

Joyce Write Hand Man

To take advantage of the extra memory and graphic capabilities of the PCW8256 & PCW8512 computers, we have produced an especially enhanced version of Write Hand Man for these machines.

The main features of this new package are:

- full use of graphics on all applications and the main menu
- full screen refresh including graphics
- consistent use of the cursor and editing keys
- function key editor
- year calendar
- mini screen editor allowing simple editing of files

This new version of Write Hand Man is supplied in a special package for owners of PCW machines only. On the disc it is called WHMT.COM and you turn it on and off as described in the manual. However, do not attempt to install the program using WHMTCONF.COM; it is already installed for the PCW8256/8512 and the installation program will not work.

To activate Write Hand Man once it is turned on type:

[ALT]]

To exit Write Hand Man or any of the applications type:

[ALT] [

We shall now describe the changes made to the existing applications and also the new applications and then take you through the suggested procedure for using Write Hand Man on your Amstrad PCW computer. Firstly, note that to get into Write Hand Man once it is turned on you should type [ALT] and] together. Use [ALT] and [to exit.

Notepad

This has an improved graphic image and makes use of the cursor keys. Also a block of text may be marked and cut to the macro keys using the PASTE and UNIT keys to mark the block and the CUT key to cut to the macro keys. Wordstar-style commands also are still available; e.g. the cursor may be moved left by pressing the cursor left key or by pressing [ALT] -S (the ALT key and S together). The commands available are listed over the page:

command	wordstar-like	PCW keypad
cursor left	[ALT] -S	left arrow
cursor right	[ALT] -D	right arrow
cursor up	[ALT] -E	up arrow
cursor down	[ALT] -X	down arrow
Advance page	[ALT] -F	SHIFT+right arrow
Back page	[ALT] -B	SHIFT+left arrow
Jump to page	[ALT] -J nn	FIND nn
Output to printer	[ALT] -O	COPY
Toggle insert/delete	[ALT] -V	+ key next to spacebar
Backspace	[ALT] -H	<DEL
DEL	[ALT] -G	DEL>
Clear page	[ALT] -Y	PASTE
Mark start of block		UNIT
Mark end of block		CUT
Cut block	[ALT] -C	

Phonebook

Similar to Notepad but with the following exceptions:

- Tone dial [ALT] -T
- Pulse dial [ALT] -P

There are no block commands

Diary

Again similar to Notepad, except:

- SHIFT+FIND jump to day in second week
- FIND jump to day in first week
- CUT roll week forward

The graphics used by this application have been improved, too.

Macro Key Editor

Same movement commands as notepad plus:

- Recover old defs = f1
- Set new defs = f3
- Define trigger = f5

The graphics used by this application have been improved.

Calendar

Starts up displaying current time, date, month and year as set by Calendar or CPM's DATE utility previously; otherwise it displays the system default which is December 16th 1982.

Top of calendar displays a page of the calendar for any month between January 1978 and December 2000 inclusive.

To flick through the calendar use:

- Up arrow Forward one year
- Down arrow Backward one year
- Left arrow Backward one month
- Right arrow Forward one month

The bottom of the calendar shows, from left to right, the current time (24hr clock), today's date, the month and the year.

To alter any one of these values, i.e. change the system time or date, move the bar cursor, which is initially over the HOURS value, left or right using the SHIFT key in conjunction with the left and right arrow keys. When the bar cursor is over the value you wish to alter use the boxed + and - keys either side of the spacebar to increment or decrement the value.

This is much easier than using the DATE utility! To summarise:

SHIFT + left arrow = move cursor left
 SHIFT + right arrow = move cursor right
 '+' key near spacebar = increment value
 '-' key near spacebar = decrement value

The system clock runs slightly slow, but is still quite useful. The dates set by this application are fully compatible with date and time stamping of files if the directory is set up for this.

ASCII Tables

Now displays ASCII table in the format:

Decimal code	Hexadecimal code	Char	CTRL-Char	Name
--------------	------------------	------	-----------	------

Codes are displayed 8 at a time. To move through the pages use the arrow keys.

The RETURN key also moves the window forward through the character set. All graphics characters are displayed.

Disc Directory

This now displays the directory 20 filenames at a time, therefore making it easier to get an overview of the disc contents.

Use RETURN to display the next page of directory.

Fkeys

A program to define the Joyce function keys labelled f1 to f8.

CAUTION! Do not use this application while running programs which utilise the function keys as it will clear all current definitions if they are non-

standard.

Up to 15 characters may be allocated to each key and the cursor movement commands are the same as Notepad etc.

The program will display any current definitions in force when it is called.

Calculator

Now displays a graphic image of the calculator.

