulator

## Connect the Liberator to a Computer Emulator

---

### Summary:

You can connect your Liberator directly to a computer emulation device. There are two types of computer emulators: hardware emulators (e.g., T-TAM, AKI-2E) and software emulators (e.g., Access Windows, Access DOS). You must choose an emulator that is compatible with the Liberator.

---

So far we have been discussing the various settings you can use when you connect your Liberator to an external printer or use the Liberator's own internal printer. However, if you like to use a computer the chances are you will have some kind of keyboard emulator so that you can use your communication device as a computer keyboard.

There are two kinds of computer emulators: Hardware and Software emulators. Hardware emulators such as the T-TAM or AKI-2E must be connected to both your computer and Liberator. Software emulators such as the KEII, Access Windows and Access DOS are software programs you install in your computer system. The Liberator is just connected to your computer. If you are connecting a PRC emulator such as a T-TAM to your Liberator and computer, you get the correct cable with the emulator.

Any computer or keyboard emulator which is connected to the serial port of the Liberator must also be set up like the printer was; that is, the computer or emulator and the Liberator must be compatible. Your computer or emulator manual will give you the specifications for baud rate, data bits, stop bits and parity. Make sure the Liberator's settings match those of the computer or emulator.

To hook up your Liberator and your emulator, follow the directions that came with your emulator. If you bought your emulator from PRC, when the manual tells you to connect the "RSC cable" to the serial port of your communication device, **connect the cable that you ordered to go with your emulator into the Liberator**. Plug the small end of the cable into the RS-232 connector on the Liberator and connect the other end (either the small round 9-pin end or the large 25 pin end) into the correct connector on your computer or your emulator.

## **OUTPUT MENU Settings When You Are Connected to a Computer**

---

**Printer Mode = OFF or INTERNAL**

**Serial Output Mode = IMMEDIATE or DELAYED**

**IMMEDIATE** = as soon as you type text on your Liberator keyboard it is sent to the computer monitor.

**DELAYED** = text is not sent to the computer monitor until it begins to scroll, line by line, off the top of the Liberator's display screen.

Baud Rate, Data Bits, Stop Bits and Parity must also be set so that the Liberator and computer or emulator have the same settings.

### **Character Pacing Delay**

If you are "losing" characters between the Liberator, emulator and computer, go to screen 4, option #1 of the OUTPUT MENU. Set "Character Pacing Delay" to ".15 seconds" and see if that helps.

### **❑ Important Note!**

If you are connected to any output device other than a printer "Serial Output" **must** be set to IMMEDIATE or DELAYED.

If it is set to OFF the output device will not work.

Setting "Printer Mode" and "Serial Output" When the Output Device **is not** a Printer

## If You Connect the Liberator to a Computer Emulator, "Printer Mode" and "Serial Output" Must Be Set Accordingly

---

### Summary:

If you connect your Liberator to an output device such as a keyboard emulator for a computer, you must set "Printer Mode" to OFF or INTERNAL. "Serial Output" can be set to either IMMEDIATE or DELAYED.

---

When you are using a keyboard emulator, you **must** set "Printer Mode" either to OFF or INTERNAL. It does not matter which one. If you do not do this your emulator will not work. Serial Output must be set to either IMMEDIATE or DELAYED. You must also match the Liberator's baud rate and the options from Screen 2 of the OUTPUT MENU to your computer or emulator.

With "Printer Mode" set to OFF or INTERNAL, you can set "Serial Output" either to IMMEDIATE or DELAYED. If it is set to IMMEDIATE, whatever you type on your Liberator will be sent immediately to the computer monitor and you can use computer commands to edit your work. If you set the "Serial Output" to DELAYED, text will stay on the Liberator's display until the display is full. When the text begins to scroll off the top of the display it is sent line by line to the computer monitor. You can edit text on the Liberator's display before it goes to the computer. This might be handy if you are not seated near your computer monitor and cannot easily see what is on it.

**pNote:** If you are connected to an output device *other than a printer* and "Serial Output" is set to OFF, your output device will not work. "Serial Output" **must** be set to IMMEDIATE or DELAYED.

**pNote:** You can set "Character Pacing Delay" so that characters are not sent to the output device (such as a T-TAM) so rapidly that the output device cannot handle them. "Character Pacing Delay" is on screen 4 of the OUTPUT MENU. ".15" seconds is a good delay if you are using the T-TAM.

## Use the Internal Printer When You Are Connected to a Computer

Printer Mode = OFF

Serial Output Mode = IMMEDIATE or DELAYED

**Activate the PRINT key when you want to print.**

The internal printer will print the text.

---

Printer Mode = INTERNAL

Serial Output Mode = IMMEDIATE or DELAYED

The Liberator prints each line of text as it scrolls off the display. **You do not need to activate the PRINT key.**

Use the Internal Printer When You Are Connected to an  
Output Device  
that is **not** a Printer

## You Can Use the Internal Printer When You Are Connected to an Output Device that is not a Printer

---

### Summary:

You can use the Liberator's internal printer when you are connected to an output device which is not a printer. The printer works the same way it does when you have set the "Printer Mode" for OFF or INTERNAL.

---

Even if you have an output device connected to your Liberator, you can still use the **internal** printer.

For an output device **other** than a printer, you must set "Printer Mode" either to OFF or INTERNAL and you must set "Serial Mode" either to IMMEDIATE or DELAYED.

If "Printer Mode" is OFF, just activate the PRINT key and the internal printer will print your text. (Manual Print)

If "Printer Mode" is set to INTERNAL, the Liberator will automatically print each line of your text as it scrolls off the display. (Automatic Print)

### **p**Note:

The Liberator can be connected to only one output device at a time. This means you cannot use an external printer and a computer emulator at the same time.

However, you can purchase a special adapter and "split" the serial port so that you can send information out as well as having information coming in (e.g., using a mouse and an emulator.) See the next page.

## **OUTPUT MENU (Screen 3)**

---

Serial Output to DEC Mode = OFF

**When this is ON the Liberator speaks whatever is coming in over the serial port.**

---

Separate Transmit/Receive Rates = OFF

**When this is ON you can set separate transmit and receive baud rates.**

---

Receive Baud Rate = Same as Transmit

**Activate this to set the baud rate you want to use to receive information.**

You need a special cable to do this.

---

Add Line Feed to Serial Output = ON

**This adds line feed to the serial output.**

### **□ Note:**

The transmit/receive cable for IBM computers is MTI-PC.  
The transmit/receive cable for Macintosh computers is MTI-MAC.  
Call the PRC Sales Department for more information.

Screen 3 of the OUTPUT MENU

## Screen 3 in the OUTPUT MENU Refers to Information Coming In Through the Serial Port

---

### Summary:

There is another screen in the OUTPUT MENU which allows you to tell the Liberator to speak any text that is **coming in** over a serial port. You can also use a special adapter and change the RS-232 port into a port which will accept separate transmit and receive rates.

---

Screen 3 of the OUTPUT MENU has four options. The first option, "Serial Port to DEC mode" can be turned ON or OFF. When it is turned ON, all the data the Liberator receives from the serial port will be spoken. (You will not see it on the display, however.) If it is OFF, no data will be spoken. The default is OFF.

### **Note:**

If you have a headpointing device such as HeadMaster connected to the serial port, option #1 cannot be turned ON.

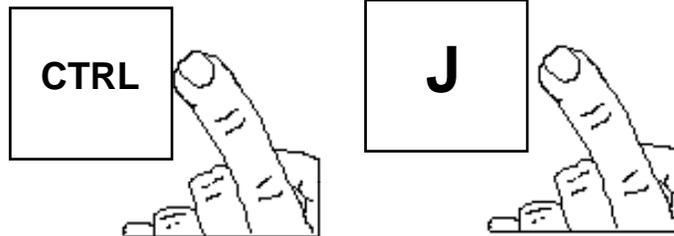
Option #2 allows you to send and receive data at different baud rates. In order to do this you need a special cable which you plug into the RS-232 port on your Liberator. When you turn this option ON, the data that is being sent from the Liberator will be sent at the baud rate you set in option #3 on **Screen 1** of the OUTPUT MENU; the data which is being received will be received at the rate you set in option #3 on **Screen 3**.

If you are connected to an IBM computer:  
you will need the cable, MTI-PC.

If you are connected to a Macintosh:  
you will need the cable, MTI-MAC.

Call the PRC Sales Department for more information.

## CTRL (Control) Characters Tell a Computer or Printer to do Something Special



CTRL J = perform a line feed

### To send a CTRL character

Activate the CTRL key.  
Activate the character that denotes  
the action you want to have  
performed.

#### Note:

When you activate the CTRL key,  
the CTRL/ALT lamp in the Status Panel  
will light until the CTRL action has been  
completed.

Send Control Characters to An Output Device

## You Can Send CONTROL [CTRL] Characters to a Computer or Printer

---

### Summary:

Computers and Printers often use CONTROL characters as special commands. The Liberator has a CONTROL Tool [CTRL] which allows you to send any CONTROL character to an external output device.

---

Computers and printers often use CONTROL [CTRL] characters as commands to do special functions. For example, many computer programs and printers use CONTROL-M as a command for a carriage return and CONTROL-J for a line feed.

You can send any CTRL character to an output device by using the [CTRL] Key [D8] in your Toolbox (it's also on your sample overlay).

To send a Control character, activate CTRL [D8] and then activate the particular character you want. For example, to send CONTROL-J, activate CONTROL and then activate J.

If you have set "Display Control Characters" to ON in the FEEDBACK MENU, any Control characters you activate will appear on your display screen as standard CONTROL abbreviations. If you have not turned "Display Control Characters" to ON there will be a blank space on your display when you activate a Control character. (The Control character will be sent, you just won't see it on the display.)

If you activate CONTROL and then a character which is not a valid Control character, the bottom line of the display will show "Invalid Control Character." Activate CONTROL again before activating a new character.

(See **APPENDIX** manual for information on Control commands used for specific actions in the Liberator.)

## Store the Computer Command <ENTER>

Use the **SERIAL MARKER** tool so that the Liberator speaks and displays "Enter" when the ENTER sequence is activated, but does not speak and display the entire command code.

1. Activate STORE
2. Activate FUNCT INSERT
3. Begin to type: Serial
4. Select SERIAL MARKER from the menu
5. Activate CTRL
6. Activate [
7. Type: Enter
8. Activate FUNCTION INSERT
9. Begin to type: serial
10. Select SERIAL MARKER from the menu
- 10a.** If you want the Liberator to speak and display "Enter" complete the following:
  - activate FUNCTION INSERT
  - activate CTRL
  - activate FUNCTION INSERT
  - begin to spell: serial
  - select SERIAL OFF from the menu
  - type: Enter
11. Activate STORE
12. Select an icon sequence to store the command under
13. Activate ENTER.

When you activate the icon sequence you used, the Liberator will speak "Enter" and you will see the word ENTER on your display. The "ENTER" command will be sent out the serial port.

## The SERIAL MARKER Tool

## Using the SERIAL MARKER Tool When You are Connected to a Computer Emulator

---

When you are using a computer emulator, you usually have to store computer keys and commands into your Liberator. These commands tell the emulator what you want it to do. For example, you might store mouse commands or word processing commands. If you are using an ECU you would want to store ECU commands like "TV ON".

When you store computer commands into your Liberator, you are probably not going to want the Liberator to speak and display the entire command every time you activate the key or sequence where the command is stored. SERIAL MARKER is a tool that can be stored with a computer command that tells the Liberator to send any information that follows out the serial port without speaking or displaying the information . If you insert the tool SERIAL MARKER before you type in the code name for the command you are storing, and end the command by inserting SERIAL MARKER again, the Liberator will send information out the serial port without speaking or displaying it.

The graphic on the facing page shows you how to store the computer command <ENTER> into the Liberator using serial markers..

### **Note:**

<ESC> is generated on the Liberator by activating the CTRL key and the [ (left bracket key).

Information that contains serial markers is sent out the serial port whether the port is turned off or on. If you want information sent *only* when the port is set to IMMEDIATE or DELAYED, insert a control function in front of the serial marker tool: <CTRL><SERIAL MARKER>

For more information about storing computer keys and codes see your computer emulation manual and/or your ECU manual.

**EXTERNAL PRINTER****To Print Automatically Make Sure:**

Printer is ON  
Printer Mode = EXTERNAL  
Serial Output = DELAYED  
Ch./per Line = your choice  
Baud Rate, Data Bits, Stop Bit, Parity  
match between Liberator and Printer

**To Print Manually**

Printer is ON  
Printer Mode = EXTERNAL  
Serial Output = OFF  
Same  
Activate PRINT key

---

**OUTPUT DEVICE OTHER THAN A PRINTER****Make sure:**

Output device is ON  
Printer Mode = OFF or INTERNAL  
Serial Output = IMMEDIATE or DELAYED  
Baud Rate, Data Bits, Stop Bit, Parity  
match between Liberator and output  
device

---

**INTERNAL PRINTER****to Print Manually Make Sure:**

Printer Mode = OFF  
Serial Output = OFF or IMMEDIATE  
Activate PRINT key to print text

**To Print Automatically Make Sure:**

Printer Mode = INTERNAL  
Serial Output = OFF or IMMEDIATE

## OUTPUT MENU Checklist

## Use the Checklist Before You Use Your Computer or Printer

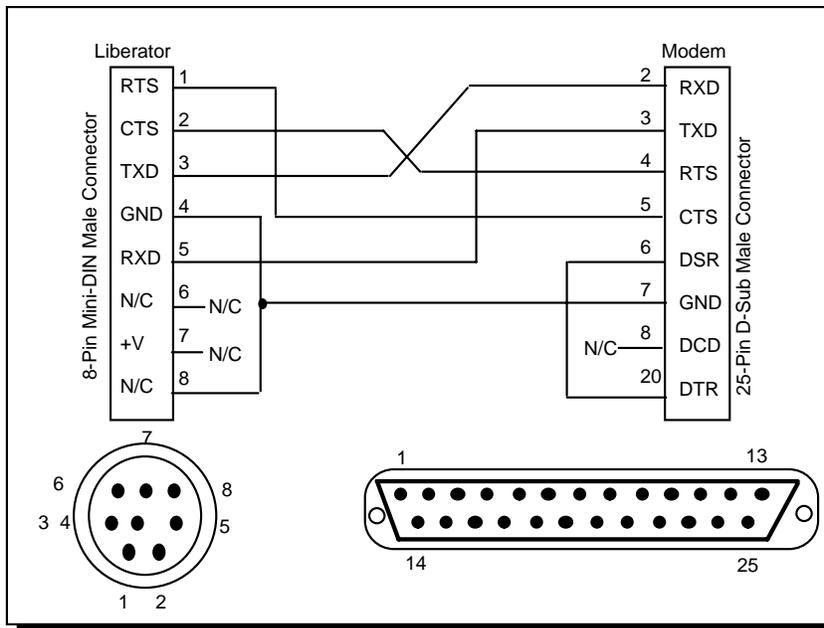
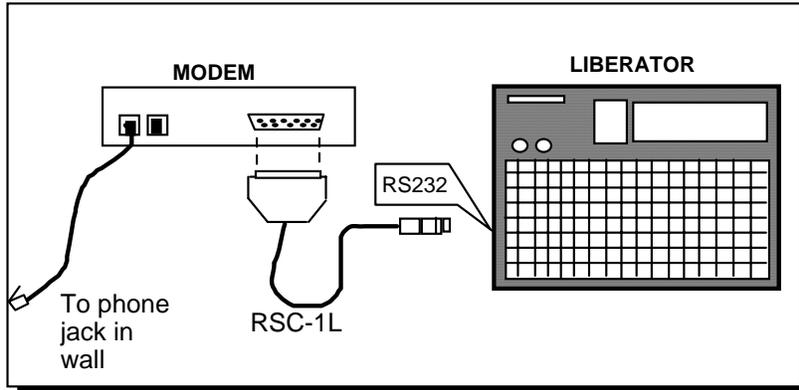
---

### **Summary:**

The facing page contains a quick checklist of the things that have been covered so far. This may help you the first few times you set up an output device until you become familiar with the process.

---

The first few times you use a computer or printer with your Liberator, you may find it helpful to use the check list on the facing page to make sure you have completed all the settings that are necessary to make the output device work with the Liberator.



Liberator-to-Modem Cable

## Connect the Liberator to the Modem

## Connecting the Liberator to a Modem

---

### Technical Summary:

The modem support built into the Liberator is a basic terminal program. It is capable of both full and half duplex connections at speeds of 110, 300, 1200, 2400, 4800, 9600, 19200 and 38400 baud. When you are receiving a continuous stream of incoming characters, you will get the best results at 2400 baud. File transfer capability is provided through the Kermit<sup>®</sup> protocol.

---

### Connect the Liberator and the Modem:

You must have an RS232 cable with a D-25 adapter on one end and an 8-pin mini-DIN on the other end. (This cable is available from PRC as the RSC-1L cable).

Plug the small round end of the cable into the **RS232** connector on the left side panel of the Liberator. Plug the D-shaped end of the cable into your modem.

### To Enable Modem Support:

(All of the OUTPUT MENU options for modem support are discussed in detail later in this section.)

#### **Note:**

*When modem support is enabled, memory transfers and other procedures that use the Liberator's serial port (RS232) are not available for use. To be able to perform any of these other procedures, you must disable modem support.*

1. Turn the Liberator ON. Open the Toolbox and select the **OUTPUT MENU**.
2. On *Screen 1* select the **baud rate** you want to use. (2400 is best if you are going to receive a continuous stream of incoming characters.)
3. Go to *Screen 2* and select the **port parameters** you want to use.
4. Go to *Screen 4* and set **Modem Support** to either **HALF DUPLEX** or **FULL DUPLEX**.

**pNote:**

**HALF DUPLEX** displays characters on the Liberator's display **and** sends them out the serial port as you type them. **FULL DUPLEX** sends the characters out the serial port but **does not** display them on the Liberator. (If you select HALF DUPLEX and see two of each character that you type on the display, select FULL DUPLEX to correct this problem.)

**Dialing a Host:**

On your Liberator, type the dialing command that is required by your modem. Consult your modem operator's manual for more information about the commands that your modem recognizes. For example, modems using the AT command set will have you dial "ATD" first, followed by the number you want to dial.

## Send a File Using the Kermit Protocol

---

### pNote:

In order to send a file using the Kermit protocol, the host (or device) that you are calling must also be able to support Kermit transfers.

### To Send a File Using the Kermit Protocol:

1. Put the host (the device you are calling) into Kermit receive mode.
2. Go to the Liberator's Toolbox and open the OUTPUT MENU. Go to *Screen 4*.
3. Select option #4 (Send a Notebook using Kermit).
4. Read the Liberator's display. Enter the icon sequence for the Notebook you want to send and then activate ENTER.
5. Read the Liberator's display. Type a name for the host computer to save the Notebook under. *The name can be **no more than 8 characters long**.* Activate ENTER when you are finished.
6. On the Liberator's display you will see the name of the file, the number of bites transferred and a bar graph showing the progress of the transfer.

### pNote:

You can **stop a transfer** by activating **key A1** on the Liberator keyboard. This aborts the transfer and returns you to the OUTPUT MENU.

## Receive a File Using the Kermit Protocol

---

### pNote:

In order to receive a file using Kermit, the host (device) that you are connected to must be able to support Kermit transfers.

