

# **HEXSPELL 2**

## **SPELLING CHECKER**

**HEXAGON SYSTEMS**  
**Vancouver, B.C.**  
**Canada**  
**(604) 682-7646**

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## Section 1 INTRODUCTION

### 1.1 Contents of this manual

This manual covers the use of the HEXSPELL Spelling Checker. This first section discusses setting up the system. Section 2 leads you through a session of using the system. This is the minimum you need to read to use the system. Section 3 discusses the Hexagon Control File, which lets you customize the system to your requirements. Section 3 also describes the optional features of the HEXSPELL system. Section 4 describes the CLEAR program, used to set up new lists or expand old ones. Section 5 discusses some aspects of using foreign languages with HEXSPELL. The final chapter is some common questions about HEXSPELL and their answers. Consult this chapter before writing to us!

### 1.2 Contents of the Diskettes

Two diskettes are supplied. The "SPELL" diskette contains the files "HEX/CMD", "SPELL/CHN", "SPELL/MEM", "CON/CHN", "CLEAR/CHN", "HEXAGON/CON" and "TEST". Two variants of the "HEX/CMD" file are included for use on the Mod III, they are "HEXL/CMD" and "HEXN/CMD". The "LIST" diskette contains the file "SPELL/LST" and a third variant of the "HEX/CMD" file called "HEXD/CMD".

### 1.3 Getting ready to use the system

Setting up the system is basically quite simple. You transfer the files from our diskettes to yours. What makes it a little complicated is the wide variety of computer configurations and operating systems available. We will try to go through the possibilities methodically. We will assume you are familiar with formatting and backing up diskettes, copying and killing files. If not consult your DOS manual or get some help.

#### Model I - 2 drives

Make two copies of your DOS diskette. KILL all the files on the diskette except the system files (SYS0, SYS1 etc.). Copy the file SPELL/LST to one diskette and label it "LIST". Copy the files

HEX/CMD, SPELL/CHN, SPELL/MEM, CON/CHN, HEXAGON/CON and CLEAR/CHN

to the second disk and label it "SPELL". Copy the file "TEST" to a blank data diskette and label it "TEXT". Put your original diskettes away in a safe place. When using HEXSPELL the disks "SPELL" and "LIST" are inserted in drive 0 as required. The "TEXT" disk is inserted in drive 1.

#### Model I - 3 or more drives

Follow the instructions for a 2 drive system. In use the "LIST" disk is inserted in drive 2 to avoid the need to swap disks. If you have a double density

modification you may copy the file SPELL/LST to the "SPELL" diskette and avoid the need for a "LIST" diskette entirely.

### Model I - operating systems

HEXSPELL uses the Microsoft Basic compiler, and its compatibility with various operating systems is determined by that of the compiler. The file HEX/CMD is simply Microsoft's BRUN/CMD renamed. The file HEX/CMD is set up for use with TRSDOS. Some notes on modifications for other operating systems follow.

#### LDOS

Copy the file HEXL/CMD to your "SPELL" diskette and rename it HEX/CMD.

#### DOSPLUS

Change HEX/CMD sector 0A byte 0F from 01 to C9.

#### Newdos 80 V1 and V2

Zap HEX/CMD,10,1D from 46 0B 70 to 46 00 70

### Model III

Microsoft is not supporting their compiler under TRSDOS on the Model III at the time of writing. (They have been "thinking about it" for nearly a year.) We do have zaps for running under LDCS, DOSPLUS and Newdos 80 V2. These modified versions of HEX/CMD are called HEXL/CMD, HEXD/CMD and HEXN/CMD respectively. Use the modified version

that relates to your operating system.

To set up your Mod III system, make a copy of your DOS diskette. PURGE all the utility program files and the BASIC/CMD file. COPY the files on the "SPELL" diskette to your DOS diskette as indicated for the Model I. Copy only the variant of HEX/CMD that you need for your operating system. Rename that variant to HEX/CMD. Copy the SPELL/LST file to the same diskette. If you have purged enough files the entire HEXSPELL system should fit on one disk. Label the disk "SPELL".

Finally copy the file TEST to a blank data diskette and label it "TEXT". Then put your distribution diskettes in a safe place. Note that the distribution diskettes are in Model I 35-track format. If you have trouble reading the diskettes check the notes in your DOS manual on copying data from Model I diskettes. The exact procedure varies from DOS to DOS. When using HEXSPELL on the Mod III the "SPELL" diskette is placed on Drive 0 and the "TEXT" diskette on drive 1.

#### 1.4 Lower case

As you are doing Word Processing on your Mod I, it is most likely you will have a lower case modification installed. The lower case function needs a program to make it work, this program is called a "driver". LDOS, DOSPLUS and Newdos 80 come with a lower case driver as part of the operating system, check your manual.

