

HISOFT FONT 464

Programmer's Manual

a typical screen dumped using the new

HISOFT FONT 464

with free printer interface software

**DESIGN FONTS AND DEFINE GRAPHICS
WITH THE ADVANCED CHARACTER EDITOR**

INVERT MONOPH MIRROR LEFT RIGHT

SAVE and LOAD your own sets for easy
inclusion in **BASIC** (and other) programs

5 PRE DESIGNED FONTS INCLUDED
ancient
CHUNKY
spacey
STRIPPED
JOYFUL

Dump screens or print characters using
the built in **ICOPY** and **ILPRINT** commands

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It is an infringement of the copyright pertaining to Hisoft FONT 464 and associated documentation to copy, by any means whatsoever, any part of Hisoft FONT 464 for any reason other than for the purposes of making a security back-up copy of the object code.

CHAPTER 1: INTRODUCTION

FONT 464 is an easy-to-use and friendly program enabling you to design, edit and save your own characters and graphics on the Amstrad CPC464 for easy use in BASIC (and other) programs. Included in **FONT 464** are 6 pre-designed fonts (or character-sets) and sophisticated printer-driving software to enable you to use either Epson-compatible printers or the Amstrad DMP1 to produce high-resolution screen dumps or even to use the printer as a typewriter with your own design of font.

This manual will explain how to use **FONT 464** and the features and facilities available. The first-time user should read through the chapters, but if anything is unclear, then Chapter 7 provides an introduction to **FONT 464** in the form of a tutorial session with examples of many of the commands.

CHAPTER 3: THE EDITOR

The editor works on four characters at a time (enabling easy design of block graphics) and is reached by selecting options A,B,C or D from the main menu. Options A and B get the designs from OLD and C and D from NEW. Note that whichever set you get the designs from, they will be copied into NEW after a successful editing session. Thus character number 65 (normally "A") whether drawn from NEW or OLD will be copied into position 65 of NEW after editing. Note that options A and C will display the OLD and NEW fonts for convenience and easy access of characters while options B and D can be used for speed if you know which characters you want to work on.

Character Selection

You can at any stage in the selection process, press "?" to get a help page which details the information below.

Using options A or C, you may select characters in one of three ways:-

- a) By name. This is what one might expect and thus pressing "A" selects character 65 etc . . .
However, less than half of the full character set can be reached in this way, and there may also be problems if the designs are unrecognisable as the original letters (perhaps they are now graphics); So you can also select characters . . .
- b) By number. The number must be preceded by a dot and be in the range 0 to 255. Thus .65 will fetch the same character as "A". This system enables you to get at any character in the set.
- c) By cursor. With this method you can actually see what you are getting. Using the four cursor keys you can position the cursor over the design you want and then press the <ENTER> key (not the <COPY> key) to select it. (Using <ENTER> for selection will increment the cursor so you may easily select four characters in sequence by positioning the cursor and then pressing <ENTER> four times). Note that only 128 of the 256 characters are shown on a page at one time and you can flip between the pages with <CTRL+F> (for flip).

Options B and D do not display the designs so you can only use methods 'a' and 'b' above. However, here also pressing <ENTER> alone will automatically select the character one after the last so that you can easily select four characters in sequence.

					NEW	OLD		
					ab	ab	97	98
					cd	cd	99	100

76543210	76543210							
X	.....	ab	.....	0	0	224	I=Invert	
	.....		.....	1	0	96	F=Flip	
	.....		.....	2	120	124	R=Rotate	
	.....		.....	3	12	102	M=Mirror	
	.....		.....	4	124	102	C=Clear	
	.....		.....	5	204	102		
	.....		.....	6	118	220	S=Scroll 4	
	.....		.....	7	0	0	Z=Scroll 1	
	.....		.....	0	0	28		
	.....		.....	1	0	12	O=Get OLD	
	.....		.....	2	60	124	N=Get NEW	
	.....		.....	3	102	204	P=Put NEW	
	.....		.....	4	96	204		
	.....		.....	5	102	204	A=Add Line	
	.....		.....	6	60	118	D=Del Line	
	.....		.....	7	0	0	H=Hilight	
							E=End	
							I=Quit	