### Receive a File Using the Kermit Protocol:

1. Go to the Liberator's Toolbox and open the OUTPUT MENU.  
Go to *Screen 4*.
2. Set option #3 to ENABLED.
3. Activate option #5 to EXIT.
4. Start the transfer on the host.
- 5a. All file transfers are placed into Notebooks. If you are currently in a Notebook, the transfer will take place immediately.
- 5b. If you are not currently in a Notebook, but there is a Notebook open in the Liberator's background that you have forgotten about, you will be prompted, "Save the current Notebook under an icon sequence". Activate the icon sequence to save (and close) the Notebook. Next, you will be prompted to open a Notebook for the file to be transferred into. Activate the icon sequence you want to use for the Notebook and then activate ENTER.
6. On the Liberator's display you will see the name of the file, the number of bytes transferred and the amount of free memory that is available in the Liberator. As the amount of bytes transferred goes up, the amount of free memory will go down.

### pNote:

You can **stop a transfer** by activating **key A1** on the Liberator keyboard. This aborts the transfer and returns you to the OUTPUT MENU.

# Setting the OUTPUT MENU Options Specifically for Modem Support

---

For Modem Support, set the following options in the OUTPUT MENU:

## OUTPUT MENU:

### Screen 1

**3. Baud Rate = 110 / 300 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400**

This selection determines how fast text is sent out through the serial port. Remember, if you are going to be receiving characters in a steady stream, the best baud rate is 2400.

**Note:**

All settings *must be the same* for both the Liberator and the device connected to the Liberator for the data to be transferred correctly.

### Screen 2

**1. Data Bits = 7 / 8**

This sets the number of bits transmitted per character.

**2. Stop Bits = 1 / 2**

This sets the amount of time between the characters that are sent out the serial port.

**3. Parity = NONE / EVEN / ODD**

This selects the type of error checking used when sending data out the serial port.

## Screen 4

### 2. **Modem Support = DISABLED / HALF DUPLEX / FULL DUPLEX**

This setting turns modem support ON and OFF. It also determines whether or not the text you type on the Liberator is visible on the display as it is being sent out the serial port. If you select **HALF DUPLEX**, text is sent out the serial port *and* appears on the display. If you select **FULL DUPLEX**, text is sent out the serial port only. If you set this to **DISABLED**, text appears on the display but is *not* sent out the serial port.

### 3. **Kermit Receive = DISABLED / ENABLED**

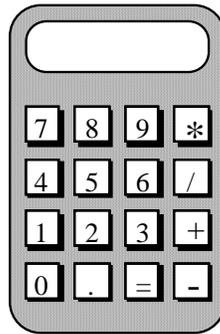
This setting enables or disables the automatic decoding of Kermit file transfer packets. When this is **ENABLED**, the receipt of a Kermit packet automatically initiates a file transfer from the host computer to the Liberator. When this is **DISABLED**, Kermit packets are displayed without any special processing. (If option #2: **Modem Support = DISABLED**, then "MODEM DISABLED" appears automatically in option #3.

### 4. **Send a Notebook Using Kermit**

This option starts the transfer of a Notebook from the Liberator to the host computer using the Kermit transfer protocol. You can only select this option when option #2: **Modem Support** is set to **HALF DUPLEX** or **FULL DUPLEX**.

## Using the Calculator

## The Liberator's Built-in Calculator



The built-in calculator allows you to  
add  
subtract  
multiply  
divide

You can copy problems from a Notebook or the workspace to the calculator.

You can transfer answers from the calculator into a Notebook or the workspace.

### Turn the Calculator On

Activate:

CALCU-  
LATOR



## The Liberator's Built-in Calculator

## The Liberator Contains a 4-Function Calculator

---

### **Summary:**

The Liberator has a Calculator mode which you can use to add, subtract, multiply and divide. You can speak the answer or the complete problem, print the problems on a printer and copy problems or answers.

---

The Liberator has a built-in calculator. It is a simple 4-function, 8 character calculator. It allows you to add, subtract, multiply and divide. Below are some important things you should know about the calculator's operation.

**Speech** - When the speech is **On**, the Liberator will speak each key when you activate it. **SPEAK DISPLAY** will speak the whole problem as it appears on the display.

**Printing** - If you connect a printer to the Liberator and turn the serial output on as described in **CONNECTING TO OTHER DEVICES**, the Liberator will send the calculations to the printer as well as showing them on the display. The printout will look similar to the printout of an adding machine.

**Copying** - You can copy a problem from the Notebook or workspace into the calculator. You can also copy the answer to a problem from the calculator into the Notebook or workspace.

**Number of digits in a number** - A calculator problem can contain any number of digits. The Liberator can display an answer of up to 10 digits. It will use scientific notation to display very large numbers.

**CLEAR DISPLAY** can be used as a "clear" key.

**DELETE CHARACTER** can be used to erase numbers and signs.

1	2	3	4
5	6	7	8
9	0	.	=
+	-	*	/

**CALCU-  
LATOR**

To use the calculator:

The CALCULATOR tool must be on your Custom overlay.

The characters shown above must also be on your Custom overlay

Functions that Must be on Your  
Custom Overlay

## To Use the Calculator, You Must Have the CALCULATOR Tool and a Number of Characters on Your Custom Overlay

---

### Summary:

Before you can use the calculator in your area, you must add the CALCULATOR tool to your Custom overlay. You must also make sure that Spell mode in your area contains all the numbers and operation signs.

---

When you use the calculator, you will activate the CALCULATOR tool to put the Liberator into the calculating mode. You will then use the numbers and operation signs in Spell mode to operate the calculator.

First of all, make sure that you have all the numbers from 0 to 9 in Spell mode in your User Area. You will also need the "period" which will serve as a decimal point.

Next, add any operation signs that might be missing from Spell mode in your area. You will need the + (plus sign), the - (minus sign) and the = (equals sign). Also, use the / (slash) as a division sign and the \* (asterisk) as the multiplication sign.

You must also assign the CALCULATOR tool to your overlay.

### **pNote:**

See **PERSONALIZE YOUR OVERLAY** in the *Setting Up* manual for information about assigning characters and adding tools to your overlay.

## Addition Problem

**Activate:**

CALCULATOR

0
CALCULATOR

1

2

0
12
CALCULATOR

+

12
12
+ █
CALCULATOR

6

5

12
12
+ 65 █
CALCULATOR

=

CALCULATOR
12
65
= 77 █

77

Simple Addition Problem

# Turn the Calculator On and Start Doing Math Problems

---

## Summary:

Turn the Calculator on by activating CALCULATOR. Then, enter the numbers and operation signs exactly as you would in a standard calculator. The cursor on the right hand side of the display shows where the number will appear. The number in the lower left corner is a running total of the calculations as they are performed.

---

Activate the CALCULATOR tool to turn the calculator On. You will see the calculating screen on the display. In this screen, the word "Calculator" appears in the lower right corner. The cursor indicates where the numbers that you enter will appear on the screen. In the lower left corner you will see a number. This number is initially 0. It is a running total of the calculation you are performing. Each time you add, subtract, multiply or divide a number this total will be updated. The calculator performs calculation in the order that you enter the numbers.

For example, to add  $12 + 65$ , activate CALCULATOR. Then activate the number 12, the plus sign (+), the number 65 and then the equals sign (=). Notice that the number in the lower left corner updates each time that you enter an operation sign. When you activate the equals sign, the calculation ends. If you want to perform an additional operation to the answer, activate an operation sign before entering the additional number.

If you want to enter a new problem, activate CLEAR DISPLAY to clear the old problem first. When you enter the next number it will start at the top of the screen and begin a new problem.

To leave the calculator, activate CALCULATOR again. The Liberator will go back to its status before you entered the calculator.

The calculator is intended for simple calculator use. If you need to do more complicated calculating, contact PRC for information about connecting to a Hewlett Packard calculator.

## Copy a Problem from a Notebook or the Workspace to the Calculator

The result of the problem,  $2=8/5*32=$

NOTEBOOK: MATH

Highlight the problem using BLOCK MARK.

Activate

CALCU-  
LATOR

Do you wish to perform the calculations  
in the block of highlighted text?

YES/NO

NOTEBOOK: MATH

Activate "Y" for "YES" to calculate the answer.

128

12  
+ 8  
/ 5  
\* 32  
= 128

CALCULATOR

Copy a Problem from the Notebook or Workspace to the  
Calculator

## **Copy a Problem from a Notebook or the Workspace into the Calculator**

---

### **Summary:**

You can copy a problem from your Notebook or the workspace into the calculator by highlighting the problem and answering "yes" to the prompt.

---

Perhaps you have a column or series of numbers that you put into a report in one of your Notebooks and now you need to know their total. You can copy the numbers into the calculator and let the calculator add them.

### **To Copy a Problem from the Notebook or Workspace into the Calculator:**

1. Move the cursor to the problem that you want to highlight.
2. Activate BLOCK MARK.
3. Move the cursor to the end of the problem that you want to highlight.
4. Activate BLOCK MARK again.
5. Activate CALCULATOR.
6. Answer "Yes" to the prompt.
7. A copy of the problem will appear in the calculator and the problem will be solved.

## Copy an Answer from the Calculator to a Notebook or the Workspace



Activate **STORE** to save the answer.

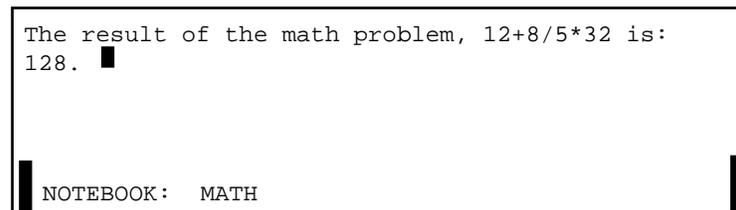
Activate **CALCULATOR** to close the calculator.

The Liberator automatically returns to where you were before you opened the calculator.

Make sure your cursor is where you want the answer to go.

Activate **CTRL** **ESCAPE STORAGE**

The answer is inserted where you placed the cursor.



## Copy an Answer from the Calculator to the Notebook or Workspace

## Copy an Answer from the Calculator to a Notebook or the Workspace

---

### Summary:

You can move an answer from the calculator and put it into a designated place in your Notebook or workspace by activating STORE, activating CALCULATOR and then activating the CTRL key and ESCAPE STORAGE.

---

There may be times when you will want to place the answer to a problem that you worked on the calculator into your Notebook or workspace. The Liberator makes this easy to do.

### To Transfer an Answer from the Calculator into your Notebook or Workspace:

1. When you have entered the problem and have an answer, activate STORE.
2. Activate the CALCULATOR key. (Whenever you close the calculator, you will return to where you were before you opened the calculator, e.g., Notebook or workspace.)
3. Make sure your cursor is where you want your answer to go.
4. Activate <CTRL><ESCAPE STORAGE>.
5. The answer will appear wherever you placed the cursor in your Notebook or workspace.

### pNotes:

You can save an answer **in** the calculator by activating STORE when the answer appears. You can then transfer the saved answer to another problem **in** the calculator by activating ESCAPE STORAGE.

### Setting the Calculator Alarm:

Open the calculator. Activate <ALT><CALCULATOR>. Close the calculator. Answer YES to the prompt on the display. Once the alarm is set, the **next** time you enter the calculator, the alarm will sound.

Teachers might want to use this alarm during math tests.



## Using the Scratchpad

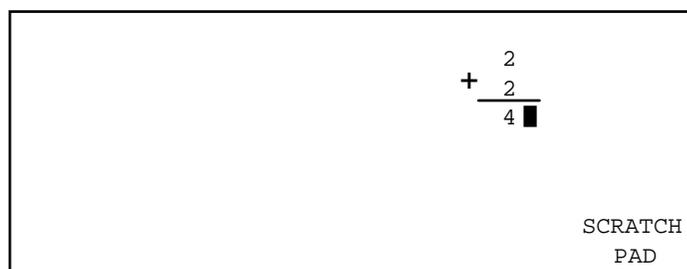
# The SCRATCHPAD

Actiavate

SCRATCH  
PAD



Work math problems on the scratchpad



—      +      \*      /  
Subtract      Add      Multiply      Divide

# The SCRATCHPAD

## What is a SCRATCHPAD?

---

### **Summary:**

The SCRATCHPAD is a Liberator tool that allows you to work on solving addition, subtraction, multiplication and division problems exactly as if you were working the problems out on a piece of paper.

---

As part of our grade school education we learn how to work basic math problems, beginning with addition and progressing to long division. The best learning seems to take place when we have a textbook, the help of a teacher and a worksheet on which we can practice the various steps involved in solving the problems.

The SCRATCHPAD replaces the 'worksheet and pencil' for the person using the Liberator. By activating the SCRATCHPAD key, you can work every step in any basic math problem, make changes, correct mistakes, scroll through a completed problem and print it out after you have at least one digit in the answer. The SCRATCHPAD will not do the calculations for you; you must work out the addition, subtraction, multiplication and division by yourself.

In fact, the only difference between a 'pencil and paper' worksheet and the SCRATCHPAD is that you can't doodle on the SCRATCHPAD!

## SCRATCHPAD Information

---

### Summary:

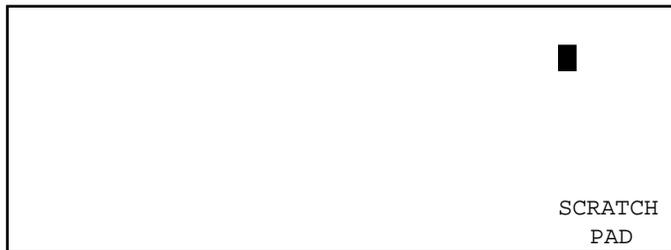
The next few pages give you information about using the SCRATCHPAD. This includes such things as how the cursor moves and deleting mistakes.

---

If the SCRATCHPAD tool is not on your custom overlay, you must assign it to a key or sequence. You must also have the number characters, +, -, /, \*, and = in Spell mode on your overlay. See the **PERSONALIZE YOUR OVERLAY** chapter in the *Setting Up* manual for information about assigning tools and characters to your overlay.

Activate the SCRATCHPAD key.

The cursor is over near the right side of the display screen and "SCRATCHPAD" appears in the bottom right corner of the screen.



Activate the numbers on the Liberator's keyboard to enter a problem.

Use the + key for addition, the - key for subtraction, the \* key for multiplication and the / for division. Activate the = key when you are ready to begin solving the problem.



The placement of the Cursor in any given problem tells you where the next number you activate is going to go.

Use the + [= - arrows to move the cursor through a problem



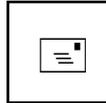
29  
12  $\overline{)349}$   
- 24  

---

10

SCRATCH  
PAD

Activate



29  
12  $\overline{)349}$   
- 24  

---

10

SCRATCH  
PAD

The SCRATCHPAD also has an error beep that you will hear if you enter either too many digits or too few for the problem you are solving. You will also hear the beep if you enter a key which is not appropriate for whatever you are trying to do. If this happens, resume by entering the correct digits or keys.

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ - 24 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ - 2 \\ \hline \end{array}$$

Activate DELETE CHARACTER

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ - 24 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ \hline \end{array}$$

Activate DELETE WORD once:

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ \hline \end{array}$$

Activate DELETE WORD again to go to the previous step:

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ - 24 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ 12 \overline{) 349} \\ - 4 \\ \hline \end{array}$$

Activate SPACE

## Correcting Mistakes

## **Correcting Your Mistakes When Solving Problems**

---

### **Summary:**

You can correct any mistakes you might make during the solving of a problem by using the UP, DOWN, RIGHT and LEFT ARROWS to move the cursor and by activating DELETE CHARACTER, CLEAR DISPLAY, the [SPACE] keys or DELETE WORD.

---

By using the UP, DOWN, RIGHT and LEFT arrows, DELETE WORD, the SPACE keys, DELETE CHARACTER and/or CLEAR DISPLAY, you can delete any mistakes you may have made.

The arrow keys move your cursor to a position where you can delete a digit and return to a previous step in your problem. DELETE CHARACTER deletes the digit to the **left** of the cursor. When you place the cursor over a digit in one line of a problem and activate DELETE WORD, the **entire line** is deleted. The cursor remains on the line so you can re-enter new numbers. If you activate DELETE WORD again, the cursor moves to the previous line of your problem. If you move the cursor to a digit and activate the SPACE key, the digit is deleted and the cursor moves one space to the **right**. CLEAR DISPLAY erases an entire problem so that you can start over.

We recommend that you work a problem where you make some deliberate mistakes so that you can practice correcting them and become familiar with how the cursor moves and what happens when numbers are deleted. The Liberator will beep if you try to correct a mistake using an incorrect key. Just try another key.

### **pNote:**

You can also print out any problem by activating the PRINT key on the Liberator.



# Working an Addition Problem

---

## Summary:

On the next few pages you will learn how to solve an addition problem using the SCRATCHPAD. For this example you will add  $385 + 757$ .

---

Open the Scratch by activating the SCRATCHPAD key.



You are going to add  $385 + 757$ . First, **activate 3** and see where the number goes and where the cursor moves.



Now **activate 85** to complete your first number

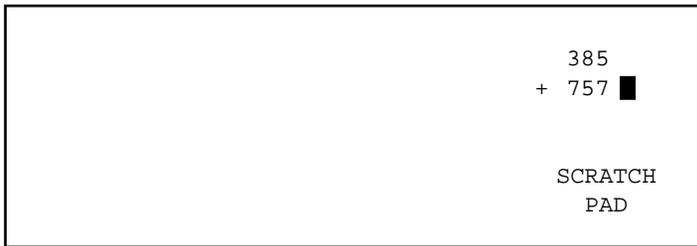


**Activate+** (the PLUS sign) to let the Liberator know that you are going to add this problem.



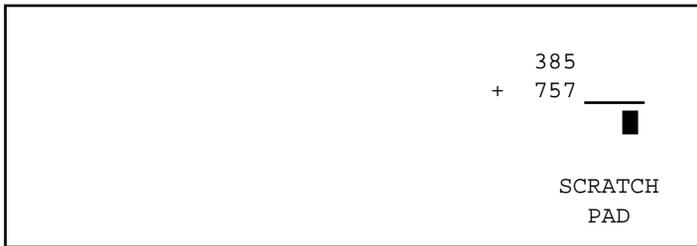
385  
+ █  
  
SCRATCH  
PAD

Now **activate 757**



385  
+ 757 █  
  
SCRATCH  
PAD

Now **activate =** (the EQUALS sign). This tells the Liberator that you are ready to begin your addition.



385  
+ 757 █  
  
SCRATCH  
PAD

Begin to add the problem: 5+7=12; **Activate 2** (which will be placed under the 7).



385  
+ 757  
█ 2  
  
SCRATCH  
PAD

You must Carry (C) the 1 and add it to the 8 in the middle (tens) column.  
**Activate C**

$$\begin{array}{r} 385 \\ + 757 \\ \hline 2 \end{array}$$

SCRATCH  
PAD

Notice that the cursor moved over the 8. This tells you that the Liberator recognized your Carry command and is waiting for you to enter your Carry number. **Activate 1.**

$$\begin{array}{r} 1 \\ 385 \\ + 757 \\ \hline 2 \end{array}$$

SCRATCH  
PAD

As soon as you enter 1, the cursor moves back under the 5 where your next number will go. (To change the carried 1, activate C again.) Then,  $1+8+5=14$ , so **activate 4.**

$$\begin{array}{r} 1 \\ 385 \\ + 757 \\ \hline 42 \end{array}$$

SCRATCH  
PAD

Since  $1+8+5=14$ , you have to Carry a 1 again. **Activate C** (Carry). The cursor moves over the 3.