Operation:

Numbers may be entered via the numeric keypad regardless of whether NUMLOCK is active or not but make sure SHIFT-LOCK is not active. Decimal point on keypad may be used as well as normal full-stop.

Enter	key acts as = key
Paste	key acts as Memory recall
Copy	key acts as Memory in
Cut	key cuts number to Macro key 8
Can	key toggles sign of numbers i.e. it is the +- key
<Del	key is the clear key
f7	= +
f5	= - You may use normal keys to get
f3	= * these functions
f1	= /

VIEW

This is a mini text-editor for Write Hand Man. Once loaded the user is prompted for the filename of the file to be edited or inspected. Once an acceptable filename has been entered the window is filled with the first

two records of the file, i.e. 256 bytes.

Control characters are represented as follows:

RETURN	= «
LINEFEED	= †
TAB	= »
OTHERS	= _

Spelling mistakes etc. can be corrected by typing over the incorrect word.
The movement commands are as follows:

Cursor movement	-	use cursor keys
Page forward	-	SHIFT+right arrow key
Page backward	-	SHIFT+left arrow key
Mark start of block	-	CUT
Cut to RAM disc	-	CUT M
Cut to printer/LST:	-	CUT P
View another file	-	CAN

When a block is cut to the RAM disc the file is called M:WHM. CUT and can be up to 64k in size. Blocks cut to the printer can also be up to 64k in size.

Write-Hand-Man™

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It is an infringement of the copyright pertaining to Write-Hand-Man and its associated documentation to copy, by any means whatsoever, any part of Write-Hand-Man (except for the .MAC source files) for any reason other than for the purposes of making a security back-up copy of the object code.

Description

Write-Hand-Man brings the power of Sidekick (a trademark of Borland International) to CP/M systems including the Amstrad disc-based computers. With Write-Hand-Man enabled, you can reach supplied programs to edit notes, check phone numbers, make appointments, calculate, view files and directories by using only two key strokes. Other programs, such as a communications program, can be reached by typing their names. Write-Hand-Man also provides the extremely powerful feature of programmable keys, allowing up to eight 'key macros' to be defined and stored. These macros may then be executed from within any program, including CP/M's normal command loop, whenever Write-Hand-Man is installed.

Write-Hand-Man gives you the illusion of concurrent execution.

Write-Hand-Man loads into the high memory area of CP/M and watches over every keyboard character typed. When the special character that triggers Write-Hand-Man is typed (normally this is [CTRL]-), a menu is displayed in the upper left hand corner of the screen. Selecting one of the menu items causes Write-Hand-Man to locate and load into its program area one of its application programs. Once loaded, this program takes control and interacts with the user.

When the Write-Hand-Man application program exits, Write-Hand-Man regains control and the selection menu is returned to the screen. Typing [ESC] blanks the selection menu and returns control to the interrupted application which continues unaware of and undamaged by the interruption.

Applications for Write-Hand-Man are assembly language programs assembled with a relocating assembler like Digital Research RMAC, Microsoft M80 or HiSoft Devpac80 (version 2.0, available June 1986). The user can add applications to Write-Hand-Man by following the simple instructions at the end of this manual.

Example

While editing a document, you suddenly remember a change you must make to a spread sheet application. Enter WHM by typing the trigger character (usually this is [CTRL]-[]) at the keyboard. The WHM menu appears in the upper left of the screen.

```
Write-Hand-Man
A - Notepad
B - Phonebook
C - Calendar
D - Dir
E - View
F - Calculate
G - Keys
O - OTHER
Enter Choice[ ]
```

Type an A or a and Write-Hand-Man will load the NOTEPAD application from the disc and present the first page of the notepad.

```
Page 1
Pick up laundry
```

Simply type the note and edit it using *Wordstar editing* (for details, see the description of the Notepad application later in this document). Flip through the pad using [CTRL]-F for *forward* and [CTRL]-B for *backward*. When finished type [ESC] and the WHM menu will reappear.

```
Write-Hand-Man
A - Notepad
B - Phonebook
C - Calendar
D - Dir
E - View
F - Calculate
G - Keys
O - OTHER
Enter Choice[ ]
```

Type the escape key ([ESC]) and you will return to your text editor. The next character will be interpreted by your text editor. It will be necessary to get your text editor to refresh the screen if you are using WHM.COM; WHMT.COM will refresh the screen automatically. Other applications are used in a similar fashion.

Use of Write-Hand-Man

Write-Hand-Man is enabled with the command:

```
A>WHM ON [ENTER]
or
A>WHMT ON [ENTER]
```

Once enabled WHM will watch each keyboard character typed and look for the trigger character. When the trigger character is recognized, WHM puts up a selection menu in the upper left corner of the screen. There are 9 options which are detailed on the following page:

Configuration

There are three pieces of information that Write-Hand-Man must know about your system in order to operate correctly.