TRSDOS doesn't have a built in driver - when Radio Shack do the lower case modification they supply a lower case driver program called LCDVR. You need to load this program before you run any other programs. Some programs (such as Scripsit) contain their own lower case driver, but we suggest you make a general habit of loading the lower

case driver when you turn your computer on so you get the full advantage of the features you have paid for.

The Mod III always has lower case installed, so all Mod III operating systems have a lower case driver built in. Check your manual to see how to turn it on.

The HEXSPELL 2 program bypasses the standard lower case driver when displaying your document. This gives it access to all of the 255 characters available on the TRS-80, and in particular to the European characters on the Model III. Section 3.4 gives you the details on this. Some customers have "homebrew" lower case modifications that work rather differently from the standard. Because HEXSPELL 2 lets you decide how a character is displayed, you can customize the program to your lower case hardware. Again, see Section 3.4.

PRESS: (L) LEARN WORD (R) REPLACE WORD (S) SKIP WORD  
WORD IN ERROR: nadrigal.

---

This is an example of a text being checked by  
HEXSPELL. The text scrolls up the screen as it is checked.  
When an error is detected, you have three choices.

1) REPLACE the incorrect word. The replacement word  
is INSTANTLY RE-CHECKED for correctness, then inserted in the  
text.

2) The word is correct, leave it as it is.

3) Leave the word as it is, AND tell HEXSPELL to  
LEARN this word for future reference, with just one keystroke.

Here is an example of a word that is not in the  
wordlist, nadrigal. Press "L" to make HEXSPELL learn this word

Figure 2.1

ENTER REPLACEMENT WORD: mistake

---

2) The word is correct, leave it as it is.

3) Leave the word as it is, AND tell HEXSPELL to  
LEARN this word for future reference, with just one keystroke.

Here is an example of a word that is not in the  
wordlist, nadrigal. Press "L" to make HEXSPELL learn this word  
The next example is a word that we wish to use once but  
wouldn't want permanently in the wordlist,

"zoooon!" Press "S" to skip this word.

Next we will replace a word. To replace a word press  
"R". You will then be asked to enter the correct word. Type in  
the correct word, and press "Enter".

Try "misstake". Press "R" then enter "mistake". The

Figure 2.2

## Section 2 The HEXSPELL 2 program

### 2.1 Introduction.

The HEXSPELL 2 program checks spelling in a word processing document or documents. It can check just one document or a whole set of documents in one session. The text being checked is displayed at a fast reading speed. This lets you make a final visual check of the document as the spelling is being checked. The spelling checker can detect words that are not on its list, but it doesn't mean that the valid words will make any sense. That is up to you.

To run the HEXSPELL program, put the SPELL diskette you have created in Drive 0. Put the TEXT diskette you created in Drive 1. We will use the TEST file on the TEXT diskette as in example in these instructions, then you can try out HEXSPELL on some of your own documents.

### 2.2 Loading a document.

Type: **HEX SPELL** and press "Enter"

Note the space between the "HEX" and the "SPELL", this is important. This tells the computer to load the "run-time package" provided by Microsoft, which in turn loads the compiled code for the HEXSPELL program. It takes a few seconds to do this. Once HEXSPELL starts running it identifies itself and asks you to wait. It then goes to Drive 0 and loads part of the spelling list into memory. After a few seconds you get the message:

**INSERT LIST DISKETTE**

If you have a 2 Disk system, remove your SPELL diskette from Drive 0 and replace it with your LIST diskette. If you have more than 2 drives you may insert the LIST diskette on drive 2. If you have double density you may already have the SPELL/LST file on your SPELL diskette, and so don't need a separate LIST diskette. (See Section 1.3). Press any key to continue when the LIST diskette is loaded. The program will then ask:

**ENTER THE NAME OF THE FILE YOU WISH TO CHECK**

Type: **TEST** and press "Enter". The file TEST on drive 1 will be opened as the input file. If you type an invalid filename you will get the message:

**INVALID FILE!**

and be prompted to re-enter the filename. If you open the correct file you will get the message:

**NAME OF THE FILE ON WHICH THE CHECKED TEXT IS TO BE STORED =**



The usual response to this message is to press "Enter". The program will create a file called "DOCD" on Drive 1. It will use this file to store the checked text after it has been read from the input file. You should make sure you have enough spare space on the diskette on Drive 1 to store the document you are checking. If you have more than 2 drives you can allocate the file to another drive, for example "WORK:3".

To sum up, in case all the above sounds complicated. To run the program type "HEX SPELL". When requested enter the name of the file you wish to check. Press "Enter" to use the default work file, and HEXSPELL will start to check your document.

## 2.3 Skipping and Learning

Now press "Enter" and look at the document as it is being checked. HEXSPELL will stop at the word "madrigal" which is not in the wordlist. (See Figure 2.1). Press "L" and the word will be learnt.