					█1
					385
				+	757
					42
					SCRATCH
					PAD

Now **activate 1** (your Carry number).

$1+3+7=11$  and since this is the end of your addition problem, you will place the last two digits (11) into the answer. **Activate 1**.

					11
					385
				+	757
					█142
					SCRATCH
					PAD

**Activate 1**, again.

					11
					385
				+	757
					█1142
					SCRATCH
					PAD

You have completed this problem. You can clear the display to prepare for a new problem or you can activate SCRATCHPAD to exit the Scratchpad.

# Working a Subtraction Problem

---

## Summary:

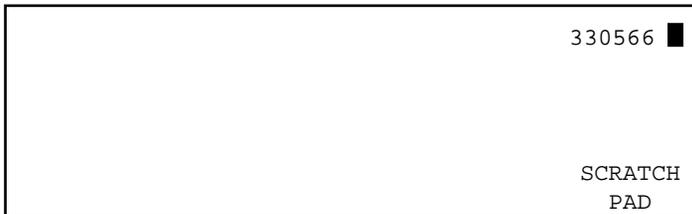
On the next few pages you will learn how to solve a subtraction problem using the SCRATCHPAD. In this example you will subtract  $330566 - 219777$ .

---

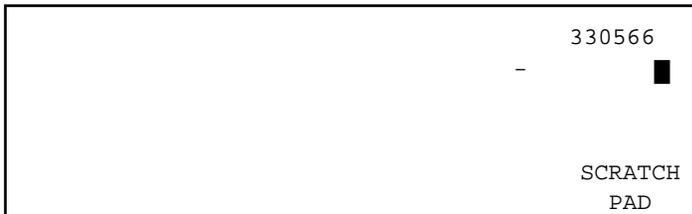
Activate SCRATCHPAD to open the Scratchpad, if you have not already done so.



**Activate 330566**



**Activate - (the MINUS sign)**



### Activate 219777

$$\begin{array}{r} 330566 \\ - 219777 \blacksquare \\ \hline \end{array}$$

SCRATCH  
PAD

**Activate** = (the EQUALS sign)

$$\begin{array}{r} 330566 \\ - 219777 \\ \hline \blacksquare \end{array}$$

SCRATCH  
PAD

You now begin to subtract. Since you can't subtract 7 from 6, you have to Borrow (B) from the number to the left of the first 6. You must tell the Liberator that you are going to Borrow so it will know where to put your cursor, so **activate B**.

$$\begin{array}{r} \blacksquare, \\ 330566 \\ - 219777 \\ \hline \end{array}$$

SCRATCH  
PAD

Notice that the cursor moved from underneath the 7 to a position over the left-hand 6 and that a small symbol indicates that you have Borrowed a number from the 6. Now **activate 5** to indicate the number that is left after you borrowed 1 ( $6-1=5$ ).



5,  
330566  
- 219777  
-----  
SCRATCH  
PAD

The cursor returns under the 7. You can now subtract 7 from 16 which equals 9.

**Activate 9**



5,  
330566  
- 219777  
-----  
9  
SCRATCH  
PAD

The next step is to subtract 7 from 5, so you have to Borrow again.

**Activate B**



5,  
330566  
- 219777  
-----  
9  
SCRATCH  
PAD

The Cursor is now over the 5 and you can Borrow 1 from it, leaving 4.

**Activate 4**

$$\begin{array}{r} \blacksquare 4'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 9 \end{array}$$

SCRATCH  
PAD

Now you can subtract 7 from 15 which equals 8. **Activate 8**

$$\begin{array}{r} \blacksquare 4'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 89 \end{array}$$

SCRATCH  
PAD

Since you can't subtract 7 from 4 you need to Borrow from the 0 and the 3.

**Activate B**

$$\begin{array}{r} \blacksquare 4'5, \\ 330566 \\ - 219777 \\ \hline 89 \end{array}$$

SCRATCH  
PAD

Now **activate 9**

$$\begin{array}{r} \blacksquare 94'5, \\ 330566 \\ - 219777 \\ \hline 89 \end{array}$$

SCRATCH  
PAD

In order to Borrow from a 0, you also have to Borrow from the 3, so use your arrows to place the cursor over the 3 and then **activate 2**, which will appear above the 3.

$$\begin{array}{r} 294'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 89 \end{array}$$

SCRATCH  
PAD

Move the cursor to the left of the 89 and **Activate 7** to subtract 7 from 14.

$$\begin{array}{r} 294'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 789 \end{array}$$

SCRATCH  
PAD

Now subtract 9 from 9. **Activate 0**

$$\begin{array}{r} 294'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 0789 \end{array}$$

SCRATCH  
PAD

Subtract 1 from 2. **Activate 1.**

$$\begin{array}{r} 29\ 4'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 1\ 07\ 89 \end{array}$$

SCRATCH  
PAD

Subtract 2 from 3. **Activate 1.**

$$\begin{array}{r} 29\ 4'5, \\ 330566 \\ - 219777 \\ \hline \blacksquare 11\ 07\ 89 \end{array}$$

SCRATCH  
PAD

Your problem is completed.

Activate CLEAR DISPLAY to start a new problem  
or  
activate SCRATCHPAD to exit the Scratchpad.

# Working a Multiplication Problem

---

## Summary:

On the next few pages you will learn how to solve a multiplication problem using the SCRATCHPAD. For this example you will multiply  $345 \times 678$ .

---

If you have not already done so, open the Scratchpad by activating the SCRATCHPAD key.



**Activate 345**



Since this is a multiplication problem you must let the Liberator know that you are going to multiply. **Activate \*** (the ASTERISK)

$$\begin{array}{r} 345 \\ \times \quad \blacksquare \\ \hline \end{array}$$

SCRATCH  
PAD

Now **activate 678**

$$\begin{array}{r} 345 \\ \times 678 \blacksquare \\ \hline \end{array}$$

SCRATCH  
PAD

Now **activate =** (the EQUALS sign) so the Liberator knows you have entered your problem and are ready to start multiplying.

$$\begin{array}{r} 345 \\ \times 678 \\ \hline \quad \blacksquare \end{array}$$

SCRATCH  
PAD

Multiply  $5 \times 8 = 40$  (in your head). **Activate 0.**

$$\begin{array}{r} 345 \\ \times 678 \\ \hline \quad \blacksquare 0 \end{array}$$

SCRATCH  
PAD



You have to Carry the 3 (from 36), so **activate C**.

$$\begin{array}{r} \blacksquare 4 \\ 345 \\ \times 678 \\ \hline 60 \\ \text{SCRATCH} \\ \text{PAD} \end{array}$$

Now the Liberator is ready for you to enter your Carry number.

**Activate 3.**

$$\begin{array}{r} 34 \\ 345 \\ \times 678 \\ \hline \blacksquare 60 \\ \text{SCRATCH} \\ \text{PAD} \end{array}$$

Multiply  $8 \times 3 = 24 + 3 = 27$ . **Activate 7.**

$$\begin{array}{r} 34 \\ 345 \\ \times 678 \\ \hline \blacksquare 760 \\ \text{SCRATCH} \\ \text{PAD} \end{array}$$

## Activate 2

$$\begin{array}{r} 34 \\ 345 \\ \times 678 \\ \hline \blacksquare 2760 \end{array}$$

SCRATCH  
PAD

Next you will multiply  $345 \times 7$ , but first you have to tell the Liberator that you want to add the result to 2760. **Activate** + (the PLUS sign).

$$\begin{array}{r} 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare \end{array}$$

SCRATCH  
PAD

Since the 7 is in the tens column as in longhand multiplication, you can either enter a 0 where the cursor is, or you can move the cursor one space to the left by **activating the**

LEFT ARROW

$$\begin{array}{r} 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare \end{array}$$

SCRATCH  
PAD

Multiply  $7 \times 5 = 35$  and **activate 5**

$$\begin{array}{r} 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare 5 \\ \hline \end{array}$$

SCRATCH  
PAD

Since you have to Carry the 3, **activate C**

$$\begin{array}{r} \blacksquare \\ 345 \\ \times 678 \\ \hline 2760 \\ + \quad 5 \\ \hline \end{array}$$

SCRATCH  
PAD

The cursor has moved over the 4 to show where your Carrying number goes. So now **activate 3**.

$$\begin{array}{r} 3 \\ 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare 5 \\ \hline \end{array}$$

SCRATCH  
PAD

Now multiply  $7 \times 4 = 28 + 3 = 31$ . **Activate 1.**

$$\begin{array}{r} \phantom{0}3 \\ 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare 15 \\ \hline \end{array}$$

SCRATCH  
PAD

You have to Carry 3 again, so **activate C.**

$$\begin{array}{r} \blacksquare 3 \\ 345 \\ \times 678 \\ \hline 2760 \\ + 15 \\ \hline \end{array}$$

SCRATCH  
PAD

Carry the 3. **Activate 3**

$$\begin{array}{r} 33 \\ 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare 15 \\ \hline \end{array}$$

SCRATCH  
PAD

Now multiply  $7 \times 3 = 21 + 3 = 24$ . **Activate 4.**

$$\begin{array}{r} 33 \\ 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare 415 \\ \hline \end{array}$$

SCRATCH  
PAD

Since this is the end of multiplying the tens position, complete your number. **Activate 2.**

$$\begin{array}{r} 33 \\ 345 \\ \times 678 \\ \hline 2760 \\ + \blacksquare 2415 \\ \hline \end{array}$$

SCRATCH  
PAD

Now you will multiply  $345 \times 6$  and add the result to 2415.  
Tell the Liberator you want to add. **Activate +** (the PLUS sign).

$$\begin{array}{r} 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + \blacksquare \\ \hline \end{array}$$

SCRATCH  
PAD

Since the 6 is in the hundreds column, and the Cursor is in the ones column, either **activate two 0's** or **move the LEFT ARROW TWICE** to get the Cursor into the hundreds position.

$$\begin{array}{r}
 345 \\
 \times 678 \\
 \hline
 2760 \\
 2415 \\
 + \quad \blacksquare
 \end{array}$$

SCRATCH  
PAD

Multiply  $6 \times 5 = 30$ . **Activate 0.**

$$\begin{array}{r}
 345 \\
 \times 678 \\
 \hline
 2760 \\
 2415 \\
 + \quad \blacksquare 0
 \end{array}$$

SCRATCH  
PAD

Now you want to Carry the 3. **Activate C**

$$\begin{array}{r}
 \blacksquare \\
 345 \\
 \times 678 \\
 \hline
 2760 \\
 2415 \\
 + \quad 0
 \end{array}$$

SCRATCH  
PAD

The cursor is over the 4 showing you where your Carry number will go.

**Activate 3.**

$$\begin{array}{r} 3 \\ 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + \blacksquare 0 \end{array} \quad \begin{array}{l} \text{SCRATCH} \\ \text{PAD} \end{array}$$

Now multiply  $6 \times 4 = 24 + 3 = 27$ . **Activate 7.**

$$\begin{array}{r} 3 \\ 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + \blacksquare 70 \end{array} \quad \begin{array}{l} \text{SCRATCH} \\ \text{PAD} \end{array}$$

You have to Carry the 2 so **activate C.**

$$\begin{array}{r} \blacksquare 3 \\ 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + 70 \end{array} \quad \begin{array}{l} \text{SCRATCH} \\ \text{PAD} \end{array}$$

**Activate 2** (your Carry number).

$$\begin{array}{r} 23 \\ 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + \blacksquare 70 \end{array} \quad \begin{array}{l} \text{SCRATCH} \\ \text{PAD} \end{array}$$

Now multiply  $6 \times 3 = 18 + 2 = 20$ . **Activate 0.**

$$\begin{array}{r} 23 \\ 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + \blacksquare 070 \end{array} \quad \begin{array}{l} \text{SCRATCH} \\ \text{PAD} \end{array}$$

You have completed multiplying the hundreds column. To finish this sequence, **activate 2.**

$$\begin{array}{r} 23 \\ 345 \\ \times 678 \\ \hline 2760 \\ 2415 \\ + \blacksquare 2070 \end{array} \quad \begin{array}{l} \text{SCRATCH} \\ \text{PAD} \end{array}$$

Now you want to add the numbers together to get your final answer.

**Activate** = (the EQUALS sign).

(The problem has moved to the left side of the screen so there will be room to see your answer.)

$\begin{array}{r} 2760 \\ 2415 \\ + \underline{2070} \end{array}$	$\begin{array}{r} 23 \\ 345 \\ \times \underline{678} \\ 2760 \\ 2415 \\ + \underline{2070} \end{array}$
	SCRATCH PAD

The cursor is in the ones position, ready for you to begin adding.

**Activate 0.**

$\begin{array}{r} 2760 \\ 2415 \\ + \underline{2070} \\ \blacksquare 0 \end{array}$	$\begin{array}{r} 23 \\ 345 \\ \times \underline{678} \\ 2760 \\ 2415 \\ + \underline{2070} \end{array}$
	SCRATCH PAD

Add 6+5=11. **Activate 1.**

$\begin{array}{r} 2760 \\ 2415 \\ + \underline{2070} \\ \blacksquare 10 \end{array}$	$\begin{array}{r} 23 \\ 345 \\ \times \underline{678} \\ 2760 \\ 2415 \\ + \underline{2070} \end{array}$
	SCRATCH PAD

**Activate C** to Carry the 1.

$  \begin{array}{r}  \blacksquare \\  2760 \\  2415 \\  + \underline{2070} \\  \hline  10  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \hline  \times 678 \\  \hline  2760 \\  2415 \\  + \underline{2070} \\  \hline  \text{SCRATCH} \\  \text{PAD}  \end{array}  $
---	---

**Activate 1** (your Carry number).

$  \begin{array}{r}  1 \\  2760 \\  2415 \\  + \underline{2070} \\  \hline  \blacksquare 10  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \hline  \times 678 \\  \hline  2760 \\  2415 \\  + \underline{2070} \\  \hline  \text{SCRATCH} \\  \text{PAD}  \end{array}  $
---	---

Add 1+7+1=9. **Activate 9.**

$  \begin{array}{r}  1 \\  2760 \\  2415 \\  + \underline{2070} \\  \hline  \blacksquare 910  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \hline  \times 678 \\  \hline  2760 \\  2415 \\  + \underline{2070} \\  \hline  \text{SCRATCH} \\  \text{PAD}  \end{array}  $
--	---

Add 2+4+7=13. **Activate 3.**

$  \begin{array}{r}  1 \\  2760 \\  2415 \\  + \underline{2070} \\  \blacksquare 3910  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \times \underline{678} \\  2760 \\  2415 \\  + \underline{2070}  \end{array}  $
	SCRATCH PAD

Carry the 1. **Activate C.**

$  \begin{array}{r}  \blacksquare 1 \\  2760 \\  2415 \\  + \underline{2070} \\  3910  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \times \underline{678} \\  2760 \\  2415 \\  + \underline{2070}  \end{array}  $
	SCRATCH PAD

**Activate 1** (your Carry number).

$  \begin{array}{r}  1 \quad 1 \\  2760 \\  2415 \\  + \underline{2070} \\  \blacksquare 3910  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \times \underline{678} \\  2760 \\  2415 \\  + \underline{2070}  \end{array}  $
	SCRATCH PAD

Add 1+2=3. **Activate 3.**

$  \begin{array}{r}  1 \quad 1 \\  2760 \\  2415 \\  + \underline{2070} \\  \blacksquare 33910  \end{array}  $	$  \begin{array}{r}  23 \\  345 \\  \times \underline{678} \\  2760 \\  2415 \\  + \underline{2070}  \end{array}  $
	SCRATCH PAD

Bring down the 2 into your answer because there is nothing to add to it.

**Activate 2.**

$\begin{array}{r} 11 \\ 2760 \\ 2415 \\ + \underline{2070} \\ 233910 \end{array}$	$\begin{array}{r} 23 \\ 345 \\ \times \underline{678} \\ 2760 \\ 2415 \\ + \underline{2070} \\ 233910 \end{array}$
---	--

You have completed your problem.

The Liberator automatically puts the completed answer under the original problem.



# Working a Division Problem

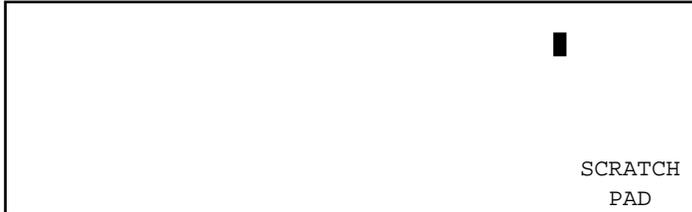
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## Summary:

On the next few pages you will learn how to solve a division problem using the SCRATCHPAD. In this example you will divide 258467 by 64.

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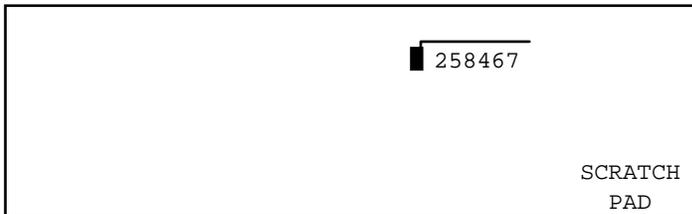
Activate SCRATCHPAD to open the Scratchpad.



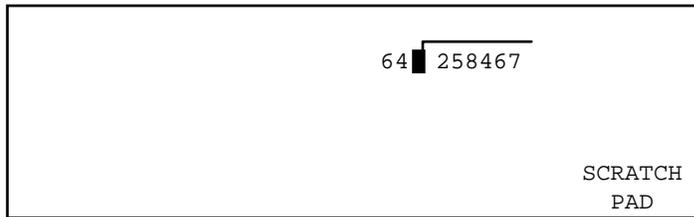
**Activate 258467**



To tell the Liberator that you want to divide, **activate /** (the DIAGONAL).



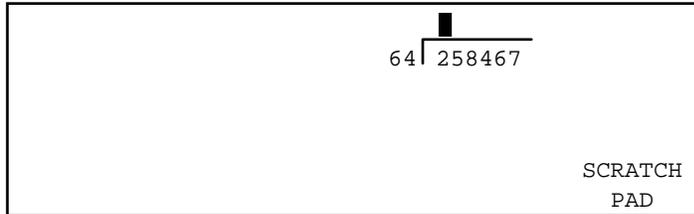
Now **activate 64**



64  $\overline{)258467}$

SCRATCH  
PAD

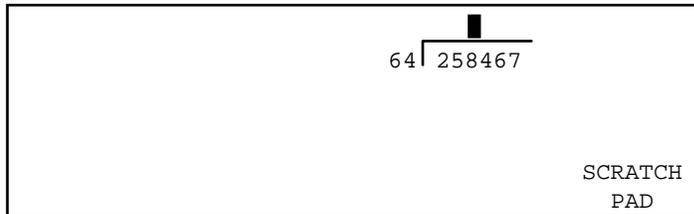
To tell the Liberator that you are ready to start solving your problem,  
**activate** = (the EQUALS sign).



64  $\overline{)258467}$

SCRATCH  
PAD

Notice that the cursor is over the 2. Since 64 doesn't divide into 2, or into 25, you must move the cursor so that it is positioned over the 8. (64 will divide into 258.) To move the Cursor, **activate the RIGHT ARROW (or SPACE key) TWICE.**



64  $\overline{)258467}$

SCRATCH  
PAD

Now you are ready to figure out how many times 64 will go into 258.