Firstly, Write-Hand-Man must know the character sequence that causes the cursor of your terminal to HOME or go to the upper left hand corner of the screen. You may have to look into the technical documentation of your terminal to determine what the HOME CURSOR sequence is. For Amstrad CPM 2.2 machines, the sequence is HEX 1E (ASCII RS). For Amstrad CPM Plus machines the sequence is [ESC]-H (HEX 1B48).

Secondly, Write-Hand-Man must know the trigger character.

This character should be chosen with some care as the trigger character will always activate Write-Hand-Man and cannot be read by CPM applications. The ASCII NULL character (HEX 00 or [CTRL]-@) is a good choice. Some terminals cannot generate this character and [CTRL]-] (ASCII GS) is another good choice (Note [ESC] is [CTRL]-[, the other square bracket). For terminals that cannot generate either of these, try [CTRL]-BACKSLASH (ASCII FS).

Thirdly, Write-Hand-Man must know the amount of memory that it should reserve to load applications. Type [ENTER] unless you have written your own applications for WHM.

Write-Hand-Man uses 1.5K of memory for its control program and in addition uses some reserved memory to load the applications. All of the distributed applications load in 1.5K of memory, so the default for the amount of reserved memory is 1.5K. Both the program memory (1.5K) and the reserved memory (1.5K) are lost to CPM applications.

If you plan to write more complex applications for Write-Hand-Man, you may want to select larger amounts of memory. The amount of reserved memory is selected by typing a number between 1 and 9, allowing for the selection of 1K to 9K of reserved memory. To select the default of 1.5K, simply type [ENTER].

Once you have decided how to configure Write-Hand-Man, begin the configuration procedure.

First copy the distribution disc using a disc copy program like DISCCOPY or by copying all files using PIP. Set the copy of the distribution disc to the default disc and run the WHMCONF program (just type WHMCONF [ENTER]). Answer the questions and it will configure WHM for your system. After WHM is configured, the program WHMCONF may be discarded.

Sample Configuration Session

Included here is a sample session that configures Write-Hand-Man for a VT100 terminal (fairly similar to the Amstrad CPM Plus VT52 terminal) using [CTRL]-] as the trigger character and using the default amount of reserved memory (1.5K).

```
A>whmconf
```

Write-Hand-Man configuration program

You will be asked to enter one system dependent value and two configuration options that represent preferences. These values are used by Write-Hand-Man to control its operation. The first value is the control string to HOME the CURSOR of your terminal. The second value is the character you wish to use to enter Write-Hand-Man. This character will be a [CTRL] character and should be chosen so that it does not interfere with any application. The third value is the amount of memory reserved for the applications. All the distributed applications load with the default value

Type any character to continue

less than perfect simulation of the various terminals. The Televideo terminal family does not have this problem and the problem is generally only observed if the interrupted application uses special terminal attributes such as reverse video or underlining. Text editor applications do not generally use these attributes and WHMT will correctly restore the screen.

Some terminals and computers have extended the normal terminal support to include limited graphics capabilities. Screen refresh will not restore the graphics characters to the screen.

Write-Hand-Man supports Automatic Screen Refresh for the following terminals:

- Televideo 910, 920, 925, 950
- Heath H19
- DEC VT52 (Amstrad CP/M Plus machines)
- Freedom 50/100
- WYSE 50/100
- ADM 3A/31
- Soroc Osborne Kaypro QX-10
- Hazeltine 1500
- Amstrad CP/M Plus 24 by 80
- Amstrad CP/M Plus 31 by 90

If your terminal or computer is not listed here and does not behave like one of these terminals, send a note to Poor Person Software or HiSoft describing your terminal in as much detail as you can. Poor Person Software will consider adding your terminal or computer to the list of supported terminals. ANSI terminals like the VT100 are not supported and no support is planned for these terminals as supporting them would make WHMT much too large to be practical.

Configure WHMT using the WHMTCONF program and engage WHMT with the:

A>WHMT ON [ENTER]

command. The options for WHMT are the same as for WHM.

A third version of the program is also included on the distribution disc under the name WHMF.COM. This is identical to WHMT.COM except that it can save and restore the entire screen image rather than just the left-hand portion of the screen. WHMF should be used only on systems with a very large amount of memory available as it uses a considerable amount to hold the saved screen image. To configure it, change its name to WHMT.COM (remember to change the name of the real WHMT.COM to something else first!) and then use WHMTCONF to configure it.