When a word is learnt it is added to the front of the wordlist. About 4000 words are held in the computer memory and another 22,000 out on disk. A new word coming in at the front of memory pushes an old one out to disk. If the disk is full a word is pushed off the back of disk and forgotten. Words are moved forwards in the list as they are used. Commonly used words accumulate at the front of the list where they are found fastest. Unused words drift to the back and may eventually be forgotten. HEXSPELL gets faster as it becomes familiar with YOUR vocabulary!

When Hexspell learns a word, it generates a number which represents that word. The number can be stored much more efficiently than the word itself. It is possible that an invalid word could generate a valid number, but very unlikely. A bigger problem is that HEXSPELL learns so easily, its quite possible to teach it a wrong word by mistake. Care is the best solution to this problem - we have tried to proofread our wordlist carefully, and we hope you take care with the words you add to your list. HEXSPELL can print out new words as it learns them, as an extra check on what you are teaching it. See Section 3.3 for more details.

The next incorrect word in the text is "zoooom". We are using this special spelling for effect, but don't want it permanently in memory. So we press the "S" key. The word will be passed as OK but not learnt.

## 2.4 Correcting a word.

The next word at which we stop is a genuine spelling error, "mistake". (Figure 2.2). We want to replace this word with the correct version, so we press "R". HEXSPELL will respond with:

ENTER REPLACEMENT WORD?

Type "mistake". (Note that HEXSPELL automatically uses lower case. To get upper case use the SHIFT key.) Press "Enter", and HEXSPELL will check the word and add it to the text if it is correct. A word that is still in error will be displayed again. If you are not sure of how to spell a word you can try several possibilities to see if they are in the wordlist.

## 2.5 Finishing a Document.

Press "S" again to get to the next page of the TEST text. This asks you to delete the word "madrigal" from the wordlist, to return the wordlist to its original condition. To do this we must first finish processing the TEST document. Press "S" to skip the last deliberate error. If you have made any corrections to the text HEXSPELL copies the corrected text back to the original file. HEXSPELL will then ask:

DO YOU WANT TO PROCESS ANOTHER FILE?

If you press "Y" for "YES", HEXSPELL will return to the start of the program to ask you for the next file name. HEXSPELL will process a batch of documents in one session. For instance you may wish to check the individual chapters of a manual, or a batch of letters, all in one session.

In this case, we want to finish the processing session. Press "N" to indicate you don't want to process another file. Now HEXSPELL will ask:

DO YOU WANT TO DELETE ANY WORDS FROM THE LIST?

Press "Y" for "YES". HEXSPELL replies,

ENTER THE WORD YOU WANT TO DELETE.

Type the word "madrigal" and press "Enter". HEXSPELL replies that the word has been deleted and asks for the next word you want to delete. We don't want to delete any more words, so press "Enter".

The program will ask you to reload the SPELL diskette. Replace the LIST diskette with the SPELL diskette (if needed). The session is now finished. Run your word processing program, load the corrected document file, and print it.

You can now run HEXSPELL with some of your own documents. Notice that at first HEXSPELL is reading a lot of words from the wordlist on Drive 0. It will also be finding the occasional word that is not on its list. Check the spelling in a dictionary and press the "L" key. As HEXSPELL becomes familiar with the words you use, the activity on Drive 0 will decrease to almost nothing, and you will rarely be pressing the "L" key.

If you start to check a document and realise you are checking the wrong one, you may quit by pressing the "Q" key. HEXSPELL will reply:

ABANDON CHECK(Y/N)?

Press "Y" and HEXSPELL will finish this document and ask you if you wish to process another file. If you press any other key HEXSPELL will continue processing the document.

You may find that HEXSPELL processes the text too fast for you to read. Pressing the number keys while the text is being checked adjusts the speed. "1" is the maximum speed, "2" a little slower, etc.. "9" is dead stop. When stopped the program will display the word "WAITING" and wait for you to press a number key to indicate at what



speed it should resume.

## 2.6 Backups and Restores

As with any data file, you should make routine backups of the files "SPELL/MEM" & "SPELL/LST". These files contain the words your spelling checker has learnt. You will need to replace your working copies with your backup copies in the following cases:

1) The working copies are unreadable. You will get a "Disk I/O Error" message from HEXSPELL.

2) A machine or power failure while HEXSPELL is running.

In most other cases errors will be detected by the HEXSPELL error checking routines, and HEXSPELL will try to save the current wordlist. Only if it fails to do this do you need to replace your working copies with your backup copies.

## 2.7 The Wordlist

A large desk dictionary contains over 500,000 words, allowing for variants. Until hard disk drives become common, we are not likely to see that many words on a personal computer Spelling Checker. Even with that many words available, 3 or 4 percent of "words" in a normal business document would not appear in the dictionary. A large wordlist would also increase the chance of a spelling error being matched to an obscure word. "Cere" instead of "care" is our favourite example. That is why we have concentrated on making HEXSPELL learn YOUR vocabulary.