**Activate 4.**

Once the 4 is entered you have to multiply  $4 \times 64$ . To tell the Liberator that you are going to multiply, **activate** \* (the ASTERISK).

$$\begin{array}{r} 4 \\ 64 \overline{) 258467} \\ \underline{\phantom{0}000} \phantom{00} \end{array}$$

SCRATCH  
PAD

The cursor moves below the 8 and you are ready to start multiplying.

Multiply  $4 \times 4 = 16$ . **Activate 6.**

$$\begin{array}{r} 4 \\ 64 \overline{) 258467} \\ \underline{\phantom{0}006} \phantom{00} \end{array}$$

SCRATCH  
PAD

Since  $4 \times 4 = 16$ , you have to Carry 1. **Activate C.**

$$\begin{array}{r} 4 \\ 64 \overline{) 258467} \\ \underline{\phantom{0}006} \phantom{00} \\ \phantom{0}000 \phantom{00} \end{array}$$

SCRATCH  
PAD



Next, you have to subtract 256 from 258. To tell the Liberator that you are going to subtract (so it knows where to put the cursor), **activate -** (MINUS sign)

$\begin{array}{r} 258 \\ - 256 \\ \hline \blacksquare \end{array}$	$\begin{array}{r} 1 \quad 4 \\ 64 \overline{) 258467} \\ \blacksquare 256 \end{array}$
SCRATCH PAD	

Notice that the subtraction problem shows to the left of the original division problem. This is to make it possible for you to Carry numbers and to see what you have Carried. There is not enough space on the display to do this within the original division problem.

Now begin your subtraction: 8-6=2. **Activate 2**

$\begin{array}{r} 258 \\ - 256 \\ \hline \blacksquare 2 \end{array}$	$\begin{array}{r} 1 \quad 4 \\ 64 \overline{) 258467} \\ \blacksquare 256 \end{array}$
SCRATCH PAD	

Now you need to put the 2 back where it belongs in the division problem. You want to enter your subtraction answer so,

**Activate ENTER**

	$\begin{array}{r} 1 \quad 4 \\ 64 \overline{) 258467} \\ \underline{256} \\ 2 \blacksquare \end{array}$
SCRATCH PAD	

Move the cursor to the right. **Activate the RIGHT ARROW once.** Bring down the 4 (in the hundreds position). **Activate 4.**

$$\begin{array}{r} 4 \blacksquare \\ 64 \overline{) 258467} \\ \underline{256} \\ 24 \blacksquare \end{array}$$

SCRATCH  
PAD

Now you must divide 64 into 24. **Activate the / (SLASH) sign.** Since 64 won't go into 24, **activate 0.** You must also **activate the DOWN ARROW twice** so the cursor will move down to the "4" in "24". Then **activate the RIGHT ARROW one time** to move the cursor to the right.

$$\begin{array}{r} 40 \\ 64 \overline{) 258467} \\ \underline{256} \\ 24 \blacksquare \end{array}$$

SCRATCH  
PAD

The cursor shows you that you can now bring down another number.

**Activate 6**

$$\begin{array}{r} 40 \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ \blacksquare \end{array}$$

SCRATCH  
PAD

Now you are ready to divide 64 into 246. You must remind the Liberator to Divide so **Activate the "/"**. Then **Activate 3**.

$$\begin{array}{r} 403 \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ \blacksquare \end{array}$$

SCRATCH  
PAD

The next step once again involves multiplying. **Activate \*** (an ASTERISK). Then multiply  $64 \times 3 = 192$ . **Activate 2**.

$$\begin{array}{r} 403 \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ \blacksquare 2 \end{array}$$

SCRATCH  
PAD

You have to Carry 1 so **activate C**.

$$\begin{array}{r} \blacksquare \quad 403 \\ 64 \overline{) 258467} \\ \underline{256} \phantom{00} \\ 246 \\ \phantom{00} 2 \end{array}$$

SCRATCH  
PAD

**Activate 1**

$$\begin{array}{r} 1 \quad 403 \\ 64 \overline{) 258467} \\ \underline{256} \phantom{00} \\ 246 \\ \phantom{00} \blacksquare 2 \end{array}$$

SCRATCH  
PAD

Now multiply  $3 \times 6 = 18 + 1 = 19$ . **Activate 9**.

$$\begin{array}{r} 1 \quad 403 \\ 64 \overline{) 258467} \\ \underline{256} \phantom{00} \\ 246 \\ \phantom{00} \blacksquare 92 \end{array}$$

SCRATCH  
PAD

### Activate 1

$\begin{array}{r} 1 \quad \quad \quad 403 \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ \blacksquare 192 \end{array}$	SCRATCH PAD
--	----------------

Now you want to subtract 192 from 246. **Activate -** (MINUS sign).

$\begin{array}{r} 246 \\ -192 \\ \hline \blacksquare \end{array}$	$\begin{array}{r} 1 \quad \quad \quad 403 \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ 192 \end{array}$	SCRATCH PAD
---	---	----------------

The Liberator shows you your subtraction problem. Begin to subtract:  
6-2=4. **Activate 4.**

$\begin{array}{r} 246 \\ -192 \\ \hline \blacksquare 4 \end{array}$	$\begin{array}{r} 1 \quad \quad \quad 403 \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ 192 \end{array}$	SCRATCH PAD
---	---	----------------

Now subtract  $9-14=$ . You can't do it, so you have to Borrow from the 2. To tell the Liberator that you want to borrow, **activate B**.

$\begin{array}{r} \blacksquare \\ 246 \\ -192 \\ \hline 4 \end{array}$	$\begin{array}{r} 1 \quad \overline{403} \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ 192 \end{array}$	SCRATCH PAD
--	--	----------------

You are Borrowing 1 from the 2, so **activate 1**.

$\begin{array}{r} 1, \\ 246 \\ -192 \\ \hline \blacksquare 4 \end{array}$	$\begin{array}{r} 1 \quad \overline{403} \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ 192 \end{array}$	SCRATCH PAD
---	--	----------------

Now subtract  $14-9=5$ . **Activate 5**.

$\begin{array}{r} 1, \\ 246 \\ -192 \\ \hline \blacksquare 54 \end{array}$	$\begin{array}{r} 1 \quad \overline{403} \\ 64 \overline{) 258467} \\ \underline{256} \\ 246 \\ 192 \end{array}$	SCRATCH PAD
--	--	----------------

Since 54 is your answer, **activate ENTER. Activate the RIGHT ARROW ONCE. Activate 7.**

$$\begin{array}{r} 403 \\ 64 \overline{) 258467} \\ \underline{246} \\ 192 \\ \underline{192} \\ 547 \end{array}$$

SCRATCH  
PAD

Now divide 64 into 547. **Activate / (the slash) then 8.**

$$\begin{array}{r} 4038 \\ 64 \overline{) 258467} \\ \underline{246} \\ 192 \\ \underline{192} \\ 547 \end{array}$$

SCRATCH  
PAD

Remember you have to tell the Liberator that you are going to be multiplying in the next few steps. **Activate \*** (ASTERISK). Then multiply 8x64. **Activate 2.**

$$\begin{array}{r}
 4038 \\
 64 \overline{) 258467} \\
 \underline{246} \\
 192 \\
 \underline{192} \\
 547 \\
 \blacksquare 2
 \end{array}$$

SCRATCH  
PAD

You have to Carry 3, so **activate C.**

$$\begin{array}{r}
 \blacksquare 4038 \\
 64 \overline{) 258467} \\
 \underline{246} \\
 192 \\
 \underline{192} \\
 547 \\
 2
 \end{array}$$

SCRATCH  
PAD

**Activate 3**

$$\begin{array}{r}
 3 \quad 4038 \\
 64 \overline{) 258467} \\
 \underline{246} \\
 192 \\
 \underline{192} \\
 547 \\
 \blacksquare 2
 \end{array}$$

SCRATCH  
PAD

Multiply  $8 \times 6 = 48 + 3 = 51$ . **Activate 1.**

$$\begin{array}{r} 3 \overline{) 4038} \\ 64 \overline{) 258467} \\ \underline{246} \\ 192 \\ \underline{192} \\ 547 \\ \underline{512} \\ 12 \end{array}$$

SCRATCH  
PAD

**Activate 5**

$$\begin{array}{r} 3 \overline{) 4038} \\ 64 \overline{) 258467} \\ \underline{547} \\ 512 \\ \underline{512} \\ \blacksquare \end{array}$$

SCRATCH  
PAD

Now subtract 512 from 547. **Activate -** (MINUS sign).

$$\begin{array}{r} 547 \\ \underline{-512} \\ \blacksquare \end{array}$$
$$\begin{array}{r} 3 \overline{) 4038} \\ 64 \overline{) 258467} \\ \underline{547} \\ 512 \\ \underline{512} \\ \blacksquare \end{array}$$

SCRATCH  
PAD

Continue your subtraction.  $7-2=5$ . **Activate 5.**

$\begin{array}{r} 547 \\ - 512 \\ \hline \blacksquare 5 \end{array}$	$\begin{array}{r} 4038 \\ 64 \overline{) 258467} \\ \underline{547} \\ 512 \end{array}$	SCRATCH PAD
--	---	----------------

$4-1=3$ . **Activate 3.**

$\begin{array}{r} 547 \\ - 512 \\ \hline \blacksquare 35 \end{array}$	$\begin{array}{r} 4038 \\ 64 \overline{) 258467} \\ \underline{547} \\ 512 \end{array}$	SCRATCH PAD
---	---	----------------

You have completed your subtraction. **Activate ENTER.**

	$\begin{array}{r} 4038 \\ 64 \overline{) 258467} \\ \underline{547} \\ 512 \\ \underline{\phantom{0}35} \end{array}$	SCRATCH PAD
--	--	----------------

This division problem has a Remainder which is 35 (the number left over after you completed the answer.) To tell the Liberator that you want to display the Remainder, **activate R.**

R and the remainder number appear.

$$\begin{array}{r} 4038 \text{ R}35 \\ 64 \overline{) 258467} \\ \underline{256} \phantom{00} \\ 247 \phantom{00} \\ \underline{240} \phantom{00} \\ 70 \phantom{00} \\ \underline{64} \phantom{00} \\ 60 \phantom{00} \\ \underline{56} \phantom{00} \\ 40 \phantom{00} \\ \underline{32} \phantom{00} \\ 8 \phantom{00} \\ \underline{0} \phantom{00} \\ 35 \end{array}$$

SCRATCH  
PAD

You have completed your problem.  
Clear the display to start a new problem  
or  
activate SCRATCHPAD to exit the Scratchpad.

$$\begin{array}{r} 4 \\ + 4 \\ \hline 8 \end{array}$$

SCRATCH  
PAD

Activate OPEN/  
CLOSE  
NOTEBOOK

Do you wish to transfer a copy of this problem into the current notebook?

Activate YES to exit the scratchpad and transfer this problem to the Notebook.

Activate "Y"  
You see:

$$\begin{array}{r} 4 \\ + 4 \\ \hline 8 \end{array}$$

Notebook: KNOW WRONG

**Note:**

If you don't want to transfer the problem, you must close the Scratchpad before you can open a notebook.

## Transfer Scratchpad Work to a Notebook

## You Can Automatically Transfer Scratchpad Work to a Notebook

---

The Liberator allows you to transfer (copy) work that you do in the scratchpad to a Notebook.

### **pNote:**

The Liberator transfers Scratchpad problems into the *last* Notebook that you used. If you want the problem transferred into a different Notebook, open the Notebook that you want **before** you open the scratchpad and work the problem.

Activate SCRATCHPAD. Work a short problem in the scratchpad, such as  $2+2=4$ .

Activate OPEN/CLOSE NOTEBOOK. You see a prompt that says:

Do you wish to transfer a copy of this problem  
into the current Notebook?  
Activate YES to exit the scratchpad and  
transfer this problem to the Notebook.

If you answer "Y" the Liberator copies the problem into the current Notebook.

If you decide not to copy the problem into a Notebook, activate "N" when you see the prompt above. You will remain in the scratchpad.

If you are in the scratchpad and want to go to a Notebook but don't want to transfer a scratchpad problem, you must close the scratchpad and then open the Notebook you want to go to.

To exit the scratchpad, just activate SCRATCHPAD again.

The image shows a screenshot of a software interface. At the top, a rectangular box contains a simple addition problem: 
$$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array}$$
 To the right of this box, the text "SCRATCH PAD" is displayed. Below this box, the text "Activate any speaking Tool:" is centered. Underneath, there are three separate rectangular buttons. The first button on the left contains the text "SPEAK LAST SELECT". The middle button contains "SPEAK SENTENCE". The button on the right contains "SPEAK DISPLAY". Below these buttons is a speech bubble containing the text "Two plus two equals four". At the bottom of the interface, there is another rectangular box, identical to the one at the top, containing the same addition problem and the text "SCRATCH PAD" to its right.

## Speak the Scratchpad

## **Speak the Scratchpad**

---

You can speak the problems that you work in the scratchpad.

Make sure your problem is on the display. Activate any of the speaking tools: SPEAK LAST SELECTION, SPEAK SENTENCE, SPEAK DISPLAY, etc.

The Liberator speaks the problem.



## **About Macros**

## A Macro Provides a Short-Cut for Actions on the Liberator that take Multiple Key Activations

---

### Macro 1

<FEEDBACK MENU>77771732<CLEAR DISPLAY> <STORE>555

Macro 1 turns the scanning beep Off.  
It contains all the all the steps you take when you actually turn the beep off yourself.

You might store the macro under: ^ [

### Macro 2

<FEEDBACK MENU>77771733555

Macro 2 turns the scanning beep On.  
It contains all the all the steps you take when you actually turn the beep on yourself.

You might store the macro under: ^ ●

Every time you activate ^ [ the Liberator will automatically turn the scanning beep Off.

Every time you activate ^ ● the Liberator will automatically turn the scanning beep On.

## A Macro is a Short-Cut for Some Liberator Operations

## What is a Macro and Why is it Useful?

---

### Summary:

Macros provide short-cuts to performing tasks on the Liberator that normally take a lot of key activations. Macros usually contain tools and, often, icons and text. Once you have created a macro you can name it, store it under a key or an icon sequence, and even edit it if you want to.

---

Any time you store text and tools together, or a series of tools, in a way that tells the Liberator to do something, you have created a macro. If you created auditory prompts and used prompt markers in them, you were making macros. If you store computer commands into the Liberator you are making macros.

One of the best uses of macros is to use them as short-cuts for tasks on the Liberator that normally take a lot of key activations to perform. For example, if you want to know the amount of battery charge in the Liberator you would normally have to stop what you are doing, open the Toolbox, open the FEEDBACK MENU, go to the correct screen in the menu, select the View Battery Status option and then exit the menu.

You can make a "Battery Status" macro by storing all of these steps under an icon sequence. Then, when you want to check your battery charge, all you have to do is activate the icon sequence you stored this macro under. The Liberator will automatically perform all the steps in the macro and you will see the Battery Status screen on your display. The example on the next two pages shows you how to create and store an un-named macro under an icon sequence. You might want to practice by using this example.

### A Note About the Macro Recorder:

The example on the next two pages is just to give you a feel for creating a macro. It does not involve using the macro recorder. However, the most *flexible* kind of macros are those you create by using the macro recorder. The macro recorder allows you to name your macros. The Liberator keeps a list of named macros and treats them like tools. The same named macro can be used in many different applications. We strongly suggest you read about how to create and name macros by using the macro-recorder before you store too many un-named macros into your Liberator.

## **Create and Store an Un-named Macro Under an Icon Sequence**

1. Open the Toolbox.
2. Activate CLEAR DISPLAY [P8].
3. Activate STORE [P1].
4. Activate FUNCTION INSERT [K1].
5. Activate the FEEDBACK MENU [C2].
6. Activate option #7.
7. Activate option #7.
8. Activate option #7.
9. Activate option #7.
10. Activate option #4.
11. Activate STORE [P1].
12. Select an icon or icon sequence to store the macro under.
13. Activate ENTER [N1].

Close the Toolbox. Go to Minspeak. Activate the icon sequence you selected in step #12. You should see the Battery Status Menu on the display.

### **□ Note:**

To exit this macro you must activate "5" twice on the keyboard.

## **Create an Un-named Macro and Store it Under an Icon Sequence**

## Create the "Battery Status" Macro and Store it Under an Icon Sequence

---

Follow the steps below to create and store the "Battery Status" macro under an icon sequence.

1. Open the Toolbox.
2. Activate CLEAR DISPLAY [P8].
3. Activate STORE [P1].
4. Activate FUNCTION INSERT [K1].
5. Activate FEEDBACK MENU [C2].
6. Activate option #7 (next screen).
7. Activate option #7 (next screen).
8. Activate option #7 (next screen).
9. Activate option #7 (next screen).
10. Activate option #4 (View Battery Status).
11. Activate STORE [P1].

You will see <FEEDBACK MENU>77774 on your screen.

12. Activate an icon or icons to store the macro under, for example

 [G7]  [G7]  [G7].

13. Activate ENTER [N1] from the Toolbox.

Now, when you activate , the Liberator automatically displays the battery status screen. **To exit the menu, you must activate "5" twice on the keyboard.**

## Using the All Tools List

Open the Toolbox.

Activate STORE [P1].

Activate FUNCTION INSERT [K1].

Activate the letter "x" on the keyboard.

```
No tool starts with: x
      Your options are now:
1. Pick Tool from up to 73 menu screens
2. Try Different Initial Letter

5. Exit (Abort FUNCTION-INSERT)
   Pick desired option
```

Pick option #1 to see a list of every tool that is available for use in the Liberator.

Pick option #2 and select a new letter. If any tools start with that letter, you will see a menu or menus of those tools.

---

### Another Way to Select a Specific Tool from the All Tools List.

Open the Toolbox.

Activate STORE [P1].

Activate FUNCTION INSERT [K1].

If you know the name of the tool you want, begin to spell the first one or two letters of the name.

Activate ENTER.

You see a menu or menus of all the tools that begin with the letters you entered.

Select the tool you want.

## Using the All Tools List

## Insert Tools from the All Tools List into Macros

---

The Liberator has many more tools than those you see in the Toolbox, but there isn't enough space to add them all to Toolbox keys. You can insert any Liberator tool into a macro. To find out what all the different tools are, you can open the All Tools List.

The All Tools List is a "hidden" part of the FUNCTION INSERT key. In order to get to the All Tools List activate STORE [P1] and then activate FUNCTION INSERT [K1]. If you have never seen the All Tools List, activate the letter "x" on the keyboard. The Liberator displays a screen that tells you there are no tools that begin with the letter "x". (The All Tools List typically contains toggle tools and individual settings like "beep", "light" and "beep and light". You can select option #1 which allows you to scroll through the menus that contain the names of all the Liberator's tools. (There are a lot of menus!) Or you can select option #2 and activate a different letter. If you activate, say, the letter "s", the Liberator will show you all the tools that begin with the letter "s".

When you are creating a macro and want to insert a tool that isn't visible in the Toolbox, you can activate STORE, activate FUNCTION INSERT and then:

- a. begin to spell the name of the tool you want (if you know it) and then select it from the menu;
- b. activate a letter on the keyboard that you think the tool might be listed under and then scan the menus of tools that begin with that letter;
- c. activate a letter like "x" that probably doesn't begin any tool names, then choose to see the complete All Tools List. Scan the menus until you see the tool you want.

You will use the All Tools List later in this chapter as you learn to store more macros.

**Note:** You may already have used the All Tools List if you performed some of the examples in the **USING THEMES** chapter of the *Setting Up* manual or the **MINSERTS** chapter of this manual.