Distributed Applications

Eleven Write-Hand-Man application programs are distributed with WHM. They are:

- | | |
|-----------|--|
| NOTEPAD | a place to edit notes |
| CALENDAR | a 14-day appointment calendar |
| PHONEBOOK | look up phone numbers |
| DIR | examine the directory of any disc |
| VIEW | view a CP/M text file |
| CALCULATE | a 14-digit decimal calculator |
| HEX | a hex and decimal calculator |
| KEYS | the key macro editor |
| ASCII | displays an ASCII table |
| SWAP | allows simple, pseudo multi-tasking |
| TERMCOMM | a terminal communication program (source only) |

These applications are described in detail in further sections of this manual.

Disc Contents

The distribution disc contains the following files:

*WHM.COM	Write-Hand-Man program
*NOTEPAD.REL	Notepad application
*NOTEPAD.DAT	The notepad data file
NOTEPAD.MAC	Source of NOTEPAD
*PHONEBOO.REL	The Phonebook application
*PHONEBOO.DAT	The Phonebook data file
PHONEBOO.MAC	Source of PHONEBOO
*CALENDAR.REL	The Calendar application
*CALENDAR.DAT	The Calendar data file
CALENDAR.MAC	Source of CALENDAR
*DIR.REL	The Dir application
DIR.MAC	Source of DIR
*VIEW.REL	The View application
VIEW.MAC	Source of VIEW
*CALCULAT.REL	The Calculator application
CALCULAT.MAC	Source of CALCULATOR
*HEX.REL	Hex calculator application
HEX.MAC	Source of HEX
*KEYS.REL	Key macros application
KEYS.MAC	Source of KEYS
TERMCOMM.MAC	Source of Termcomm
WHMCONF.COM	The configuration program
WHMT.COM	Partial screen refresh version
WHMTCONF.COM	Configuration program for WHMT
WHMF.COM	Full screen refresh version

*These files must be available on disc at run-time for use by Write-Hand-Man.

Application Descriptions

Notepad

Notepad uses a 32 character by 8 line window on the screen. When selected, the first page of the notepad is displayed. This page may be edited, or the pad may be examined by leafing through it. The following characters control Notepad:

[CTRL]-E	move cursor UP
[CTRL]-X	move cursor DOWN
[CTRL]-S	move cursor LEFT
[CTRL]-D	move cursor RIGHT
[CTRL]-F	flip forward one page
[CTRL]-B	flip backward one page
[CTRL]-Y	erase the current page
[CTRL]-V	toggles <i>insert/overwrite</i> mode
[DEL]	deletes the character under the cursor
[CTRL]-Jn	jump to page n of the notebook
[CTRL]-O	output page to printer
[CTRL]-C	cut data from the Notepad screen into Key macros
[ENTER]	move the cursor to the start of the next line
[ESC]	exit the program (update the file)

Typing any printable character will update both the screen and the file. As you flip forward in the pad, new pages are added to the pad. You may have as many pages of notepad as your disc will hold. Each page is 256 bytes.

When the *cut* ([CTRL]-C) option is used text is copied from the notepad page into Key Macros 1 to 6 with the amount of text cut being the smallest of the following:

- text from under the cursor up to but not including a %.
- text from under the cursor up to but not including the last character.
- text from under the cursor up to 95 characters.

Hayes compatible dial characters can be sent to the serial port for automatic dialling purposes - use [CTRL]-T for tone dialling (not used in Europe) and [CTRL]-P for pulse dialling. The number sent will be any number that is enclosed by \$ signs on the current line (i.e. the line with the cursor in).

The numbers will be sent out through a port address if the number of the port address is enclosed in ' signs on the *first line* of the *first page* of the phonebook. If there is nothing enclosed in quotes on the first line of the first page or if it is 'FF' then the data will be sent to CPM's LST device i.e. your printer port.

You must leave and re-enter the phonebook if you change the port address on the first line of the first page so that the information can be stored.

There is a larger phonebook available that gives you 4 pages for each letter pair rather than the 1 page of the normal phonebook. This application is called BIGPHONE and may be accessed from the Other option on the main menu or you may replace the existing application with BIGPHONE. To do this type:

```
USQ BIGPHONE.DAT [ENTER]
ERA PHONEBOO.* [ENTER]
REN PHONEBOO.DAT=BIGPHONE.DAT [ENTER]
REN PHONEBOO.REL=BIGPHONE.REL [ENTER]
```

before entering WHM. The USQ BIGPHONE.DAT [ENTER] is used to *unsqueeze* the data in BIGPHONE.DQT which is distributed on the disc in a compacted form.