We consulted half-a-dozen different reference works in making up the HEXSPELL wordlist, and have cross-checked it against a number of competitive spelling checkers. One thing is very clear, one man's "common" word is another's obscurity. So we are relying on HEXSPELL's great learning ability rather than our ability to pick an optimal starting list. You will be surprised at some of the words we missed, and you would be surprised at some of the words we included! But it will work itself into your own personal wordlist in the end.

A couple of things you may like to add to the wordlist. One is the format controls for your word processor, such as Scripsit's "TM", "PF" etc. Another is single letters of the alphabet. If you have a lot of technical words to add, type them up as a document, proofread them carefully, then use the Auto Learn feature. See Section 3.3 for details.

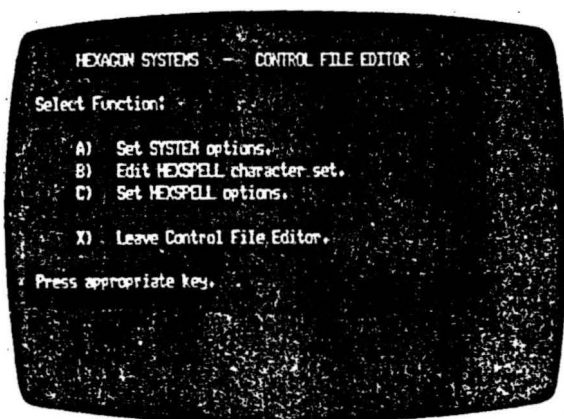


Figure 3.1

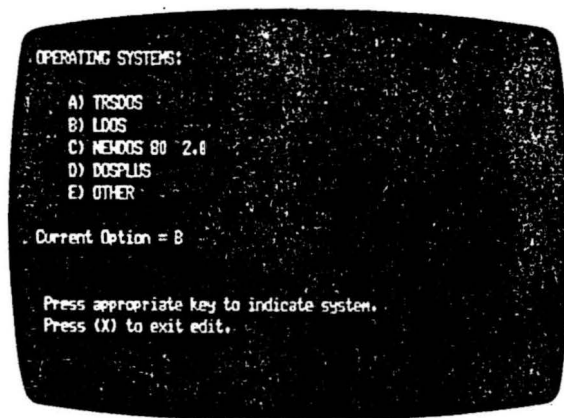


Figure 3.2

## Section 3 The Hexagon Control File

### 3.1 Introduction.

The Hexagon Control File allows you to customize the HEXSPELL system to your needs. It allows us to offer you a large range of options without taking you through a great list of questions everytime you run the program. The options you require are selected using a program called HEXCON and remain in effect until you change them. To run HEXCON type "HEX CON" and press "Enter". As before the space between "HEX" and "CON" is vital. You will then see the menu in Figure 3.1.

### 3.2 Setting the system options

From the initial menu press "A" to set the system options. You will then be asked if you want to designate the operating system or type of computer. Press "A" again to choose the operating system menu (Figure 3.2). Press the appropriate key to indicate your operating system. Now press the "X" key to return to the previous menu. Press "B" to get to the computer type menu, and indicate if you have a Mod I or Mod III. Press "X" twice to return to the initial menu (Figure 3.1).

This customization to computer and operating system is included for two reasons. The first is to let HEXSPELL and future Hexagon Systems programs take advantage of special features of your computer or operating system. For example, if HEXSPELL is running on the Mod III it takes advantage of the European character set and Scroll Protect features which don't appear on the Mod I.

The second reason is our experience with HEXSPELL version 1. We found most of the calls for help we received related to incompatibilities in "TRSDOS compatible" operating systems, rather than problems with HEXSPELL. With HEXSPELL 2 we have allowed ourselves the option of inserting fixes for DOS problems which will only be activated when that particular DOS is in use. If this idea works we will use it in future products.

### 3.3 Setting HEXSPELL options

Press "C" to get to the HEXSPELL options menu (Figure 3.3). We will go through each option in turn.

#### A) Work File Name

This is the default work file name that Hexspell uses unless you give it some other name at run time. Leave it as "DOCD!:" or define a name and drive that is most convenient for your set up.

#### B) Input File Name

This is the default input file name. You are not likely to use this unless you have one document you check a lot. One example might be "LETTER" for a file to contain one-off letters that you don't want to keep.