## About the Macro Recorder

While you activate keys on the Liberator keyboard, the Macro recorder performs the task and records it at the same time.

### To Turn the Macro Recorder ON:

Activate 

ALT
-----

STORE
-------

### To Turn the Macro Recorder OFF

Activate 

ALT
-----

STORE
-------

 again.

### To Quit Work on a Macro at Any Time After You Have Turned the Macro Recorder ON:

Activate 

ALT
-----

STORE
-------

Activate option #5 from the menu on the display.

Activate "Y" to answer the prompt.

## About the Macro Recorder

## About the Macro Recorder

---

The macro *recorder* is an easy way to store macros. As you activate the keys for the macro, the Liberator will perform the task *and* record the actions at the same time.

The macro recorder also allows you to name any macros you store. This is important if you ever want to store the same macro into other areas of Liberator or add an already recorded macro to a new macro. You will learn more about naming macros later in this chapter.

**When you are *recording* a macro the Liberator is *actually performing* the activity you are telling it to record.**

### **Some Things To Know Before You Get Started:**

To turn the Macro Recorder On you activate ALT [E8] and then STORE [P1] in the Toolbox. To turn it off you activate ALT and then STORE again.

When you turn the Macro Recorder On, the display tells you that the recorder is On. You will not see any more prompts until you finish recording the task.

If you make a mistake during the recording, correct it as you normally would. The Liberator will record the correction.

If you have begun recording a macro and decide to abandon it, activate ALT STORE. When you see the Macro Assignment Menu, activate option #5 (Exit). Answer YES to quit the macro without storing it.

## **Recorded and Named Macros are the Most Flexible Kind of Macros**

**The Liberator keeps a list of all named macros:**

<MACRO (AM SETTINGS)>

<MACRO (DISPLAY/SPEAK CLOCK)>

<MACRO (NOT)>

You can review the list in the DICTIONARY MENU

The Liberator treats named macros like tools, so you can use FUNCTION INSERT to store them almost anywhere.

You can edit named macros.

Recorded macros are quicker to create.

### **● Recommendation**

**Always create macros by recording and naming them.**

**Always record and name your macros *before* you store them under keys or sequences.**

About Recording and Naming a Macro

## About Recording and Naming a Macro

---

When you *name* the macros you record, the Liberator keeps a list of them in the regular Dictionary. This means you can use them over and over again. For example, if you are creating a macro and part of what you want it to do is something that a macro you created and named previously already does, all you have to do is insert the previously named macro into your new macro. Named macros can be inserted just like tools. You can also store the same named macro in different user areas, or use it in a number of different themes.

If you store a named macro in more than one place, anytime you edit that macro, it is updated wherever you have it stored. You don't have to remember each icon sequence or key where you stored the macro.

Only **recorded** macros can be named.

Name your macros so that you can easily remember what they do. For example, if you create a macro that contains all the various Liberator settings you use in the morning, name the macro "AM Settings" rather than "Settings" or "Feedback".



### Recommendation:

We highly recommend that you record and name all the macros that you create. It is much more difficult to re-use macros that are *not* recorded and named.

You should always record and name your macros **before** you store them under an icon sequence or a key

## **General Steps to Record and Name a Macro**

Open the Toolbox and activate CLEAR DISPLAY.  
Activate ALT [E8].  
Activate STORE [P1].  
Complete all the steps of the macro you want the  
Liberator to record.  
Activate ALT.  
Activate STORE.  
Go to Screen 2 of the Macro Assignment Menu.  
Activate option #3.  
Type in the name for the macro.  
Activate ENTER.  
Activate "Y".  
Activate STORE.  
Exit the menu.

The facing page contains an example of a specific macro  
to record and name.

## **General Steps for Recording and Naming a Macro**

## Record and Name a Macro

---

The macro you are going to record and name in this example is the slang pronunciation of the word NOT. When the macro has been created it will look similar to this on your display:

```
<SPEECH MARKER>[N50,140>AA<400,140>T]<TEXT MARKER>NOT!
```

**Remember:** when you record a macro, activate ALT and STORE to begin and ALT and STORE to end.

### Record and Name the NOT Macro:

1. Open the Toolbox and activate CLEAR DISPLAY[P8].
2. Activate ALT [E8]
3. Activate STORE [P1]
4. Activate FUNCTION INSERT [K1]
5. Type: Sp
6. Activate SPEECH MARKER from the menu.
7. Activate [ {SHIFT [B8] then [O6]}
8. Type: N50,140
9. Activate > [B7]
10. Type: AA
11. Activate < [A7]
12. Type: 400,140
13. Activate > [B7]
14. Type: T
15. Activate ] (SHIFT [B8] then [D6]}
16. Activate FUNCTION INSERT [K1]
17. Type: Te
18. Activate TEXT MARKER from the menu
19. Type: NOT!
20. Activate ALT [E8]
21. Activate STORE [P1]

You see the Macro Assignment Menu on the display.

22. Activate option #7.
23. Activate option #3.
24. Type in the name for your macro, e.g., NOT!
25. Activate ENTER
26. Activate "Y" for YES
27. Activate STORE
28. Activate option #5 to exit.

## **Storing a Named Macro Under an Icon Sequence**

Open the Toolbox, activate CLEAR DISPLAY [P8].

1. Activate STORE [P1].
2. Activate FUNCTION INSERT [K1].
3. Begin to spell MACRO.
4. Activate option #1 from the menu.
5. Type the first letter of the named macro you want to store and activate ENTER [N1]  
or  
just activate ENTER to see a complete list of named macros.
6. Activate the option # of the macro you want to store.
7. Activate STORE [P1].
8. Activate the icon sequence you want to use.
9. Activate ENTER [N1].

Store a Named Macro Under an Icon Sequence

## Store a Named Macro Under an Icon Sequence

---

When you record and name a macro, the Liberator stores it in the DICTIONARY MENU [B2].

The Liberator thinks of the macros in the Dictionary as **tools**. Once you record and name the macro, you can store it under an icon sequence or assign it to a key by using FUNCTION INSERT just like you would a tool.

### Store a Named Macro Under an Icon Sequence:

Open the Toolbox and activate CLEAR DISPLAY [P8].

1. Activate STORE [P1].
2. Activate FUNCTION INSERT [K1].
3. Begin to spell MACRO.

You see the "M" screen of the Menu of Tools.

4. Activate option #1 (MACRO)
5. Type the letter "N" (for the NOT! macro) and activate ENTER  
or
- 5a. just activate ENTER to see an alphabetical list of all macros that you have recorded and named.
6. Activate the option number that corresponds to the macro you want (NOT!).
7. Activate STORE [P1].
8. Activate an icon sequence to store the macro under.
9. Activate ENTER [N1].

Now, every time you want to store the slang pronunciation of NOT in a phrase, you only have to store the tool, <MACRO (NOT!)>, instead of entering all the speech and text changes each time.

## Assign a Named Macro to a Key

Open the Toolbox, activate CLEAR DISPLAY [P8].

1. Activate ASSIGN KEY MENU [A2].
2. Activate the key where you want to assign the macro
3. Activate one of the assignment options.
4. Activate FUNCTION INSERT [K1].
5. Begin to spell MACRO.
6. Activate option #1 from the menu.
7. Type the first letter of the named macro you want to assign and activate ENTER [N1]  
or  
just activate ENTER to see a complete list of named macros.
8. Activate the option # of the macro you want to store.
9. Activate STORE [P1].

## Assign a Named Macro to a Key

## Assign a Named Macro to a Key

---

You may want to assign a named macro to a key instead of an icon sequence. You can do this from the ASSIGN KEY MEU [A2].

1. Open the Toolbox and activate the ASSIGN KEY MENU [A2].
2. Activate the key where you want to assign the macro.
3. Activate one of the options (Spelling, Minspeak or both).
4. Activate FUNCTION INSERT [K1].
5. Type the letter "M".
6. Activate option #1.
7. Type the first letter of the name of the macro then activate ENTER [N1]  
or  
just activate ENTER to see the macro menus.
8. Select the option that corresponds to the macro you want.
9. Activate STORE [P1].

The macro is now assigned to the key you selected.

## **Edit a Named Macro**

Open the Toolbox and activate CLEAR DISPLAY [P8].

1. Activate ALT [E8] STORE [P1] ALT [E8] STORE [P1].
2. Activate option #1.
3. Activate the first letter of the macro you want and activate ENTER [N1]  
or  
just activate ENTER to see a list of all macros.
4. Activate the option that corresponds to the macro you want.
5. Edit the macro.
6. When you are finished editing, activate STORE [P1]
7. Activate "N" for No.
8. Activate option #5.

## **Edit a Named Macro**

## Edit a Named Macro

---

You can edit a named macro in much the same way that you edit a stored message. To edit a **stored message** you activate STORE two times (STORE STORE). To edit a **named macro** you activate ALT STORE two times (ALT STORE ALT STORE).

### General Steps To Edit a Named Macro:

Open the Toolbox and activate CLEAR DISPLAY [P8].

1. Activate ALT STORE ALT STORE [E8][P1][E8][P1]

You see the Macro Assignment Menu.

2. Activate option #1 (Edit Previously Named Macro).

3. Spell the first letter of the macro you want to edit and activate ENTER

or

just activate ENTER to see a list of macros.

4. Activate the option that corresponds to the macro you want.

You see the macro you want on the display.

5. Make any editing changes you want. When you have finished,

6. Activate STORE [P1].

7. If you want to keep the old version of the macro and store the edited version under a new name, activate Y.

If you want the edited version of the macro to replace the old macro activate N.

12. Activate option #5 to exit.

### **Note:**

When you edit a macro that you have assigned in different places, the editing is automatically applied to each assignment for that macro.

## **Review Named Macros in the DICTIONARY MENU**

1. Open the DICTIONARY MENU.
2. Activate option #3 (List Words or Macros in the Dictionary).
3. Activate option #3 (All Named Macros)
4. Activate Display, Printer or Display and Printer to see the review
5. Activate Step, Standard Scan Speed, Custom Scan Speed or Change Custom Scan Speed to select a review speed.
6. Activate any key on the upper half of the keyboard to start the review.

### **□ Note:**

To edit a macro,  
you must be in the Macro Assignment Menu.  
Activate ALT STORE ALT STORE,  
then select to edit a named macro.

## **Review Named Macros from the DICTIONARY MENU**

## **Review Named Macros from the DICTIONARY MENU**

---

Once you have stored a number of named macros into the Liberator, you can review them in the DICTIONARY MENU [B2].

### **To Review Named Macros**

1. Open the DICTIONARY MENU.
2. Activate option #3 (List words in the dictionary).
3. Activate option #3 (All named macros) on screen 2.  
You can also select option #4 (Macros starting with specific letters) if you know which macro(s) you want to review.
4. Choose how you want to view the macros (Display, printer or both)
5. Choose the speed you want for the review (Step, standard scan, custom scan).
6. Activate any key in the upper half of the keyboard to start the review.
7. Each macro is presented. The title for the macro is on the top line above the actual macro. Activate any key in the lower half of the keyboard to quit the review.

You cannot edit macros while you are in the DICTIONARY MENU. If you want to edit a macro, you must do it from the Macro Assignment Menu. Activate ALT STORE ALT STORE and choose option #1 (Edit a Named Macro).

## Delete Named Macros in the Macro Assignment Menu

Option #2 lets you delete one previously named macro.

Option #4 lets you delete multiple named macros.

### If you select option #2:

Type in the first letter(s) of the named macro you want to delete and activate ENTER. To see a list of all macros, just activate ENTER.

### If you select option #4:

Type in the first letter(s) of the named macro you want to delete and activate ENTER. To see a list of all macros, just activate ENTER.

### Question 1

You can spell one or more letters and delete macros that begin only with those letters.

### Question 2

Select a macro to be deleted, then activate "Y" when prompted to confirm that you want it deleted.

If you select **not** to confirm, each macro that you select is automatically deleted. If you make a mistake, you cannot fix it. Answering YES to this screen is wise.

### Question 3

You can delete only *unused* macros by answering YES to this screen. The Liberator will display only those macros that are unused. If you answer NO, you will see both used and unused macros in the list.

## Delete Named Macros

## You Can Delete Named Macros

---

You delete macros in the Macro Assignment Menu. If you want to delete just one named macro, activate option #2. If you want to delete a number of macros, activate option #4.

### To Delete One Previously Named Macro (option #2):

1. Activate ALT STORE twice to open the Macro Assignment Menu.
2. Activate option #2 (Delete One Previously Named Macro)
3. Spell the first letters of the macro you want to delete, then activate ENTER. If you need to search for the macro, just activate ENTER without spelling anything
4. Activate the number that corresponds to the macro you want to delete.
5. If you still want to delete the macro, answer "Y" for YES.
6. The macro is deleted.

### To Delete Multiple Named Macros (option #4):

When you activate option #4 the Liberator gives you some choices for deleting multiple macros.

If you want to delete all macros that begin with a certain letter(s), type in the letter(s). The Liberator shows you the list of macros that begin with the letter(s) you selected. Just activate ENTER to see the whole macro list.

Before you begin to delete, the Liberator asks if you want to confirm each selection before it deletes the macro. It's usually wise to answer YES so you can make sure that you want the macro deleted.

Next the Liberator wants to know if you want to delete only *unused* macros. If you just want to delete macros that are never used, answer YES to this question. The Liberator will show you a list of unused macros. If you answer NO to this question, the Liberator will show you both used and unused macros.

After you have responded to these questions, you can begin to delete multiple macros.

## Use the Macro Assignment Menu to Create Your Own Menu Macros

Activate ALT STORE *twice*

Activate option #7 (Next Screen)

-----Macro Assignment Menu-(Screen 2)-----

1. Create New Menu Macro
2. Edit Existing Menu Macro
3. Create Duplicate of Existing Menu
4. Delete Menu Macro
5. Exit 6. Prev. Screen 7. First Screen

Choose desired menu macro operation

Activate option #1 to begin creating a menu macro.

## Create a Menu Macro in the Macro Assignment Menu

## You Can Create Menu Macros that Look and Act Similarly to Regular Liberator Menus

---

The Macro Assignment Menu now has an option that allows you to create your own menu screens.

For instance, you probably use many different Liberator settings throughout the day. You might have computer settings, different selection technique settings, etc. Instead of having to open a number of menus to change these settings, you might find it helpful to have a single menu of all the different Liberator settings you use.

### To Create a New Menu Macro:

1. Activate ALT STORE twice to open the Macro Assignment Menu.
2. Activate option #7 to go to the next screen.
3. Activate option #1 (create new menu macro)
4. The first thing you are asked to do is to name your new menu, e.g., Settings Menu. Type in the name and activate ENTER.
5. Enter the title that will appear at the top of the menu, e.g Settings Menu. Activate ENTER.
6. Enter a prompt line at the bottom of the menu (a line of text that tells you what to do), e.g., Choose a Setting or Exit.
7. Activate option #2 (add new menu selection line). This allows you to start putting options into your menu.
8. The Liberator starts with screen 1, but it always gives you an extra screen to work with. If you want to add a menu line prompt for option 1 on screen one, activate the number 1 on your keyboard. You could activate 1, 2, 3 or 4 on screen 1 or 2. (If you started with screen 2, the Liberator would give you an optional screen 3, etc.)
9. Now enter the line prompt, e.g., Computer On, and activate STORE.
10. Now you are to enter an action for the line. This means you can tell the Liberator to do something whenever this option (line) is picked.

11. If you want to describe an action to be performed you can use FUNCTION INSERT and insert a tool and/or a macro that causes an action. **For example**, the action for this option might be to turn the computer On and then to automatically close the menu when the option is selected. You would activate FUNCTION INSERT, type S E, and choose "Serial Output = IMMEDIATE from the menu. Now type the option name that belongs to this line (Computer On) and activate STORE.

When you open this menu and select option #1 (Computer On) the Liberator will turn the serial output on for computer work and automatically exit the menu.

You could make option #2 "Computer Off" and repeat these steps, only turn serial Output to OFF instead of IMMEDIATE.

By using FUNCTION INSERT and inserting action macros into a menu line, you can create multi-layered menus that do a number of different things.

12. If you do not want to perform an action, just activate STORE.
13. You can continue to add menu selection lines, prompts and actions or you can EXIT.

Once you have completed your Menu Macro you can store it under an icon sequence or assign it to a key.

#### **Store a Menu Macro Under an Icon Sequence:**

1. Activate STORE.
2. Activate FUNCTION INSERT.
3. Type: M
4. Choose MENU-MACRO from the list of tools.
5. Choose the appropriate menu.
6. Activate STORE.
7. Choose your icons.
8. Activate ENTER.

#### **Assign a Menu Macro to a Key:**

1. Activate ASSIGN KEY MENU.
2. Select the key you want to assign the macro to.
3. Select Spell, Minspeak or both.
- 4. Perform steps 2-6 from the Icon Sequence instructions above.**
5. Activate option #5 to exit the ASSIGN KEY MENU.

**More Menus**

## **The SYSTEM FUNCTION MENU [L2]**

DICTIONARY MENU  
FEEDBACK MENU  
KEYBOARD LAYOUT MENU  
NOTEBOOK MENU  
OUTPUT MENU  
REVIEW MEMORY MENU  
SELECTION TECHNIQUE MENU  
SPEECH MENU  
SWITCH SETTINGS MENU  
THEMES MENU  
TRANSFER MEMORY MENU  
EDIT MENU  
USER AREA MENU  
SETUP MENU  
MAINTENANCE MENU  
WORD PREDICTION MENU  
ALARM MANAGEMENT MENU

## The System Function Menu

## **SYSTEM FUNCTION MENU Gives You Access to the Liberator's Main Menus**

---

### **Summary:**

The SYSTEM FUNCTION MENU [L2] allows you to access most of the Liberator's menus while using only a single key on the Liberator. You can enter any of the menus simply by choosing them in the SYSTEM FUNCTION MENU.

---

Occasionally, users of the Liberator find that they need to access many of the Liberator's menus, but have so many icons on their overlay that there is not room to add all the necessary menus. One of the options is to assign SYTEM FUNCTION MENU [L2] to a key.

The SYSTEM FUNCTION MENU gives you access to all the menus that are available in the Toolbox. You can add SYSTEM FUNCTION MENU to your overlay or store it under an icon sequence and use it to access all the other menus.

Choosing a menu from the SYSTEM FUNCTION MENU is equivalent to activating the tool that has been assigned to that particular key. Use the Index and Table of Contents to find where each of the menus is discussed in detail in the manuals.

## The SYSTEM FUNCTION MENU

To Enter the SET-UP MENU :

1. Activate SYSTEM FUNCTION MENU [L2].
2. Go to Screen 4.
3. Activate SETUP MENU.
4. Activate the "Zorro" pattern:

**A1,P1,A8,P8,P8,A8,P1,A1**

----- SETUP MENU (Screen 1)-----

1. Work on setting up a specific Area
  2. Choose special setup function
  
  5. Exit Menu
- Choose the type of Setup action desired

**Select #2**

----- SETUP MENU (Screen 2)-----

1. Clear All Memory (System Reset)
  2. Load New Liberator Software
  3. Display Software Version and Date
  4. Update Another Liberator's Software
  5. Exit
- Exit this menu if you are not sure!!!!

Use Screen 2 of the SETUP MENU  
to Modify the Entire Liberator

## Screen 2 of the SETUP MENU Allows You to Modify Your Entire Liberator

---

### Summary:

Screen 2 allows you to make certain changes to the entire Liberator (all areas) at once.