Calendar

Calendar maintains a 14-day appointment calendar. The limited memory of CPM systems and thus the small size of this program means limited function. Again, Notepad is the model. Each page is 32 characters by 12 lines and represents one day of the 14-day cycle. Calendar assumes that Monday is the first day of the calendar, thus the first 7 pages represent the first week of the calendar. The functions available are:

16 characters are cut into each Key Macro area thus destroying any current key macro definitions.

[CTRL]-J may be followed by one or two digits (don't keep the [CTRL] key down!) and [ENTER]; it will then transfer you to that page of the notebook. You may occasionally hit [CTRL]-J by accident (it's the same code as for linefeed), if this happens just press [ENTER] and you will remain in the same place.

The notebook data file (NOTEBOOK.DAT) may be edited with a text editor but only in *non-document* mode i.e. the editor must not change the format of the existing text within the notebook. WHM appends an extra carriage return/line feed pair to the end of the notebook data so that it looks like a paragraph to most word processors.

Phonebook

Phonebook behaves in a similar fashion to Notepad except that the window is 32 characters by 12 lines. Each page of the phonebook is used to hold phone numbers for a pair of alphabet letters. The first page is A-B, the second C-D etc. The commands available are:

```
[CTRL]-E      move cursor UP
[CTRL]-X      move cursor DOWN
[CTRL]-S      move cursor LEFT
[CTRL]-D      move cursor RIGHT
[CTRL]-F      flip forward one page
[CTRL]-B      flip backward one page
[CTRL]-Y      erase the current page
[CTRL]-J1     jump to the page containing entries for letter 1
[CTRL]-O      output page to printer
[ENTER]       move the cursor to the start of the next line
[ESC]         exit the program (update the file)
```

[ESC] when prompted for the file name.

Remember that the default disc for WHM is the disc that was logged in at the time WHM was enabled or the disc specified as an option with the d: option. If you wish to view the directory of a disc other than this one, you must specify the disc explicitly.

View

A file viewing program. This program prompts for a file name as in DIR. After the file is located, this program displays the file block by block. Each 128 byte file block is displayed in the 8 line by 32 character window. Lines longer than 32 characters are either truncated or wrapped to the next line depending on the *truncate* option. The following characters control the view program. Note these are not [CTRL] characters!

F	Go forward 1 block
B	Go backward 1 block
S	Go to first block (start) of file
E	Go to last block (end) of file
T	Toggle the Truncate flag. The last character of the window indicates the truncate mode.
	If T is visible then the records are being truncated (the default). If is visible then the lines are being wrapped. The new option takes effect when the next block is presented.
+n	Go forward n blocks. n ranges from 0-9
-n	Go backward n blocks. n ranges from 0-9
Cn	Cut three lines (minus 1 character!) from the nth line of the current VIEW display to keyboard macro 1. This cut corrupts the first 6 keyboard macro definitions so you will have to restore them after using this command. See the KEYS command for details.
[ESC]	return to the file name prompt

Remember that the default disc for WHM is the disc that was logged in at the time WHM was enabled or the disc specified as an option with the d: option. If

[CTRL]-E	move cursor UP
[CTRL]-X	move cursor DOWN
[CTRL]-S	move cursor LEFT
[CTRL]-D	move cursor RIGHT
[CTRL]-F	flip forward one page
[CTRL]-B	flip backward one page
[CTRL]-Y	erase the current page
[CTRL]-Jxx	jump to the day represented by xx, in the first week, where MO stands for Monday, TU for Tuesday etc.
[CTRL]-Pxx	jump to the day represented by xx, in the second week, where MO stands for Monday, TU for Tuesday etc.
[CTRL]-C	copies the contents of the second week in to first week and clears the second week. Use this at the end of each week to roll forward.
[CTRL]-O	output page to printer
[ENTER]	move the cursor to the start of the next line
[ESC]	exit the program (update the file)

Dir

A directory listing program. This program prompts for an ambiguous file name (including the user number 0-9, A-F) in the form Dn:FILENAME.TYP. The file name may be specified with wild cards as described in the CP/M user's guide. The optional D: specifies which disc is to be searched (A-0) and the optional n specifies a single digit user area (0-9, A-F). If D: only is entered, it is equivalent to D:*. * i.e. all files are listed. Dn: is equivalent to D:*. * for user area n. bc:*. * .txt selects all .txt files on disc B for user area 12 (hexadecimal C).

Files are listed in groups of 8. After each group, the program pauses waiting for any character to be typed. [ESC] returns to the file name prompt.

Return to the Write-Hand-Man selection menu by typing an escape character

you wish to view a file on a disc other than this one, you must specify the disc explicitly.