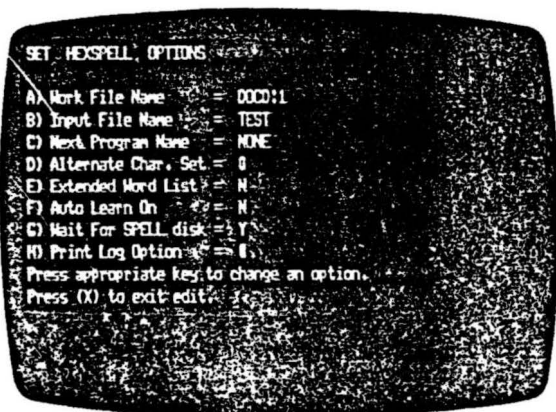


Figure 3.3

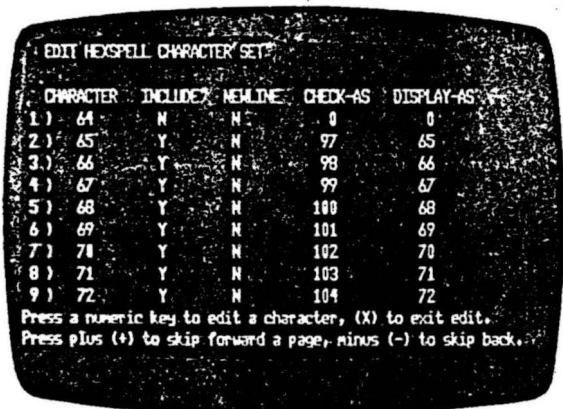


Figure 3.4

#### C) Next Program Name

If anything other than "NONE" is inserted here, HEXSPELL will attempt to CHAIN to program of that name at the end of a session. Note that it is looking for a program compiled with the Microsoft Basic Compiler, not a machine language program or BASIC program.

#### D) Alternate Character Set

This is only effective on the Mod III. There are three options. "0" indicates the standard character set. "1" indicates the Greek character set. "2" indicates the Japanese character set. See page 26 of the Mod III manual for an explanation of these character sets. Note that HEXSPELL expects you to be in normal character set when it starts. If HEXSPELL switches in an alternate character set, it switches it out again at the end of the session. You should make this a practice with your own programs if they use the special character sets, the Mod III does not automatically return to a normal character set at the end of a program. You will find the Greek character set most useful if your subject is mathematics or engineering (or of course Greek!).

#### E) Extended Word List

This allows you to switch in another word list file called "SPELL/EXT" to add up to 22,000 more words to your list. Before changing this parameter to "Y" for "YES", you must set up a cleared "SPELL/EXT" file using the CLEAR program. See Section 4 for details. This extension facility is particularly useful if you wish to teach HEXSPELL a large number of new "words", such as all your company product codes, or a library of organic chemicals and their formulae. Note that adding the extension file will slow HEXSPELL down a little, as it has more possibilities to check.

#### F) Auto Learn option

If this option is set to "Y", HEXSPELL will learn any unknown words it comes across in a document, without stopping to query the user. If you have a lot of new "words" to teach HEXSPELL, type them up in a document. Proofread it carefully, set the Auto Learn option to "YES" and give the document to HEXSPELL. Go and have a coffee. Don't forget to set this option back to "N" when you have finished. This option is most useful when teaching HEXSPELL a complete new language (See Section 5.5 for more on this).

#### G) Wait for SPELL diskette

As mentioned in Section 1.3, if you have more than the minimum 2 single density drives you can avoid swapping the LIST and SPELL diskettes. Setting this option to "N" will eliminate the disk swapping prompts at the beginning and end of each session.

#### H) Print Log Option

This allows you to print a log of your HEXSPELL session. There are three possibilities. "0" means Don't print anything. "1" causes HEXSPELL to print each word it learns. "2" causes HEXSPELL to print every unknown word. Each word is printed as it occurs in the text, so make sure your printer is on if you are using these options. Option "1" is probably the best setting. Pressing the "L" key is so easy you can get



carried away and teach HEXSPELL a spelling error by mistake. A quick check of the printed log before finishing a session will give you a chance to delete any mistakes.

Press the "X" key to return to the initial menu (Figure 3.1).

### 3.4 Choosing your characters

Press "B" to edit the HEXSPELL character set. Press the "+" key seven times to get to the display shown in Figure 3.4. This editor lets you customize the HEXSPELL character set to your word processor and other requirement. To know how to use it you need to know a little of how HEXSPELL processes your document.

HEXSPELL reads through your document one character at a time. It first checks to see if the character can be included in a word. If the INCLUDE parameter is set to "Y" the character is added to the current word. If the INCLUDE parameter is set to "N" the incoming character is sent straight to the display. The first time HEXSPELL gets a character that it cannot include in a word it sends off the word it has been building for checking. Thus by setting the INCLUDE parameter to "Y" or "N" for each character you can determine which are to be parts of words and which are to be treated as separating words.

At this point it would be a good idea to get hold of a list TRS-80 characters and their decimal codes. See page 228 in the Mod III manual, and Appendix C in the Level II manual. Look at the display shown in Figure 3.4. The first character on the screen is character 64, the "Q" symbol. This is defined as not being in a word. The next character, 65 is an "A" and is defined as being included in a word.