---

When you enter the "Zorro" Pattern to open the SETUP MENU, you see a screen that asks you if you want to choose a system setup function. So far, you have chosen to change just an area. Option #2 allows you to make changes to the entire Liberator.

**RESET SYSTEM**—This allows you to reset (or initialize) the Liberator's system. This returns the Liberator to its *initial* set up; that is, the way it was set up at PRC before it was shipped to you.

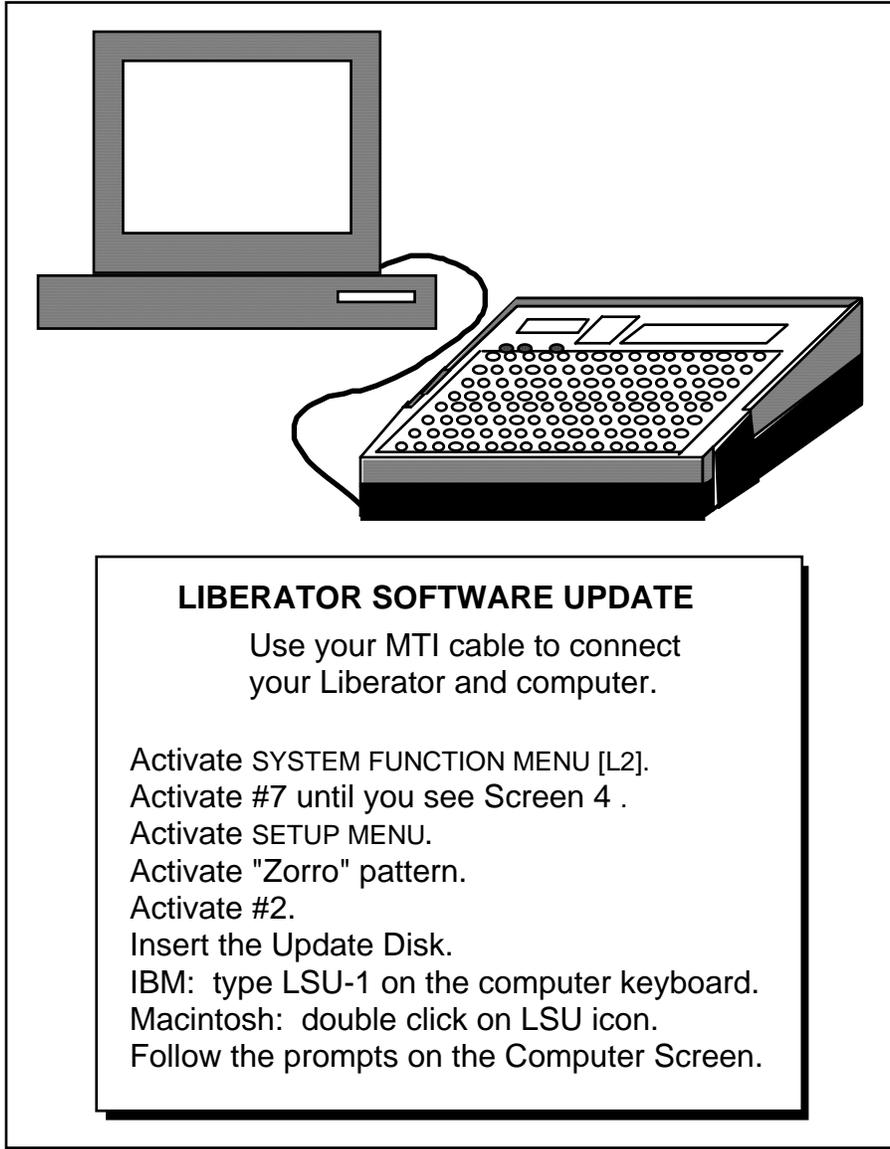
**UPDATE SOFTWARE**—This allows you to load new Liberator software into your Liberator. You will **only** select this option if the Prentke Romich Company sends you a software update for the Liberator.

**SOFTWARE VERSION**—this shows you the date and version of the software which you are currently using.

**LIBERATOR TO LIBERATOR UPDATE**—This allows you to update a second Liberator's software by copying your software into it or vice-versa.

### Warning!

If you choose option #1, #2 or #4 you will **erase all the vocabulary** that is currently in your Liberator. We **strongly** suggest that you use the MTI and make a backup of your vocabulary **before** you select one of these options.



### **LIBERATOR SOFTWARE UPDATE**

Use your MTI cable to connect your Liberator and computer.

Activate SYSTEM FUNCTION MENU [L2].

Activate #7 until you see Screen 4 .

Activate SETUP MENU.

Activate "Zorro" pattern.

Activate #2.

Insert the Update Disk.

IBM: type LSU-1 on the computer keyboard.

Macintosh: double click on LSU icon.

Follow the prompts on the Computer Screen.

## Load New Liberator Software

## To Update Your Liberator's Software, Connect the RS-232 Cable to Your Computer and Liberator

---

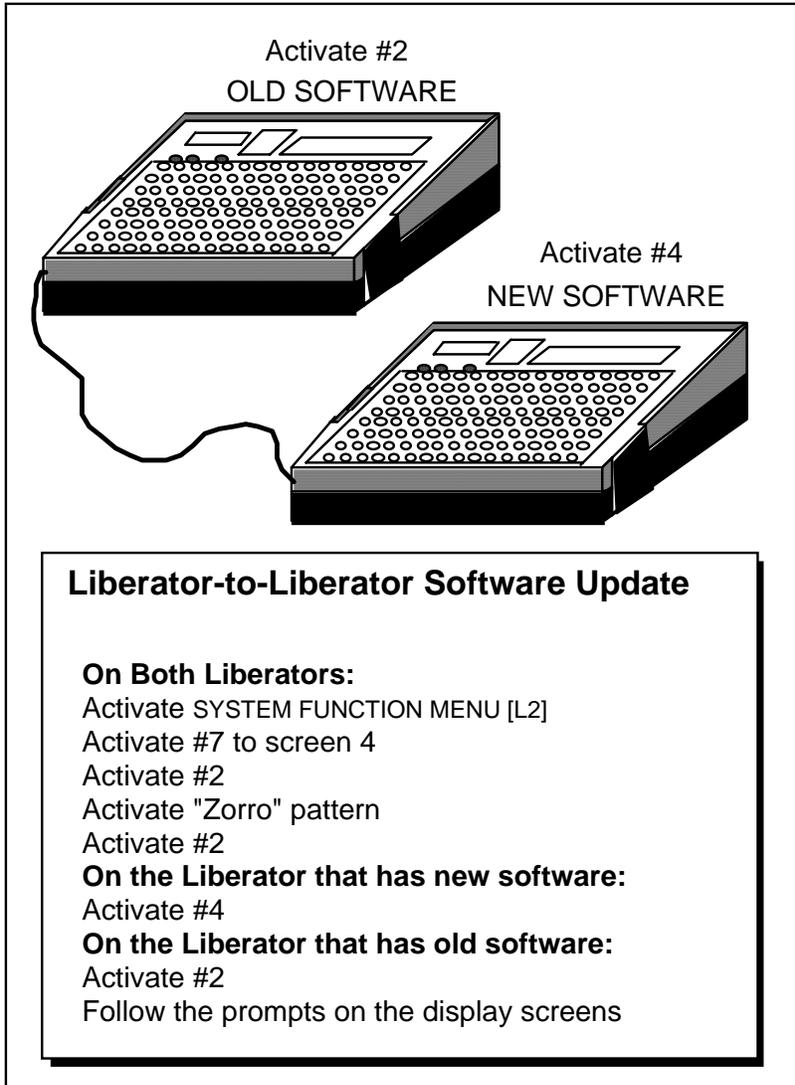
### Summary:

To update the Liberator's software you must use the MTI cable. The MTI-MAC cable will work with Macs. The MTI-IBM cable works with IBMs. Connect the cable to the RS-232 port on the Liberator and your computer, enter the SETUP MENU, select #2 to modify the entire Liberator, then select option #2 or #4 from the SETUP MENU.

---

Option #2 (Load New Liberator Software) from the screen 2 of the SETUP MENU requires the use of the MTI cable that came in your MTI package. If you are using a Mac, the MTI-MAC cable will work. The MTI-IBM works with IBMs. Connect the cable to the RS-232 port on your Liberator and your computer. Turn your computer and your Liberator On. Enter the SETUP MENU (activate SYSTEM FUNCTION MENU, go to screen 4, activate #2, activate the Zorro pattern) activate #2 to modify the entire Liberator. You will see the second screen of the SETUP MENU. Select option #2 to load new Liberator Software. When the Liberator prompts you to start the update from your computer insert the new software disk that you received from Prentke Romich. If you are using an IBM, type LSU-1 on the computer keyboard. If you are using a Macintosh, double click on the LSU icon. Then follow the prompts on your computer screen and the Liberator's display.

When you choose to modify the entire Liberator from the SETUP MENU, you will be given warning prompts telling you that all vocabulary currently in the Liberator is going to be lost. If you want to save the vocabulary that was already in your Liberator, do it **before** you make an update by backing up the vocabulary with the MTI.



## Make a Liberator-To-Liberator Software Update

## **To Make a Liberator to Liberator Software Update, Connect the MTI-MAC Cable to Both Liberators, then Enter the SET-UP MENU**

---

### **Summary:**

To make a Liberator-to-Liberator software update, you must use the MTI-MAC cable. The MTI-MAC cable works with both Liberators. Connect the cable to the RS-232 port on each Liberator. On **each** Liberator, enter the SETUP MENU, select option # 2 to modify the entire Liberator. On the Liberator with the **new** software, select #4 from the second screen of the SETUP MENU. Select #2 on the Liberator with the **old** software.

---

Option #4 from the second screen of the SETUP MENU allows you to update another Liberator's software. You can use the MTI-MAC cable to connect both Liberators to each other. Connect the cable to the RS-232 port on each Liberator.

**On each Liberator**, activate the SYSTEM FUNCTION MENU, activate #7 to screen 4, activate #2, activate the Zorro pattern, select #2 to modify the entire Liberator. You will see the second screen of the SETUP MENU.

**On the Liberator which already contains the new software**, activate option #4.

**On the Liberator which contains the old software**, activate option #2.

Follow the prompts on the display screens.

### **pNote:**

When you choose to modify the entire Liberator from the SETUP MENU, you will be given warning prompts telling you that all vocabulary currently in the Liberator is going to be lost.

If you want to save the vocabulary that was already in your Liberator, do it **before** you make an update by backing the vocabulary up with the MTI.

```
----- System Function Menu (screen 4)-----  
1.USER AREA MENU  
2.SETUP MENU  
3.MAINTENANCE MENU  
  
5. Exit Menu 6.Prev.Screen 7.Next Screen  
Choose a Menu
```

**Activate #3**

```
-----Maintenance Menu-----  
1.Liberator Serial# and Software Version  
2.Internal Controller Software Version  
3.Calibrate Battery Pack  
4.Reset Battery Pack to Factory Default  
Capacity  
5. Exit 6. Final Screen 7. Next Screen
```

**Activate #1**

```
MINSPEAK SOFTWARE FOR LIBERATOR  
  
VERSION xxx  
  
LIBERATOR Serial No.11223344  
Press any key to continue
```

**or Activate #2**

```
Internal Controller Software Versions:  
A12: Version prior to 2  
Keyboard: Version prior to 2.9  
Side Panel: Version Prior to 2.5  
Battery Pack: Version prior to 3.0  
  
Press any key to continue
```

## Liberator Software Versions in the MAINTENANCE MENU

## Menu Options #1 and #2 from the MAINTENANCE MENU Display the Software and Internal Controller Versions of Your Liberator

---

### Summary:

You may use options #1, 2, and 3 from the MAINTENANCE MENU; use the other options only at the direction of a PRC Service Technician.

---

The MAINTENANCE MENU serves two purposes—it displays the software and controller versions of your Liberator and allows you to calibrate your battery pack when this becomes necessary. It also contains tools to help PRC Service Technicians diagnose problems you might have with the Liberator.

### **Note:**

The first three options in the MAINTENANCE MENU are for your use. The other options should not be selected unless a PRC Service Technician is directing you to do so.

Select the Maintenance Menu by activating option #3 from screen 4 of the SYSTEM FUNCTION MENU.

Option #1 displays the version of Minspeak software that is installed in your Liberator and the internal serial number for that Liberator.

Option #2 displays the internal controller software version. The controller software allows the Liberator to communicate with the keyboard, switches, battery pack, etc.

The chances are you will only need to refer to these options if you are talking to PRC's Service Department and they ask you for this information for their own reference, or if you are asking service for a password for a specific program you ordered from PRC.

You can also find the software version and the serial number in the SETUP MENU. However, unless you are *already in* the SETUP MENU, it's easier to access this information through the MAINTENANCE MENU because you don't have to perform the 'Zorro' pattern to get to the menu.

## **Some Notes To Remember About Recalibrating Your Battery Pack:**

**When you are recalibrating,  
always keep the battery charger plugged in!**

Recalibrate the battery pack once a month  
*if at all possible.*

**The recalibration process is only successful when it  
is not interrupted.**

Plan to recalibrate when you will not have to use the  
Liberator until the process is finished (you see a solid green  
light next to the battery charger jack).

**If the calibration process is interrupted,  
perform another one as soon as possible**

**If you have a second battery pack,  
calibrate it at the same time you calibrate  
the battery pack inside your Liberator.**

Follow these instructions:

Plug a battery charger into the second battery pack.  
Find the very small hole on the side of the battery pack base.  
Insert a pen into this hole and then remove it.  
The light next to the battery charger jack on the end of the  
battery pack should be flashing amber.  
Charge the battery pack until you see a solid green light.

## **Recalibrate the Battery Pack**

## Option #3 from the MAINTENANCE MENU Allows You to Recalibrate Your Battery Pack

---

### Summary:

If you are having battery problems, option #3 in the MAINTENANCE MENU allows you to recalibrate the Battery Pack in your Liberator.

---

If your Liberator displays a battery capacity of a number of hours, yet the device is turning off after a short amount of time with no warning, you may want to recalibrate your Battery Pack. This procedure will make the battery capacity more accurate.

### **pImportant Note!**

When recalibrating the Battery Pack,  
**Keep your battery charger plugged in!**

Depending on the initial charge in the batteries, recalibration can take up to 24 hours. If your battery charger is not plugged in, you could lose your vocabulary. Do not plan to use your Liberator for anything else during the calibration process. If you abort the process, you should **fully recharge your batteries**, that is, keep the battery charger plugged in until the green light stops flashing.

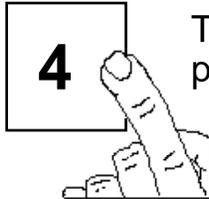
### **When you begin the recalibration process:**

1. The Liberator completely discharges the batteries and then turns Off.
2. The Battery Pack charges to its maximum capacity.
3. The Liberator turns back On and begins to discharge the batteries all over again.
4. During this second discharge, the amount of energy coming out of the batteries is measured and recorded. When the batteries are completely discharged this second time, the total capacity of the pack is calculated and saved.
5. The Liberator turns Off again and begins to recharge the batteries.
6. When the batteries are fully charged again, you will see a **solid green light** next to the battery charging jack. This tells you the calibration process is complete. The actual battery capacity should now match what is displayed on the Battery Status screen in the FEEDBACK MENU.

-----Maintenance Menu(Screen 2)-----

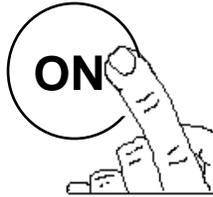
- 1.Run Liberator Self Test
- 2.Run Keyboard Test Only
- 3.Run Side Panel Test Only
- 4.Turn Off Unit for Shipping
- 5.Exit 6.Prev. Screen 7.First Screen

#### Activate Menu Selection #4



The Liberator automatically powers down for shipping mode.

#### To Power-Up the Liberator:



Press and hold the ON button until you see the cursor on the display and the lights in the Status Panel light up.

**Approximately 5 seconds**

## Power-Down the Liberator Before Shipping

## Before Shipping the Liberator, Power it Down to Conserve the Batteries

---

### Summary:

If the Liberator must be shipped anywhere, you should power down the unit first so that it cannot be turned On accidentally. Option #4 on screen 2 of the MAINTENANCE MENU will turn the unit Off for shipping.

---

If you have to ship your Liberator somewhere, the unit should be **powered-down**. Powering down is a little different from just turning the Liberator Off with the OFF button. To power-down the Liberator you must activate option #4 from screen 2 of the MAINTENANCE MENU. When you activate #4, the display screen powers-down immediately—it goes blank and all the lights turn off.

When the Liberator is powered-down it will not turn On if it is jarred accidentally while in transit. If the Liberator is just turned Off by using the Off button and it gets jarred and jostled, it may very well turn back On. If this happens, the batteries can lose a lot of their charge before you have any idea that they have been on. Powering down the unit guarantees that the batteries will maintain their charge.

### **Note:**

When you receive a unit from PRC it will always be powered-down. Before you can use it, you must power it back up.

### **To Power-up the Liberator After it has been Turned Off from the MAINTENANCE MENU:**

Press and hold the ON button on the front of the Liberator for approximately 5 seconds or a little more until the cursor appears on the display screen and the Status Panel lights up. When you see the cursor, the Liberator is On. You will not have to perform this power up again unless the Liberator is turned off from the MAINTENANCE MENU once more.



## **Music and the Liberator**

## Change a "BEEP"

```
----- Feedback Menu (Screen 5)-----  
1. Listen to/Change System Beeps  
2. Automatic Shut-Off Delay = 4 minutes  
3. Battery Save Mode = DISABLED  
4. View Battery Status  
5. Exit 6.Prev Screen 7.Next Screen  
Make a Selection to Change Setting
```

### Activate #1

```
----- Beep Definition Menu-----  
1. Error Beep  
2. Menu Entry Signal  
3. Yes/No Response Signal  
4. Low Battery Beep  
5. Exit 6.Prev Screen 7.Next Screen  
Make a menu selection to change setting
```

### Activate #2

```
-----Beep Definition Sub-Menu-----  
1. Listen to MENU BEEP  
2. Edit Definition of MENU BEEP  
3. Go back to Default MENU BEEP  
  
5. Exit 6. Prev Screen 7. Next Screen  
Make a menu selection to change setting
```

Select the Beep You Want to Change

## **You Can Change the System Tones and Beeps So That They Sound the Way You Want Them To by Using the FEEDBACK MENU**

---

### **Summary:**

The Liberator's system tones and beeps include the sounds you hear when you activate CALL, SIREN, a Menu, answer a YES or NO question or scan across the Keyboard. You can create your own sounds to hear whenever you activate any of these keys.

---

The Liberator has a number of different 'system beeps', or tones, which have been installed to give you audio feedback when you activate certain keys. The Liberator responds with an audible signal when you activate CALL or SIREN, when you enter a menu, answer a YES or NO question, make a mistake, or scan across the keyboard. All of these different tones can be personalized to make the Liberator uniquely yours.

When people began to use the Liberator during the testing phase, we heard the CALL sound changed to parts of "Deep In the Heart of Texas", "The 1812 Overture" and Beethoven's "Fifth Symphony"!

Open the FEEDBACK MENU and go to screen 5. You see that option #1 is "Listen to/Change System Beeps". When you activate #1, you see the Beep Definition Menu. There are two screens to this menu and they list all the system beeps/tones that you can change. Once you select a beep, you can listen to it, change it or return it to its default beep.