FONT 464

Using the Editor

Having selected four characters, you will enter the edit. On the left-hand side of the screen is a grid with the four characters enlarged 8 times. To the right of the grid are two columns of numbers representing the pattern of the four characters. These numbers are given in the event that you don't wish to design and save a whole character set. By noting down these numbers, you can use them in a SYMBOL command from BASIC and set up individual characters. Along the top of the screen are three sets of the four characters you selected in real size. These are from left to right:- the buffer set (which will change as you edit), the NEW set (holding the characters as they were just prior to this edit), and the OLD set (holding the characters as they were when you loaded them from tape/disc). The four numbers to the right of the top line are the ASCII numbers of the characters. Finally, down the right-hand side is a summary of the commands available.

Note that at any time, you can press "?" to get a help page and summary of commands. The commands are detailed below:-

In all cases, the current character refers to the position of the cursor in the grid.

- I=INVERT** Swap the ink and paper of the current character.
- F=FLIP** Mirror the character in the horizontal axis.
- R=ROTATE** Rotate the character 90 degrees clockwise.

M=MIRROR	Mirror the character in the vertical axis
C=CLEAR	Blank out the character
S=SCROLL	(Multi mode). After S you can use the cursor keys to scroll the whole grid ie: all four characters together. You will see the characters scrolling in the buffer panel on the top line. The grid will be updated after you press "1" to finish scrolling.
Z=SCROLL	(Single mode). This command is exactly as above except that only the current character is scrolled.
O=GET OLD	After O you are asked which character from the OLD set you would like to get. The character may be selected in the normal way (either by name or number), but pressing "?" will allow you to look at the whole set again and select by cursor if required. The character you select will be taken from OLD and copied into the editing buffer.
N=GET NEW	This option is identical to O above except that the character is taken from NEW.
P=PUT NEW	Put the current character into NEW, overwriting whatever was there before. This option is included so that you don't have to save all the characters at once, but can edit one at a time.
A=ADD LINE	Insert a blank line at the cursor and move all lower lines down one. The bottom line will be lost.
D=DELETE LINE	Delete the cursor line and move all lower lines up one. A blank line is inserted at the bottom. Note that the last two commands work in the horizontal direction. If you need to add or delete vertical lines, then you could use R to rotate the character, do the addition or deletion and then use R three times more to get back to the original orientation.
H=HILITE	Swap the pen and paper inks for the entire screen (to make it easier on the eyes !?)
E=END	Finish the edit by loading the four edited characters into NEW and going back to the main menu.
I=QUIT	Abandon the four edited characters and return to the main menu with NEW unaltered.

CHAPTER 4: SAVING AND LOADING

Options F and G from the main menu allow you to save and load fonts respectively. Both will prompt you for a filename. If you are using tape then you may LOAD the next font on tape by hitting <ENTER>. Of course, as you may have appreciated from reading Chapter 2, LOAD will get a file from disc or tape and load it into OLD, whereas SAVE will save NEW. This means that you may load in fonts at any stage without wiping over your creation.

In the case of both LOAD and SAVE, pressing "I" will abort the operation and return to the main menu.

If you are loading a font from disc, then you must take care that the filename does not exceed 8 letters. The filetype ".BIN" will be appended automatically by the disc system and so it is only necessary to give the filename for both loading and saving.

You may load and use a font from BASIC (ie: without going through FONT 464) by entering the command-line:-

```
SYMBOL AFTER 0:A=HIMEM:LOAD "filename",A+1
```

The following command-line will save a user font from BASIC:-

```
A=HIMEM:SAVE "filename",b,A+1,&800
```


CHAPTER 5: OTHER FACILITIES

This chapter details the remaining options from the main menu:-

(E) COPY

This option is designed to be used after loading in a font. It copies OLD into NEW so that the font you loaded becomes your working font. You might use this if you wanted to change only a small number of characters from a font that you were otherwise happy with. Note that COPY will overwrite any previous characters in NEW.