We will skip the NEWLINE parameter for the moment. When HEXSPELL checks a word it first converts the input characters to the "CHECK-AS" characters. In the case of the "A" it is being converted to "a" (character 97) before checking. Thus upper and lower case words are seen as being the same. The last thing HEXSPELL does with the characters in a word is translate them for display. Usually the character is displayed just the way it came in, in this case an "A" is being displayed as an "A". In some cases, as explained later, it is more useful to change the character before displaying it.

Now lets make a few changes. Press "2" to edit character 65 (the "A"). HEXCON will first ask you

Include in a word?

Press "N" for NO. HEXCON will then ask

Newline at this character?

Press "N" for NO. That's all HEXCON needs to know, so it shows you the changed character set. You have now defined "A" as not being in a word, so any word containing "A" would be split into two halves before checking. That's not very useful, so press "2" again and set INCLUDE to Y and NEWLINE to N. This time, as you are dealing with a character that makes up a word, you will be asked

Check this character as character= ?

Type "65" and press "Enter". You will then be asked

Display this character as character= ?

Type "65" and press "Enter". You will then be shown the amended character set. HEXSPELL will no longer see words containing an upper case "A" as the same as those containing a lower case "a". You could go through all the upper case character 65 thru 90 and change them all so that they are seen as different from their lower case equivalents. For the moment though, press "2" once more to edit character 65 and set INCLUDE to Y, NEWLINE to N, CHECK-AS to 97, and DISPLAY-AS to 65. Now you are back to the original.

Press the "--" key six times, so you are displaying character 12. This is the "Top of form" character. You will see that NEWLINE is set to Y. HEXSPELL does not attempt to match the display of your Word Processor program exactly. It does look for special characters that mean newline, new paragraph, or new page and skips to a newline when it sees them. This gives a reasonable looking display. The characters 12,13,14 and 140,141,142 are set as NEWLINE characters when you receive them. These are the characters used by Scripsit and all the other word processors we've tried. If yours is different you may need to change the NEWLINE parameter.

The following are some comments on changing the character set for different requirements.

#### Hyphens and apostrophes

The character set as supplied has hyphens and apostrophes included in words. If this doesn't suit you, change characters 45 and 39.

A note for Scripsit users. Check your text through HEXSPELL before you "Hyphenate Text". The Scripsit hyphenation routine inserts spaces in the middle of words, so HEXSPELL sees them as two separate words.

#### Lower case

The lower case letters are set to display as characters 97 thru 122. This is fine with the standard Radio Shack lower case. Some homebrew lower case modifications for the Mod I use a different set of lower case characters. You can even get Greek characters on the Mod I with some homebrew mods. Try experimenting.

#### Codes

To include numbers such as street addresses, phone numbers and Zip codes in your text check, change characters 48 thru 57 to INCLUDE = Y. Making the "/" (character 47) an INCLUDED character will pick up most product codes and part numbers.

#### Amounts

INCLUDE the "\$" sign (Char. 36). Making the decimal point "." a checked character can have some annoying side effects. It is better to use the hyphen to separate dollars and cents.

#### Formulae

Making the brackets and numbers checked characters will deal with the simplest formulae. If you are dealing with a complex chemical formula, how you type it up



will depend both on your word processor and printer. For example the Centronics 737 printer is capable of printing superscripts and subscripts. Though the standard Scripsit is not capable of using this feature, several companies produce extension programs that can control this feature. Using one such program the chemical formula for water would be typed as "H<EA2<SAO".

As you can see typing up a complex formula with this method leads to some long "words" that are really prone to typos. In this case, making the "<" symbol a checked character will soon build you a "wordlist" of common formulae. There are many other ways of using the full features of your printer. A more detailed discussion of the topic is given in Section 5.

Choosing the character set that suits you best is a matter for experiment. Setting the Print Log Option to "2" will give you a full record of your HEXSPELL session for later analysis. With a good choice of character set HEXSPELL should live up to its name as "the EVERYTHING checker".



CLEAR - copyright 1981 Hexagon Systems

This program sets up cleared files for use by HEXSPELL,  
Hexagon Systems spelling checker.

- 1) SET UP EXTENDED LIST.
- 2) CLEAR SPELL LIST.

Figure 4.1

## Section 4 The CLEAR program

### 4.1 Introduction.

The CLEAR program has two functions. The first is to create an extended wordlist so that you may add another 22,000 words to your wordlist. The second function blanks out all the words in the HEXSPELL wordlist files. It allows you to build a wordlist completely from scratch. The main application is to set up a wordlist in a foreign language.

### 4.2 Running CLEAR.

Insert your SPELL diskette in Drive 1. Type "HEX CLEAR". As usual the space between "HEX" and "CLEAR" is important. You will then see the menu shown in Figure 4.1.