## Change the Menu "BEEP"

-----Beep Definition Sub-Menu-----  
1. Listen to MENU BEEP  
2. Edit Definition of MENU BEEP  
3. Go back to Default MENU BEEP  
5. Exit 6. Prev Screen 7. Next Screen  
Make a menu selection to change setting

### Activate #2

T48004CDEFG1.  
  
Enter new definition for MENU BEEP  
-then select STORE  
  
SPEECH Output is now OFF

Move the cursor to erase letters and numbers and type in your own. You can select STORE and go to the previous screen to listen to what you have done so far.

### Activate CAPS LOCK before beginning.

T50004C2C+D8E2F8G1.  
  
Enter new definition for MENU BEEP  
-then select STORE  
  
SPEECH Output is now OFF

## Change the Menu 'BEEP'

## Change a Beep

---

### Summary:

The easiest way to learn to change a beep is to do it!

---

### Helpful Hint:

If you want to change a beep to a specific piece of music, it's helpful to have the sheet music. You can just copy the notes from the sheet music into the Liberator.

Open the FEEDBACK MENU and go to the fifth screen. Activate option #1. Activate option #2 (Menu Entry Signal). Activate #1 if you want to hear the signal, then activate option #2 (Edit Menu Beep). This code should appear across the top of the display screen: "T480O4CDEFG1." This is the default beep. Read about the code below and find out what the different numbers and letters stand for.

**Tnnn** — **TEMPO** and is based on the **number** of quarter notes to be played per minute and is always entered first with a capital T and three numbers. A low number (100 or 200) is extremely slow; a high number (over 500) gets faster and faster the higher the number goes. Our Menu beep is T480 which is 'middling fast'.

**On** — This is the **Octave** range and is entered as a capital "O" with a **number** 1 through 7 after it. The octaves go from C to C beginning with the lowest octave on a keyboard. The Menu beep is in the fourth octave (O4).

**/** — (Up Slash) This raises the octave you are in to the next higher octave. Place in **front** of the first note to go in the next octave. Each note after the Up Slash will be in an octave higher than the previous one.

**\** — (Down Slash) This lowers the octave you are in to the next lower octave. Place in **front** of the first note to go in the next lower octave. Each note after the Down Slash will be in an octave lower than the previous one.

**A, A#, Ab,...G, G#, Gb, etc.**— These are the pitches of the notes you are using. Enter them in CAPITAL letters. You can use the "#" sign for sharps and the "b" for flats (e.g., A#, Fb).

**1,2,4,8,16 or 6,32 or 3** — This represents the note's duration (whole, half, quarter, eights, sixteenth, etc. The duration number follows the pitch letter (G1).)

**+** — This represents a dotted note value. Place after the note duration number.

**- or t** — This represents a triplet note value. Place after the note duration number.

**R** — This signifies a **REST**. Place in between notes wherever a rest occurs.

**S+** — Siren Mode is set to ON. When this is set, whatever is played after it is blared out at siren volume

**S-** — Siren Mode is set to OFF. Anything after this will be at regular volume.

**V-** — Reduces the volume one level

**V+** — Raises the volume one level

**{ }n, ( )n, [ ]n,** —Whatever is in the brackets is repeated however many times you specify (**number**). If no **number** is specified, the default repetition is two times.

**{ { } }** — This repeats a phrase indefinitely

**All letters must be in CAPITALS. Put a period at the end of the string**

Using the editing arrows, change the default Menu Entry Beep to look like one of the codes, below:

T500O4C2C+D8E2F8G1 (this is an embellishment of the regular  
Menu beep)

or

T300O4E4DCDEEE2D4 (this is a snippet of "Mary Had A Little  
Lamb")

Now activate STORE and then choose option #1 to listen to your new beep. You can continue to make changes or start over with your own beep definition by activating option #2. Remember, you can always return to the default tone by choosing option #3.

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^

### Sing With the Liberator

Mary had a little lamb,  
little lamb, little lamb;  
Mary had a little lamb,  
its fleece was white as  
snow.

^

/	The Choir	}
*	=	D
	a	

Singing with the Liberator

## Learning to Sing With the Liberator

---

Almost everyone likes to sing, or at least to listen to singing! With DECtalk speech you can program songs into your Liberator and then sing them in any voice you choose. Some MAPs come with songs already stored in them. All you have to do is recall the song sequence to sing the song. Even if you are using a MAP that doesn't come with songs, or not using MAPs at all, you can still program songs into your Liberator.

Programming a song is a little different from programming regular text because you will have to tell the DECtalk speech board that you want it to *sing* the text, rather than *speak* it. To do this, you will have to add TIME and PITCH parameters to the text you want to store. The other difference is that you will have to enter the text **phonetically** instead of simply typing correctly spelled text. At the end of this section you will find a list of PITCH NOTES and their DECtalk speech values, pictures of notes with their names and a list of the vowel and consonant phonemes which DECtalk speech uses for phonetics. You will use these lists a lot when you are programming songs, so you might want to make copies of them.

### General Information for Programming a Song

Before you begin to read about programming songs into your Liberator, you might like to know that the process **is not** as difficult as it may look, but it is *time consuming*. Unless you are a musician, or at least very familiar with music notation, you will be doing quite a bit of cross-referencing while you program songs. We encourage you to use the sheet music for any song you want to program. With the music in front of you, you can match notes from the sheet music to notes in the pitch and time tables. This way you don't have to know how to read music.

Another tip to help you with song programming is to write out the words to the song in phonemes **before** you start to program, so that you have them in front of you and will not have to take time to do it while you are in the middle of storing.

Remember, each letter of a word must be changed to a phoneme.

We recommend that you store all your songs in **Notebooks**. Notebooks hold much more than the Workspace and the songs can be retrieved and sung much more easily. Simply activate OPEN/CLOSE NOTEBOOK then begin entering your song into the Notebook. Save the Notebook when you are finished.

**In general, the process you will go through to program a song will involve the following:**

You will open a Notebook.

**Each letter** of the words in a song must be defined in phonemes. Do this on paper first until you become familiar with the phonemes.

To tell the DECtalk board that you are going to define a song, you begin by activating the "[" character (N6 in the Toolbox with SHIFT ON) on your Liberator.

Once you have entered the correct phoneme for a letter, you must tell the DECtalk board how *long* to hold which *note*. The TIME and PITCH values are enclosed in < > (angle brackets) immediately after the phoneme with the TIME value **always** coming before the PITCH value inside the brackets. A comma separates the two values.

Once you have done this, you go to the next phoneme and repeat the process. When you have finished defining a song, you activate the "]" character ([O6] in the Toolbox with SHIFT ON).

You will store the song in a Notebook.

The tables at the end of this section give you a list of the phonemes that you will use, a list of notes and their pitch values and a list of notes with their names.

## Time Values

The TIME parameter refers to the amount of *time in milliseconds* that a note is to be held.

1,000 milliseconds= 1 second; 500 milliseconds = 1/2 second. With these numbers as a reference point, you can choose the amount of time in milliseconds for a note to be held according to the tempo of the song. For instance, a quarter note is held half as long as a half note so your time value would be adjusted accordingly.

After you have entered a phoneme, type in the left angle bracket ( < ) and then enter the **time value**. (How long you want that phoneme to be held.)

## Pitch Values

PITCH values correspond to notes as you see them on sheet music or hear them on a piano. The PITCH values of notes for DECtalk speech range from 1 - 37 with 1 corresponding to the note C2 (or the second C below middle C on a piano); 25 corresponds to the note C4 which is middle C on a piano and 37 corresponds to C5 which is the first C above middle C on a piano. The table at the end of this section gives you the note and its corresponding number value.

Enter the **pitch value** that corresponds to the note you want after you have entered the time value and a comma. Then type in the right angle bracket ( > ). Remember to put a comma between the time value and the pitch value.

You will continue this process until the entire song has been entered into your Liberator.

## Mary Had a Little Lamb

Now, let's program the song, "Mary Had a Little Lamb" into your device.



Ma - ry had a lit - tle la mb lit-tle lamb lit-tle lamb



Ma - ry had a lit-tle lam b its fleece was white as snow

**FIRST:** change the words into phonemes on a piece of paper so you will have them in front of you. Look at the Phonemes Tables to find the correct phonetic symbols.

Example:

**Mary had a little lamb**  
MER IY HXAE D AX LIH T TUHL LEYAE M

**little lamb little lamb**  
LIH T TUHL LEYAE M LIH T TUHL LEYAE M

**Mary had a little lamb**  
MER IY HXAE D AH LIH T TUHL LEYAE M

**its fleece was white as snow**  
IH T S FLIY S WAX Z WAY T AE Z SNOW

If you are new to using phonemes, it will take awhile for you to get used to the different sounds. You will just have to use trial and error until you have a feel for which phonemes are going to correspond to which sounds. Sometimes a beginning consonant will blend into a vowel but other times it may have to stand alone; most ending consonants will stand alone (but will be held for a very short time). Practice by spelling the words on your Liberator and then listening to them.

**SECOND:** Find the correct pitch value for each note on the Pitch Chart and write it down.

**Note:** Almost any song that has notes above 37 (the first C above middle C or all the notes on the chart that have Herz numbers) will be too high for the DECtalk voices to sing well. It is easier to give the notes the value they have in an octave lower. For example, the first note in "Mary Had A Little Lamb" is B above middle C which has a value of 36. To give this B a pitch that is an octave lower, find the first B below middle C on the chart and give that value to B, or 24.

Also, some songs sung in a male voice may sound better if you put them in an octave lower than they are written. You will have to listen to a phrase of two to see if lowering the pitch an octave will help the sound of the song.

The image shows two staves of musical notation in 4/4 time, with a treble clef and a key signature of one flat. The notes are quarter notes. Above the notes are phoneme labels: B, A, G, A, B, A, B, D for the first staff, and B, A, G, A, B, A, B, A, G for the second staff. The lyrics are: "Ma - ry had a lit - tle la mb lit-tle lamb lit-tle lamb" and "Ma - ry had a lit-tle lam b its fleece was white as snow".

Example below: Pitch Values are an octave lower than they are written in the music.

The image shows two staves of musical notation in 4/4 time. The first staff contains the melody for the first line of the song, with pitch values written above the notes: 24 22, 20 22, 24, 22, 24 27. The second staff contains the melody for the second line, with pitch values: 24 22, 20 22, 24, 22, 24 22, 20. The lyrics are written below the notes.

Ma - ry had a lit - tle la mb lit-tle lamb lit-tle lamb  
 Ma - ry had a lit-tle lam b its fleece was white as snow

**THIRD:** Find the correct time value for each note and write it down.

1. Time with the secondhand on a watch, the amount of time it takes you to sing the song.
2. Look at the tempo of the song; in this case it is 4/4 time.
3. The top "4" means that there are four beats to a measure. There are four measures in this song (the vertical lines between groups of notes define a measure.)
4. The bottom "4" means that each 1/4 note gets one beat.
5. Suppose it takes ten seconds to sing "Mary Had a Little Lamb".  
To find out how many seconds each measure gets, divide 4 into 10. In this case, each measure gets 2.5 seconds.
6. To find out how many milliseconds each 1/4 note gets (one beat), divide 4 into 2.5. In this case, each 1/4 note gets 625 milliseconds per beat. (You can round these numbers up or down so that they are easier to work with if you want to, e.g., 600.)
7. An 1/8 note would be held for one half the time of a 1/4 note, or 312 milliseconds (624 divided by 2). A 1/16 note would be held for one half as long as an 1/8 note, or 156 milliseconds (312 divided by 2).
8. A 1/2 note would be held twice as long as a 1/4 note, or 1250 milliseconds (625 times 2).
9. A whole note (4/4) would be held twice as long as a 1/2 note, or 2500 milliseconds (1250 times 2).

This gives you a rough formula for figuring out the basic timing.

Now you must remember that each note is going to contain X number of phonemes to be sung. In our example, "Mary" (two 1/8 notes) makes up one beat (one 1/4 note) but is broken down into three phonemes: m er iy (the "ar" in Mary is one vowel sound). The "m ea" is equivalent to one eighth note, as is the "riy". According to our calculations one 1/8 note is held for 312 milliseconds.

---

**Note:** If you are not too concerned about achieving the exact tempo of a song, there is a quicker way to figure out timing.

Hum a song and decide how many seconds you want a whole note to be held. Then divide the half, quarter and eighth notes accordingly.

For example: If you give a whole note the time of 2 full seconds (or 2000 milliseconds), then a half note would get the time value of 1000 milliseconds; a quarter note would get the time value of 500 milliseconds and an eighth note would get the time value of 250 milliseconds.

By practicing giving whole notes different time values and listening to the results, you can approximate the tempo of a song fairly accurately using this method. For more precise tempo results, however, use the method described on the previous page.

---

**FOURTH:** The next task is to figure out how many milliseconds from among the 312 (or 625 for a 1/4 note) to allot to each phoneme. Vowels will always be held longer than consonants and consonants which stand alone at the beginning and end of words will generally be held for a short amount of time. So now we can begin to put the phonemes, timing and pitch together.

The "m" and "er" of "Mary" can probably be sung together - MER - and since they comprise an eighth note let's give them the time value of 300. (300 is easier to work with than 312 and there is not a significant difference between the length of 312 and the length of 300.)

So MER will be sung with a time value of 300 and at the pitch of 24. IY is held for about the same amount of time as MER so try 300 for it, too. Then IY gets a time value of 300 and a pitch value of 22 (remember to look at value you gave each note when you used the Pitch Chart).

The first word of the song will look like this on your Display when you enter it:

MER<300,24>IY<300,22>

HXAE D will be a little different because you have to remember the D on the end of "had". Since it is an ending consonant, you don't want the D to sound too pronounced, so it will get less time than HXAE. Give HXAE a time value of 220 and its pitch of 20 and D a time value of 80 and its pitch of 20. (220 plus 80 equals 300 or one 1/8 note.)

AX is easy. It gets a time value of 300 and its pitch of 22.

"Little" is a word you have to break up into LIH T TUHL. You want to hear the T pronounced in "little" so you are going to give it its own time value. LIH and T make up the first 1/8 note, so let's give LIH the time of 250 and its pitch of 24. That leaves a time value of 50 for the T with a pitch of 24. (300 minus 250 = 50.) TUHL is an 1/8 note so it gets a time of 300 and its pitch of 24.

"Lamb" is a 1/4 note or about 600 milliseconds. It has an ending M (the "b" is silent) which needs to go by itself so that we can hear it. Give LEYAE a time value of 500 and its pitch of 24 and give the M a time value of 100 and a pitch of 24. (LEYAE sounds better when sung than the more natural LAE). When "lamb" is repeated as an 1/8 note in the second line, give LEYAE the time value of 200 and M the time value of 100.

**Rests/Pauses** There are no rests written into the music for "Mary Had a Little Lamb" but many songs will have them. A rest is entered just like a phoneme except that the symbol for a rest is \_ (underscore mark). On the Note Time Chart there is a table showing the different rests and their time values. If you want to enter a rest, simply enter the \_ where you want the pause to go, then record the time value of the rest inside the angle brackets. For example, a 1/4 rest in "Mary Had a Little Lamb" would be entered as follows:  
\_<600>

---

**pNote:** Remember that you **must** use the left bracket ( [ ) symbol before you begin to store a song into your Liberator. The end of each song that you store **must** be enclosed with the right bracket symbol ( ] ). Also, each time and pitch entry **must** be enclosed with angle brackets ( < > ) with the time value coming first followed by a comma and then the pitch value.

---

While you are learning, it might help you to write out a song complete with phonemes and time and pitch values, before you enter it into your Liberator. Then you can start out by just copying what you have written down. See the illustration on the next page.

### MARY HAD A LITTLE LAMB

[MER<300,24>IY<300,22>HXAE<220,20>D<80,20>AX<300,22>LIH<250,24>T<50,2  
>  
TUHL<300,24>LEYAE<500,24>M<100,24>LIH<250,22>T<50,22>TUHL<300,22>  
LEYAE<500,22>M<100,22>LIH<250,24>T<50,24>TUHL<300,27>LEYAE<500,27>  
M<100,27>MER<300,24>IY<300,22>HXAE<220,20>D<80,20>AX<300,22>  
LIH<250,24>T<50,25>TUHL<300,24>LEYAE<500,24>M<100,24>IH<170,24>  
T<50,24>S<80,24>FLIY<200,22>S<100,22>WAX<200,22>Z<100,22>  
WAY<220,24>T<80,24>AE<200,22>Z<100,22>SNOW<600,20>]

---

**□ Hint:** When you have the same pitch for a number of phonemes in a row, you don't have to enter the pitch value each time. You may just enter the <time> value until the pitch changes again.

Example:

LIH<250,24>T<50>TUHL<300> LEYAE<500>M<100>

(Since these are all the same notes, the pitch remains 24)

---

### Storing the Song

Once you have figured out the phonemes and the time and pitch values, you are ready to store the song into your Liberator. The most efficient way to store a song is to put it in a Notebook. Since Notebooks can contain so many more characters than the Workspace, you can store a whole song in a Notebook without having to store it in separate phrases.

**The procedure for storing a song is outlined below:**

**Activate CLEAR DISPLAY.**

1. Activate OPEN NOTEBOOK.
2. Begin to enter your song, **starting with the left bracket [**
3. Continue to enter the song until you come to the end of a phrase or two. Double check it by looking at the Display to make sure you have the angle brackets in the right places, etc. Use your editing arrows and the DELETE keys to make corrections.
4. You can listen to your song any time during the storing process by activating the **right bracket** at the end of any time and pitch phrase and then activating [SPEAK DISPLAY]. If it doesn't sound right to you, go back and change the time and/or pitch values, or perhaps try another phoneme to get better pronunciation. When you have made the changes you want, **delete the right bracket** and continue to enter your song. **Do not leave a right bracket in your song unless the song is ended!**

Continue this process until the whole song has been programmed into your Liberator. When you reach the last character of your song, enter the right bracket ]. **Remember, you must start a song with the left bracket and end the song with a right bracket.**

5. Activate NOTEBOOK MENU. Then choose option #1 (Save Current Notebook).
6. Name the Notebook by picking an icon sequence and then activate ENTER.

**To Sing the Song**

1. Open NOTEBOOK MENU. Go to Screen 2.
2. Choose option #4 (Speak Different Notebook).
3. Choose the Notebook you want to sing.