Return to the Write-Hand-Man selection menu by typing an escape character [ESC] when prompted for the file name.

Calculator

Calculator is a four function calculator for decimal numbers up to 14 digits. There is little error checking because of the limited size of this program so exceeding the 14 digit range may result in unusual results.

Calculator supports the basic arithmetic functions of add, subtract, multiply, and divide. Operations may be chained in the form of $4.5 * 13.6 + 7 =$. The Calculator command summary appears below.

- ! Negate, make positive numbers into negative numbers and make negative numbers into positive ones.
- X Clear, the first time X is typed, the current entry is cleared. The second time X is typed, the accumulator and any pending operation is also cleared.
- + - * / the arithmetic operators
- = Equals, display the result of an arithmetic operation.
- C Cuts the displayed value into Macro Key 8. Macro Key 8 can be triggered later in a CP/M application to Paste the value into the application.
- S saves the last result (not necessarily what is displayed) in a memory. If you use S while entering an operand then it will save the last result, not the operand.

R restores a previously saved result as the current operand; equivalent to typing an operand. Saved results last as long as WHM is enabled.

[ESC] Leave the calculator and return to WHM

The number of decimal places displayed after a divide operation is always two more than the largest number of decimal places in either divisor or dividend. Thus $10/3$ yields 3.33, while $10.00/3$ or $10/3.00$ yields 3.3333 and $10.000/3.00$ yields 3.33333. Thus you can control the precision of the answer by the precision of the input numbers.

KEYS

This is a Key Macro Editor and is invoked from the G option on the WHM menu. It allows you to define the character that will be used to invoke the Keyboard Macros and also lets you define and edit the individual texts of the macros.

A Keyboard Macro allows you to substitute a predetermined string of characters (some from the keyboard, if needed) as input just as if the whole string had originated from the keyboard. These strings may be defined using [CTRL]-N or, alternatively, the strings may be cut from WHM applications such as NOTEPAD, CALCULATOR and VIEW. See the descriptions of these applications for more detail.

Keyboard Macros are triggered by typing the Macro Trigger character (defined using [CTRL]-C) followed by a number from 1 to 8 inclusive. WHM supports 8 keyboard macros with up to 15 characters in each macro, all characters can be used in the macro definitions, including the WHM trigger character.

While creating or editing the macros you can generate the trigger character within the string by typing it twice. The % character is treated specially, it indicates that input at macro evaluation time is to be taken from the keyboard e.g. the defined macro sequence dir %.com, when invoked, would supply all but the filename portion of the DIR command and the user would type in the filename directly from the keyboard. Any keyboard input should be terminated

by [ENTER].

Keyboard Macros are automatically initialised from the KEYS.DAT file when WHM is initialised.

Key Macros 1 to 6 inclusive may be redefined by *cw* operations and Keyboard Macro 8 is used by the calculator so it is suggested that you reserve Key Macro 7 to initialise the Key Macros after a *cut-and-paste* operation. You can do this from within KEYS by typing, from the WHM menu:

g[CTRL]-C_

to enter the KEYS editor and define the Macro Trigger character to be [CTRL]-_ and then:

[CTRL]-X [CTRL]-X [CTRL]-X [CTRL]-X [CTRL]-X [CTRL]-X

to get to Macro 7 and then:

^}g^O^Nn^{

to define the key to enter WHM, select KEYS, get old definitions, use them and exit. Finally type:

[CTRL]-N Y [ESC]

to save these definitions and exit WHM. Now simply use:

[CTRL]-_7

to recover definitions at any time. Try the above now.

The screen of KEYS shows the contents of the 8 Keyboard Macros and the Macro Trigger Character. The editor is very similar to the NOTEPAD editor. [CTRL] characters are entered as a 2 character sequence using ^ as the first character e.g. enter ^M to indicate a carriage return (CHR(13)) character and ^[to generate [ESC], escape.

The KEYS editor understands the following commands:

[CTRL]-E	move the cursor up
[CTRL]-X	move the cursor down
[CTRL]-S	move the cursor left
[CTRL]-D	move the cursor right
[CTRL]-V	toggle insert mode
[DEL]	delete the character under the cursor
[CTRL]-H	destructive backspace
[CTRL]-O	recover old key definitions
[CTRL]-N	set new key definitions and optionally save them
[CTRL]-C	define the Macro Trigger character
[ESC]	return to WHM menu

HEX

HEX is a small integer, four-function calculator. It works on decimal numbers in the range of -32768 to 32767, and hexadecimal numbers in the range 0 to FFFF. HEX supports the basic arithmetic functions of add, subtract, multiply, and divide. Operations may be chained in the form of 45 * 13 + 7 =. The HEX command summary appears below.