Option 1 allows you to set up an extension file for your wordlist. If you have double density disks you have room for another 22000 words in your wordlist. Press "1" then insert your LIST diskette on Drive 1. Press any key to continue. CLEAR will create and clear a file called SPELL/EXT. You may now set the Extended Word List option (Section 3.3) to "Y" and HEXSPELL will start using the extra space.

If you are using a two drive Mod III, we suggested that you put the SPELL/LST file on the SPELL diskette to avoid disk swapping. If you want to use the Extended Word List option, put the SPELL/LST file on a separate SPELL file with a minimal DOS. Use CLEAR to add the SPELL/EXT file to the SPELL disk. You have traded some disk swapping for a much bigger wordlist.

Finally, on a single density Mod I, if you have three or more drives you can also extend your word list. Use CLEAR to create the SPELL/EXT on a separate disk and label it "LIST2". This disk should be mounted on Drive 3 or 4 at the start of the HEXSPELL session.

Only choose option 2 on the menu if you have backups of your SPELL and LIST diskettes. When you choose option 2 CLEAR will stop to ensure you have mounted the SPELL diskette. Press any key to continue. CLEAR will clear the SPELL/MEM file, then ask you to insert the LIST diskette. Insert the diskette in Drive 1 and press any key to continue. CLEAR will clear the SPELL/LST file, and then finish.



## Section 5 Using foreign languages

### 5.1 Introduction.

The problem with foreign languages on the TRS-80 is the additional special characters you need. This problem also occurs when you try to print complex formulae or mathematical equations. In this chapter we will discuss some solutions to this problem, though we don't expect to cover every possibility.

Dealing with special characters can be divided into three steps, getting them in, displaying them and printing them out. The simplest to use but most expensive solution is to change the hardware. Add four or six extra keys, change the character generator ROM and use a print wheel with the correct character set. Using HEXSPELL with such a system is simple, you just INCLUDE the new characters in the character set. This type of hardware solution is sold by a number of European dealers for their local customers, but we assume most North American customers want to do the job with the hardware they have.

We will start by looking at the printing of special characters, as what needs to come out determines what needs to go in.

### 5.2 Printers and Drivers.

There are two ways of getting a special character printed. First it may be on the printhead or printwheel. All you have to do is to send the correct character to the printer. The second way is to combine several characters to get the one you want. For example an "e" followed by a backspace followed by a "'" may give an acceptable e acute.

Even if the character you want is on the printer, you may not be able to type it in. A good Printer Driver routine can help. The "Print Driver" is the routine in your computer that actually send a character to the printer. Some operating systems, such as LDOS, include a "Filter" in the Driver routine. The Filter translates one character into another as it passes through, much as HEXSPELL translates characters for checking or display. With the LDOS Filter, you can type in a character you don't use, such as the "%" sign, and have it translated to an e acute on the way to the printer.

### 5.3 Word Processors

The variety of characters that you can type in is limited by your keyboard and your word processor. You can't do much about your keyboard without opening up your computer, but you can choose your word processor carefully. Look for ones that allow you to input the characters 1 thru 32, or even the graphics characters. This is done by pressing several keys at the same time. Once you have a word processor that will accept these extra characters, all you need is a printer that will print them.

Another useful feature of LDOS is that it will allow you to enter any character or string of characters by pressing CLEAR and a letter key. Very useful in this context. What is really need is a word processor with a character set determined by a Control File similar to HEXSPELL's. As far as we know no-one has written one yet.



## 5.4 Displays

If you are using a Model I, your foreign language text isn't going to look much like the hard copy. With the Model III, if you have a word processor that will both accept and display the characters 1 thru 32, you may get something that looks right. Even if your word processor can't get it right, HEXSPELL can if it is at all possible, so you will get a good idea from your final spelling check what your words will look like. All HEXSPELL needs is for the character you want to be in the Mod III character set, and for you to be using just one character in the document for each character output.

## 5.5 Using HEXSPELL.

Whatever combination of characters you type to make up your words HEXSPELL will learn them. Just INCLUDE the appropriate characters in its character set. For example, if you are producing characters by backspacing (Char 8) include this in the character set and display it as a backward pointing arrow or "<" sign. Most of the European characters are available on the Mod III, see page 233 of the manual. On the Mod I you will have to use graphics characters (Chars 129 to 191).

When you are replacing words containing special characters, the Mod III allows you to input European characters by pressing SHIFT, down arrow, and a letter key simultaneously. (See page 228). For other characters or on the Mod I, you will need something like LDOS. This allows a combination of keys to be programmed as one special character (The KSM Filter).

As you can see, the TRS-80 was not designed with the rest of the world in mind, but with some ingenuity it can be bilingual. And any language the TRS-80 can print HEXSPELL can learn!