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## ENGLISH VOWEL PHONEMES

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<b>Phoneme Symbol</b>	<b>Example</b>	<b>Phoneme Symbol</b>	<b>Example</b>
<b>Vowels</b>			
aa	father	ih	bit
ae	bat	ix	kisses
ah	but	iy	beat
ao	bought	ow	boat
aw	bout	oy	boy
ax	about	rr	bird
ay	bite	uh	book
eh	bet	uw	boot
ey	bake	yu	cute

---

### **R-Colored Diphthongs**

ar	bar
er	bear
ir	beer
or	bore
ur	poor

### **Syllabic Consonants**

el	bottle
en	button
rr	butter

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## ENGLISH CONSONANT PHONEMES

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Phoneme Symbol	Example	Phoneme Symbol	Example
<b>Consonants</b>			
b	<b>bin</b>	p	<b>pin</b>
ch	<b>chin</b>	r	<b>red</b>
d	<b>debt</b>	s	<b>sit</b>
dh	<b>this</b>	sh	<b>shin</b>
f	<b>fin</b>	t	<b>test</b>
g	<b>give</b>	th	<b>thin</b>
hx	<b>head</b>	v	<b>vest</b>
jh	<b>gin</b>	w	<b>west</b>
k	<b>cat</b>	yx	<b>yet</b>
l	<b>let</b>	z	<b>zoo</b>
m	<b>met</b>	zh	<b>measure</b>
n	<b>net</b>		
nx	<b>sing</b>		
dx	<b>ri<b>der</b>, writer</b>	rx	<b>ora<b>tion</b></b>
lx	<b>be<b>ll</b></b>	tx	<b>La<b>tin</b></b>
q	<b>we</b>		

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PITCH NOTES AND PITCH VALUES

BASS CLEF

C C# D D# E F F#  
1 2 3 4 5 6 7

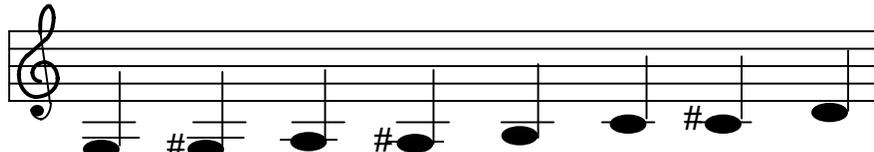
G G# A # A B C3 C#  
8 9 10 11 12 13 14

D D# E F F# G G#  
15 16 17 18 19 20 21

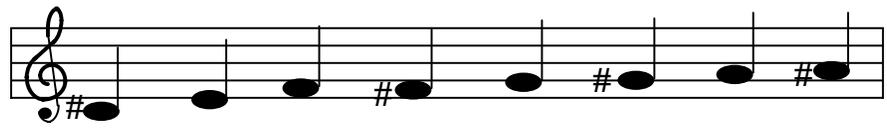
TREBLE CLEF

G G# A # A B C4 C# D  
20 21 22 3 2 24 25 26 27

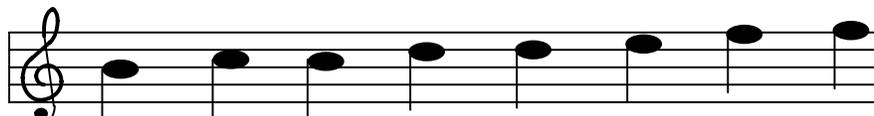
PITCH NOTES AND VALUES (cont'd)



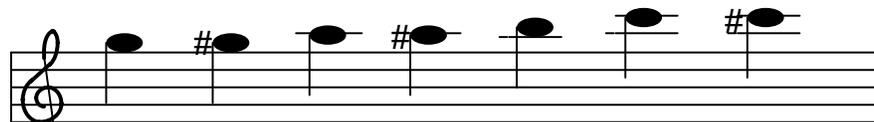
G G# A # A B C4 C# D  
20 21 22 3 2 24 25 26 27



D# E F # F G G# A A#  
28 29 30 31 32 33 34 35



B C5 C# D D# E F F#  
36 37 554.5 587.6 624 659.6 697.8 740.2



G G# A A# B C6 C#  
284.4 831.0 880.0 932.4988.0 104.6 1109.0

**PITCH VALUE CODE**

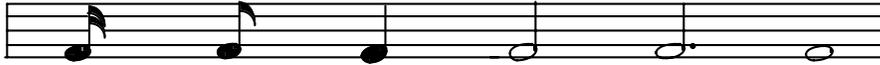
PITCH NOTE	PITCH VALUE	OCTAVE RANGE
<b>C4</b>	<b>25</b>	<b>C4 = Middle C</b>
B	24	
A#	23	ONE
A	22	
G#	21	
G	20	OCTAVE
F#	19	
F	18	BELOW
E	17	
D#	16	
D	15	MIDDLE C
C#	14	
C3	13	
B	12	
A#	11	
A	10	TWO
G#	9	
G	8	OCTAVES
F#	7	
F	6	BELOW
E	5	
D#	4	
D	3	MIDDLE C
C#	2	
C2	1	

**PITCH VALUE CODE (cont'd)**

PITCH NOTE	PITCH VALUE	OCTAVE RANGE
C4	25	<b>C4 = middle C</b>
C#	26	
D	27	FIRST
D#	28	
E	29	OCTAVE
F	30	
F#	31	ABOVE
G	32	
G#	33	MIDDLE C
A	34	
A#	35	
B	36	
C5	37	
C#	554.5 *	
D	587.6	SECOND
D#	622.4	
E	659.6	OCTAVE
F	697.8	
F#	740.2	ABOVE
G	784.4	
G#	831.0	MIDDLE
A	880.0	
A#	932.4	C
B	988.0	
C6	1046.8	

\* For the second octave above middle C, you must enter the pitch value in Herz. This range is quite high for the DECtalk voices. If you don't like the way a song sounds in this range, consider entering the same notes at the pitch value that corresponds to one octave lower.

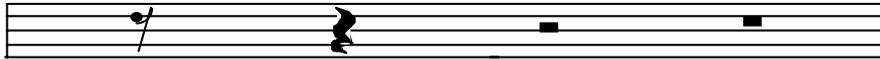
## NOTE TIME VALUE CHART



1/16 note   1/8 note   1/4 note   1/2 note   dotted 1/2 note   whole note



1/8 note triplet (= 1/4 note)   1/4 note triplet (= 1/2 note)   let pair of 1/8 notes   pair of 1/16 notes   triplet of 1/16 notes  
 (each note above gets part of the time value)



1/8 rest   1/4 rest   half rest   whole rest

**DECTalk Speech:  
Some Helpful Hints**

## Words with Alternate Pronunciations

---

abstract	defect	perfect	segment
abuse	deliberate	permit	separate
addict	desert	pervert	subject
advocate	digest	polish	sublet
affix	discharge	predicate	subordinate
alternate	dove	predominate	suspect
animate	duplicate	present	syndicate
annex	elaborate	proceed	suspect
appropriate	estimate	produce	tear
associate	excuse	progress	torment
attribute	exploit	project	transform
august	export	protest	transport
bass	extract	read	upset
close	implant	rebel	use
combat	import	recall	wind
combine	imprint	recap	wound
compact	incense	recess	
compound	incline	record	
compress	increase	recount	
conduct	insert	refill	
content	insult	refresh	
conflict	interchange	refund	
console	intimate	refuse	
construct	invalid	reject	
contest	lead	relapse	
contract	live	relay	
contrast	miscount	remake	
converse	misuse	rerun	
convert	moderate	research	
convict	object	retake	
coordinate	overrun	rewrite	

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## Abbreviations Recognized by DECTalk Speech

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Abbreviation	Word
all-in-1	All in one
all-in-one	All in one
Apr.	April
Assoc.	Associates
Aug.	August
Av.	Avenue
Ave.	Avenue
bldg.	Building
Blvd.	Boulevard
CH.	Chapter
Ch.	Chapter
cm.	centimeters
cms.	centimeters
Co.	Company
COD	"see-oh-dee"
cont.	continued
Corp.	corporation
Ctr.	center
CTRL	control
cu.	cubic
dec	DEC (as in Digital)
Dec.	December
Dist.	District
deg.	degrees
Dept.	Department
doz.	dozen
Dr.	Doctor (when <b>followed</b> by a <b>name</b> i.e., Doctor West)
Dr.	Drive (when <b>preceded</b> by a <b>name</b> i.e, West Drive)
e.g.	"ee""gee" (not 'for example')
ESC	escape
esp.	especially

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---

<b>Abbreviation</b>	<b>Word</b>
est.	established ("e ess tee")
etc.	et cetera
ext.	extension
Feb.	February
fig.	figure
Flt.	flight
FOB	freight on board
fn.	footnote
Fr.	Father
Fri.	Friday
ft.	feet (not 'foot')
Ft.	Fort (not 'Foot')
Gen.	General
gm.	grams
Gov.	Governor
hrs.	hours
i.e.	"eye ee" (not 'that is')
Inc.	Incorporated
Intl.	international
Jan.	January
Jr.	Junior
Jul.	July
Jun.	June
kg.	kilograms
kgs.	kilograms
km.	kilometers
lb.	pounds
lbs.	pounds
Ltd.	Limited
Mar.	March
mg.	milligrams
mgs.	milligrams
misc.	miscellaneous
ml.	milliliters
Mon.	Monday
mr.	mister
mrs.	missus

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<b>Abbreviation</b>	<b>Word</b>
ms.	miz
msde.	merchandise
msec.	milliseconds
msecs.	milliseconds
mss.	manuscripts
Mt.	Mount
Nov.	November
Oct.	October
oz.	ounces
ozs.	ounces
Pl.	Plural
pp.	pages
ppd.	post paid
Pres.	President
Rd.	Road
recd.	received
Rep.	Representative
Rev.	Reverend
rsts	"ris-tis"
rsts/e	"ris-tis-ee"
Rte.	route
Sat.	Saturday
Sen.	Senator
Sep.	September
Sept.	September
sq.	square
Sr.	Senior
St.	Saint (when <b>followed</b> by a <b>name</b> )
St.	Street (when <b>preceded</b> by a <b>name</b> )
Sun.	Sunday
Thu.	Thursday
Thurs.	Thursday
Tue.	Tuesday
Tues.	Tuesday
Univ.	University
USA	"you-ess-aye"

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---

<b>Abbreviation</b>	<b>Word</b>
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Vol.	Volume
vs.	versus
yds.	yards

### **Exceptions\***

nt.wt.	net weight
op.cit.	op cit
p.p.d.	post paid
pat.pend.	patent pendinged.      Wednesday

\* These abbreviations will **not** work at this time (12/90)

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### **Creating a Pause**

You can create pauses in sentences, songs, etc.

Activate [

Activate the UNDERSCORE ( \_ ) key

Activate <

Type: 1000 (1000 will create a 1 second pause; if you type 2000 you will have a 2 second pause, etc.)

Activate >

Activate ]

### **Producing a Long "A" in the Middle of a Sentence:**

Usually an "A" by itself in the middle of a sentence is pronounced as "uh", but there may be times when you want it to be pronounced as a long "A" ("ayee"). To achieve this, type in the capital letter "A" and then add a punctuation mark immediately following it:

A. A, A? A! (A A;

This will change the inflection of the sentence somewhat, but it will produce a long "A".

## How DECtalk Speech Handles Numbers

---

### Example of Entering a Year or a Big Number:

1996 is a year. 1,996 is a big number. 1996 (no comma) will be spoken as "nineteen-ninety-six". 1,996 (with a comma) will be spoken as "one-thousand-nine-hundred-and-ninety-six". Any four-digit number will be spoken as a year unless you add a comma after the first digit. Commas are not necessary if a number contains more than four digits. Numbers containing up to 9 digits will be spoken correctly.

### **pNote:**

If you are using the Liberator's CALCULATOR, **disregard the following** explanation for entering math problems.

### Examples of Entering Math Problems:

When you enter math problems, they must be spaced correctly in order for DECtalk speech to know how to pronounce the problem. **For example:**

problem: 5-3=2

Enter as: 5 (space) -3(no space between "-" and "3") (add a space **after** "3") = (space) 2.

5\_-3\_=\_2 ( "\_" means "space" **not** "underscore")

### Examples of Spacing for Other Math Problems:

2\*8\_=\_16 ; 1\*2\_=\_2

2\_+\_8\_=\_10

1 1/2 must be entered as: 1&\_1/2  
(1/2 can be entered by activating "1" "slash" "2")

At this time you cannot do division problems (unless you are using the Liberator's CALCULATOR)

**Examples of Entering Dates:**

DECTalk speech will not recognize dates if you enter them the way we normally write them, e. g.:

11-20-1990 or 11/20/90

Enter dates in the following manner for them to be spoken correctly:

20-Nov-1990 or 25-Dec-1990

Dates entered in this manner will be spoken "November 20, 1990" and "December 25, 1990."

**Example of Entering a Phone Number:**

Phone numbers must be entered with spaces and commas as seen below:

2\_1\_6,\_2\_6\_2,\_1\_9\_8\_4 or 2\_6\_2,\_1\_9\_9\_0

# **Index**



## Advanced Functions Index

- All Tools List 271
- Alternate Pronunciations 334
- Arrow Keys 67-71
- Assertiveness 17
- Auditory Prompt Voice 15
- Auto-Spell 111
- Automatic Print 171, 177
  
- Bandwidth 17
- Battery Status 269
- Baud Rate 175
- Beeps, change 309-313
- Block Mark 67, 75-79, 91-95
- Bookmark Operations 85
- Breathiness 17
  
- Calculator 201-209
  - about 201-203
  - alarm 209
  - clear display 201
  - copy answers to notebook or workspace 209
  - copy problems into Calculator 207
  - delete characters 201
- Clear Usage Count 158
- Change System Beeps and Tones 309- 313
- Change Voices in a Message 19
- Classic Block Operations 89-95
  - copy text 91
  - delete text 95
  - move text 93
- Clear Display 41, 201
- Computer Emulator 179-181
- Connect to Other Devices 167-198
- Consonant Phonemes 327
- Control Characters 187
- Copy Text 77, 91
- Cut Text 79, 93
  
- DECTalk Speech 11-19, 334-340
  - alternate pronunciations 334
  - abbreviations 335-338
  - creating a long "A" 338
  - creating pauses 338
  - numbers 339-340
- Delete Text 73, 79, 95
- Delete Words from Dictionary 73
- Dictionary Menu (speech) 21
- Display CTRL Characters 187
- Display a Memory Review 149
- Display Speed 151
  
- Edit Menu 67-95
- Edit Mode 67, 71, 87
- Editing, 37, 67-95
  - arrows 69
  - block mark 75
  - bookmarks 85
  - classic block operations 89-95
  - copy 77
  - cut 79
  - delete words 73
  - edit mode 71
  - move cursor 69
  - search and replace 81
  - set edit mode 87
- Emulator, computer 179, 181
- Erase Words from Dictionary 33
- Erase Workspace 103
  
- Feedback Menu 111, 161, 267, 269, 309, 311
- Formant 17
- Function Insert 19
  
- Gender (voice) 15
  
- Head Size 16
- Hide Notebook 65
- Highlight Text 75-79, 88-95
  
- Icon Prediction 59, 65, 161
- Insert Tool 271
  
- Jump to Bookmark 85
  
- Kermit Protocol 195-196
  
- Listen to Voice 16
  
- Macro, *see also Appendix Manual*
  - about 269
  - assign 281
  - create 269
  - delete 287
  - edit 283
  - insert tool 271
  - menu 289-290
  - named 275-287
  - recorder 275-277
  - review 285
  - store 268, 279
  - un-named 269
- Macro Recorder 273-277

Main Voice 15  
 Manual Print 171, 177  
 Memory, review 137-160  
   areas 147  
   display review 149  
   speed 151  
   key assignments 145  
   lost messages 143  
   samples of 154  
   sequences 139-141  
   stop review 153  
   test for use count 157  
   use count 157  
   vocabulary modules 159-162  
 Memory Transfer Interface 121-133  
 Menu Macros 289-290  
 Menu Voice 15  
  
 Menus  
   Dictionary 21-33  
   Edit 77-79, 91-95  
   Maintenance 301-305  
   Menu Macro 289-290  
   Notebook 43-65  
   Review Memory 139, 143, 157-163  
   Setup 295-299  
   Speech 11-15  
   System Function 293-299  
 MTI 121-133  
   feedback settings 134  
   IBM 123-126, 297  
   Liberator-to-Liberator 131, 299  
   Macintosh 127-129, 297  
   notebook 133  
 Minserts 107-117  
   about 107  
   long 113  
   retrieving 111  
   short 111  
   storing 109  
   stuffing 115-117  
     more than one icon 115  
     one icon 117  
 Minspeak Modules 161-163  
   active 161  
   create 161  
   inactive 161  
   remove 163  
 Mispronounced Words 25-27  
 Modem Support 193-198  
 Modules 161-163  
   active 161  
   create 161  
   inactive 161  
   remove 163  
 Move Cursor...69-73  
 Music 311-331  
  
 Name Notebooks 51-55  
 Notebook 43-65, 101  
   erase 59  
   hide 65  
   menu 47, 51-53  
   name 51  
   print 61, 101  
   save 47  
   speak 63  
   titled 49-51  
   transfer scratchpad to 263  
   untitled 51, 57  
 Notebook Menu 47-61  
 Numbers (DECtalk speech) 341-342  
   dates 342  
   math problems 341-342  
   phone numbers 342  
  
 Open/Close Notebook Key 45  
 Output Menu 169, 175, 181, 185  
  
 Paste Text 77, 79, 93  
 Pause, create a (DECtalk speech) 340  
 Phonemes 328-329  
   consonants 329\  
   vowels 328  
 Pitch Level 16  
 Pitch Variation 16  
 Power Down 305  
 Power Up 305  
 Print  
   automatic 171, 177  
   manual 171, 177  
 Printer  
   baud rate 175  
   checklist 190-191  
   compatibility 167  
   connect to 173  
   external 171, 173, 177, 191  
   internal 171, 183, 191\  
   output menu 169  
 Printer Mode 181  
 Print Notebook 61, 101  
   part 101  
   whole 61  
 Pronunciation 25-29  
  
 Recalibrate Battery Pack 302-303  
 Reset System 295  
 Review Dictionary Menu 31  
 Review Display Speed 151  
 Review Memory 137-163  
   complete area 147  
   key assignments 145  
   lost messages 143  
   stop review 153

Review Memory Menu 139, 143 157-163  
 Review on Display, Printer or Both 149  
  
 Save Notebook 47  
 Scratchpad 213-263  
   about 213-217  
   addition 219-222  
   correcting mistakes 217  
   division 245-259  
   multiplication 229-243  
   speak 263  
   subtraction 223-228  
   transfer work to notebook 261  
 Search and Replace 81  
   case sensitive 83  
   confirm replacement 81  
   replace all 83  
   swap search and replace items 81  
 Serial Marker 189  
 Serial Output 181  
 Serial Port 185  
 Set Bookmark 85  
 Set Edit Mode 87  
 Set Up Menu 293-299  
 Shipping Mode 305  
 Singing 315-333  
   about 315  
   note time values (chart) 332  
   pitch notes and values (chart) 328-329  
   pitch value code (chart) 330-331  
   pitch values 317  
   sing song 325  
   store song 324  
   time values 317  
 Software Version Number 299, 301  
 Speak Notebook 63  
 Speak Sentence 99  
 Speech, DECTalk 11-19, 333-340  
 Speech Dictionary 21-33  
   add words to 25  
   erase words from 33  
   pronunciation 27-29  
   review words in 31  
 Speech Marker 23  
 Speech Menu 13, 15-19  
 Speech Rate 15  
 Store  
   after a message is spelled 97  
 Swap Search and Replace 81  
 Switch Notebooks 49  
 System Function Menu 295  
  
 Titled Notebooks 51-55  
 Tones 311-315  
 Transfer Memory 121-134  
   feedback settings 134  
   IBM 123  
   Liberator-to-Liberator 131  
   Macintosh 131  
   notebooks 133  
 Transfer Memory Menu 121-134  
  
 Untitled Notebooks 57  
 Update Software 297, 299  
   Liberator-to-Liberator 297, 301  
 Use Count Test Limit 157  
  
 Version Number, software 297, 303  
 View Battery Status 267  
 Vocabulary Modules (Minspeak) 161-163  
   active 162  
   create 161  
   inactive 162  
   remove 163  
 Voice 11-19  
   auditory prompt 15  
   change 11, 15, 19  
   main 15  
   menu 15  
 Vowel Phonemes 326  
  
 Workspace 39  
   erase 103  
  
 Test for Use Count 157  
 Test Limit 158  
 Text Marker 23  
 Text and Speech Marker 23