HEX is activated by selecting 0 on the WHM menu and then typing the string HEX.

:	negate, make positive numbers into negative numbers and make negative numbers into positive ones. In Decimal mode the sign is changed, but in Hexadecimal mode the two's complement is taken.
R	Radix, toggle the radix between 10 and 16. To convert a number from decimal to hexadecimal or back, simply enter the number in one radix and toggle the radix to the other. The radix may be changed any time, even while entering a number.

X Clear; the first time X is typed, the current entry is cleared. The second time X is typed, the accumulator and any pending operation is also cleared.

+--*/ the arithmetic operators

= Equals; display the result of an arithmetic operation.

[ESC] Leave the calculator and return to WHM.

ASCII

An ASCII character table is available using the O option from the WHM menu and then typing

ASCII [ENTER]

Four pages of the ASCII character table are displayed in order, hit any key (apart from the WHM trigger character, [CTRL]-C or [ESC]) to get the next page. After the fourth page the first page is displayed again.

Type [ESC] or [CTRL]-C to exit to the WHM menu.

Swap

This application writes out the current program running in the system to the file SWAP.DAT and allows the user to load and run a new program in the TPA. Any CP/M program can be called up. When you leave the new program you will be returned to a pseudo-CCP managed by SWAP which behaves just like CP/M's CCP. When you leave this (by typing [ESC]) the originally active program is read back into memory and executed.

Because most CP/M programs write data to all parts of the screen, another version of WHM is included on the disc that rewrites the whole of the screen; this is called WHMF.COM. This is substantially larger than WHMT (approx. 1.5k) and

you may wish to give careful consideration to its use. WHMF is configured using the WHMTCONF program as follows:

```
REN TEMP.COM=WHMT.COM [ENTER]      save WHMT
REN WHMT.COM=WHMF.COM [ENTER]      rename WHMF
WHMTCONF [ENTER]
.....
REN WHMF.COM=WHMT.COM [ENTER]
REN WHMT.COM=TEMP.COM [ENTER]      restore WHMT
```

The active program is written to the file SWAP.DAT which will be created on the same disc as WHM found the SWAP.REL file. If you have a RAM disc (e.g. if you own an Amstrad PCW8256/8512) then you might want to copy the SWAP.REL file onto the RAM disc so that the SWAP.DAT will be placed on it; this obviously speeds things up and does not waste floppy space. To ensure that WHM searches the RAM disc for the SWAP.DAT file you should enable WHM like this:

```
WHM m:on [ENTER]
```

assuming that drive m is your RAM disc. Remember that, by default, WHM will always look on the A disc for its applications so that other applications may be on A.

When in SWAP mode the simulated CP/M prompt in the SWAP window indicates which disc and user area is active. Programs that SWAP can run on any disc in the system but must be in the same user area as there is currently no way to change the user area with the SWAP application.

SWAP simulates the CP/M environment only for running programs. The built-in commands such as DIR, ERA and TYPE are not available. There is a reason for this: it is extremely dangerous to alter the disc directory while a program is swapped out. The swapped-out program may be using files that are erased while the program is swapped out. Such action could lead to subsequent loss of all files on the discs.

Several BDOS functions are disabled during SWAP. The Reset Disc System, Log Drive and Reset Drive functions are disabled. This means that you should not switch discs with SWAP active. Switching discs could have the effect of loss of all files on the discs.

Poor Person Software and HiSoft assume absolutely no responsibility for any lost files or directory damage when SWAP is used. Use SWAP with great care and think about what it is you want to do. SWAP can be very powerful but CP/M was never intended to be used in a multi-tasking environment and has many limitations.

Termcomm

This program is distributed in source only because there is no standard way to access the communication line in CP/M.

There are two small subroutines that must be modified for your system. These routines are clearly marked in the source. Once modified, simply assemble the program using an 8080 assembler like Microsoft's M80 or Digital Research's RMAC. The TERMCOMM.REL file is used by WHM.

This program uses a 32-character by 8-line window to show the communication with the host. This window is scrolled up as the data is entered. There are no capture modes, file transfers and the like in this program as there is little space for such features. If you want to expand Termcomm's function and use more memory then you must allocate this memory when WHM is enabled.

The Application Environment

The keyboard macro and memory areas of WHM are available to all WHM applications. The addresses of these areas are stored in the first page (address 00 to 100h) of the application.

BASE+016h contains the address of the keyboard macro trigger character. BASE+018h contains the address of the keyboard macro table. 16 characters are reserved for each keyboard macro. BASE+01Ah contains the address of a

48-byte memory area that is not modified by WHM. Applications may communicate with each other using this area. The calculator stores its saved value in the first 8 bytes of this area.