## Section 6 Questions and Answers

Since we started shipping HEXSPELL we have had a few people call or write with questions. Usually they related to problems or wanted additional information. We are printing a few of these questions here, and their answers, to give you some additional information that doesn't fit easily in other parts of the manual.

Q. I haven't enough room on my diskettes for the files you provide!

A.

Make sure you have deleted all the files except the system files. Check for invisible files. For TRSDOS you need to know the passwords for protected files. The password for BACKUP/CMD is BACKUP, for FORMAT/CMD is FORMAT etc. Another source of this problem is locked out tracks. Some operating systems will "lock-out" a track on the diskette without telling you. This renders part of the disk useless. Try reformatting the disk and start again, or use a fresh diskette.

Q. Can I see the wordlist I have entered?

A.

No. The method HEXSPELL uses doesn't allow this. Also, HEXSPELL is designed to do the chore of keeping the appropriate words on the list, rather than forcing you to edit the list manually. Using the Print Log Option to log your additions to the file should help to prevent typos getting on the list.

Q. I sometimes get a "String Space Corrupt" message

A.

This means the Microsoft Basic compiler has lost track of some of its internal pointers. In five out of the six cases reported the cause was bad memory chips. We haven't heard back from the sixth case. HEXSPELL uses the memory to its fullest extent and may "discover" bad memory chips that don't bother other programs.

Q. I get garbage added to the end of my document file.

A.

This seems to happen on some Mod I DOS systems. The exact cause is unknown, but it seems the DOS or the compiler is missing the End of File mark. The simplest solution is to leave a couple of lines of spaces at the end of your document.

Q. While processing a large document HEXSPELL goes into a loop, repeatedly checking the same few lines.

A.

This happens on some Mod I systems modified for double-density. It happens at the End of File or the start of a new File Extent so is probably a DOS error. Try breaking your document into smaller sections.

Q. Why can't I just press one button to get from Scripsit to HEXSPELL?

A.

This would mean modifying Scripsit. While this isn't difficult to do, all

the Scripsit enhancement packages use the same method. Thus you can't use more than one enhancement at a time. Since most of our Scripsit customers use a Scripsit enhancement package already, we figured they wouldn't want to give up their bold face, underlining etc. just to get into HEXSPELL faster.

Q. Can you show me how the word should be spelt, not just the spelling error?

A.

Yes, we think so. But not on a TRS-80. We have been working on an electronic dictionary for many years, at the same time as we worked on HEXSPELL. We have come to the conclusion that the structure of the wordlist for an electronic dictionary should be quite different from that of a Spelling Checker wordlist.

As you see from HEXSPELL we think the ideal wordlist for a Spelling Checker should be all the words you use personally and no more. Many of these "words" would be combinations of characters that never appear in a dictionary. When the Spelling Checker has identified a potential error, then you can check the Electronic Dictionary to see what it should be.

An ideal Dictionary should contain several hundred thousand "official" words, preferably with definitions. Its data structure should be such that it can take a good guess at a word no matter how mangled. After much research we think we have such a structure, but the size of files it needs won't be practical until the hard disk becomes common. Even then it is a major undertaking and certainly won't be cheap. But "we're working on it" as they say.

Q. What files do I need online when HEXSPELL is checking a document?

A.

For those of you who want to organize the contents of your disks in your own way, the sequence of events in HEXSPELL 2 is this:

- 1) The SPELL/MEM and HEXAGON/CON files are opened and information is read from them. Both files are then closed.
- 2) If the "Wait for SPELL diskette" parameter is "Y", HEXSPELL now asks you to "INSERT LIST DISKETTE".
- 3) The SPELL/LST file is opened. If the "Extended Word List" parameter is "Y" the SPELL/EXT file is also opened.
- 4) HEXSPELL now asks for the Input File and Work File names, and opens the requested files.
- 5) HEXSPELL checks the document.
- 6) HEXSPELL copies the Work File to the Input File if required, then closes both files.
- 7) HEXSPELL asks if you have more files to check. If you do it returns to step 4.
- 8) HEXSPELL deletes any words you request. It then closes the SPELL/LST file (and SPELL/EXT file if it was open).
- 9) If the "Wait for SPELL diskette" parameter is "Y" HEXSPELL asks you to "INSERT SPELL DISKETTE".

10) HEXS' opens the SPELL/MEM file, writes information to it, then closes the file. The HEX, L session is now at an end.

We hope this "flowchart" will help you follow the reasoning behind the disk allocations suggested in Section 1. The random access files, HEXAGON/CON, SPELL/LST, SPELL/EXT must be available when needed. Remember that TRS-80 operating systems will merrily create a new random file if the one you request isn't there, and feed the resultant garbage to the program.

We hope this has covered any questions you may have. If there seem to be some common questions we missed, we will add them in to later editions of the manual.

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