Source Distribution

As the Write-Hand-Man package grows in size, source distribution becomes a problem. Poor Person Software and HiSoft will continue to distribute the source of the applications but will take actions necessary to keep the size of the distribution disc under 140K.

The source for Write-Hand-Man applications is now distributed in squeezed form to conserve disc space. The public-domain program USQ.COM is also distributed and may be used to unsqueeze any source that you may want to use.

USQ A:NOTEPAD.MQC M: [ENTER]

will unsqueeze the source to the disc specified.

Writing your own Applications

Write-Hand-Man provides its application programs with a duplicate of the CP/M environment. All BDOS calls are allowed! **WARNING!** BDOS calls that cause major modifications in the disc System (SYSTEM RESET, RESET DISC) should not be used because of the effect on the interrupted application.

All addresses used by the application must be *relative* to the location in memory that Write-Hand-Man reserves for its programs. Thus to call the BDOS, the code is not CALL 5, but CALL BASE+5, where BASE is the origin of the program. BASE+05Ch has an FCB filled in for the file name.DAT where name is the name of the application. The DMA address is set the BASE+080h. The program is called at location BASE+0100h. BASE+0 contains a JMP instruction to the return point of WHM. BASE+5 contains a JMP to the BDOS.

Although the above is written in 8080 assembler, you can of course use Z80 source if you have the right assembler (Macro80 will do) and have a Z80 processor in the computer on which you want WHM to run.

This same code may be assembled with the ASM assembler and tested in the standard CP/M environment except for the use of HOME and CHAIN addresses!

To assemble the program and run it in CP/M (not in WHM) type,

```
A>ASM name [ENTER]
```

followed by

```
A>LOAD name [ENTER]
```

and

```
A>name name.DAT [ENTER]
```

To run the program in WHM (where it is difficult to use DDT to debug it), assemble the program with M80 or RMAC and leave the name.REL file on the disc that WHM is using to locate applications. Use the 0 option on the selection menu and enter the name of your program. WHM will locate the .REL file and run your application. Simple!

Compatibility

Write-Hand-Man can be used in conjunction with the Poor Person's Spooler. The trigger character for WHM must be different than the trigger character for the Poor Person's Spooler ([CTRL]-@ or NULL).

```
A>whm on [ENTER] ; engage Write-Hand-Man
A>spool on [ENTER] ; engage Spooler
```

Write-Hand-Man cannot be used in conjunction with the Poor Person's Window System unless the Window System is modified. The Window System does not interpret escape sequences or [CTRL] codes other than [CR] and [LF]. When Write-Hand-Man uses the HOME sequence to home the cursor, the Window System will allow the cursor to go to the true HOME position regardless of which window is active. In order to make Write-Hand-Man work with the Window System, the Window System must be modified to interpret the HOME sequence and cause the cursor to go to the upper left corner of the active window. This is an easy change to make but it is terminal dependent and is not part of the standard Window System.

If the Window System is modified by the user to interpret the HOME sequence, then Window should be engaged first.

When used with Smartkey, Xtrakey, Magikey and the like, engage WHM last.

```
A>window on [ENTER] ; engage Window System
A>whm on [ENTER] ; engage Write-Hand-Man
```

Notes

Wordstar users may find it inconvenient to have Write-Hand-Man use the top two lines of the screen. In Help level 0, Wordstar puts the ruler line on line 2 of the screen and it is difficult to get Wordstar to redraw the ruler line after Write-Hand-Man has been active.

A solution to this problem is to move the Write-Hand-Man window down from the top left corner. This can be accomplished by including several line feeds in the cursor HOME sequence. In the example given for a VT100 of 1B5B48 ([ESC] - [H), simply append several 0A (line feeds) so the sequence becomes 1B5B480A0A. This would move the Write-Hand-Man window down two lines from the top of the screen. A total of 16 characters may be included in the HOME sequence so the window may be placed in the middle of the left portion of the screen.

If you are tight on disc space and don't want to use some of the applications such as the Calendar, simply erase the application files and data files that are not needed. If you attempt to call up these applications after you have erased them, an error message will inform you that the files cannot be found.

If you want to save disc space, you can also make the NOTEPAD file smaller. To do this do the following.

```
A>era notepad.dat [ENTER]
A>save 0 notepad.dat [ENTER]
```

This starts with an empty NOTEPAD file. Pages will be added automatically as needed.

License Agreement

Poor Person Software grants a non-exclusive license to the Buyer to use Write-Hand-Man and make a reasonable number of copies for backup purposes and ease of use. Poor Person Software's copyright shall be extended to cover these copies and placed on all these copies.

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