(H) ANIMATE

H will allow you to animate up to ten pages or frames, each a 3x3 character block. The option is designed to aid in the design of user-graphics. You select the nine characters of each page (any or all of which may be blanks) which are taken from NEW (the working set). Then, having selected pen and paper inks you can see the characters animated at any of nine speeds or choose to single-step through the pages.

(I) SCRIBBLE

Scribble is the equivalent of ANIMATE but for use with fonts. It allows you the whole screen to test out the characters you have designed.

(J) EXIT

When you exit, you have the option to leave any of three fonts in memory: the normal ROM set, your working NEW set, or the OLD set. The EXIT command is one way of using your newly designed font either from BASIC or from another program (Hisoft Pascal). If you EXIT FONT 464 with either NEW or OLD in use then all subsequent printing to the screen by the CPC464 will be in the new font. Another way of achieving the same effect is to execute the following line of BASIC (either in a program or directly):-

```
SYMBOL AFTER 0:A=HIMEM:LOAD "<filename>".A+1
```

where <filename> is the name you saved your font under. If the printer RSX's were loaded in prior to either of these manoeuvres then you can very easily use the new fonts with your printer (see next section).

CHAPTER 6: USE OF THE PRINTER-DRIVING RSX's

RSX is an Amstrad term standing for Resident System Extension. There are two different programs on side two of the tape, one for owners of the Amstrad DMP1 printer and the other for owners of EPSON or EPSON compatible printers. Make sure you use the correct version of the program. Load the program with the command RUN"DMPRSX or RUN"EPRSX for Amstrad and Epson printers respectively. Both versions have an initial BASIC loader and a second machine-code section. After the RSX is loaded you will be given the option to load a font. If you do want to load a font from tape or disc then give its name at this point, otherwise press <ENTER>. The RSX is ready to be used when the message "CALL xxxxx to reprime" appears. Repriming will only be necessary when using the RSX with an assembly language program or any other utility (for example Hisoft Pascal) if that program resets the Amstrad system.

The RSX's should be loaded in before any other program which uses them (eg: Hisoft Pascal or FONT464) and provide two extra commands recognised by the CPC464: ICOPY and ILPRINT. Both of these may be used both in direct mode or from within a program.

USE OF THE RSX'S WITH THE DMP1

ICOPY will produce a highresolution screen-dump to the printer.

ILPRINT,1 will cause all output that goes to the printer to be printed in the currently selected font. Thus you can run FONT464, load in a new font, quit with the new font in use and then by using ILPRINT,1 you can use the normal PRINT #8 to print in the new font style.

eg: 10 ILPRINT,1

20 PRINT #8,"USING THE RSX FROM FONT464"

30 ILPRINT,0

40 PRINT #8,"BACK TO NORMAL"

ILPRINT,0 will restore the normal situation.

USE OF THE RSX's WITH EPSON PRINTERS

ICOPY,1 will produce a high resolution screen-dump to the printer with various shades representing different colour inks.

ICOPY,2 will dump the screen to the printer but representing all inks as dark and paper as light. This type of copy is more suitable for dumping screens full of text as the text will be all black and the background all white.

Both of the commands above can be aborted by holding down the escape key.

ILPRINT,1 will cause all output that goes to the printer to be printed in the currently selected font (see above for instructions).

ILPRINT,2 will print the currently selected font in condensed mode.

ILPRINT,0 will restore the normal situation.

CHAPTER 7: AN EXAMPLE SESSION USING FONT 464

It is intended that you should work through this chapter with FONT 464 actually up and running. Although it will not give examples of every function available under the program, it should give you a very good idea of the features and potential of FONT 464.

If you have either an EPSON compatible printer or the Amstrad DMP1 then turn the tape to side 2 and type the command RUN"EPR SX or RUN"DMP RSX respectively to load the printer-driving software for later. Just press <ENTER> when you are asked whether you want to load a font and this will leave the original ROM font in use. Now with the tape on side 1, type RUN"FONT464. There will be an initial screen and the actual program will load in several sections. When the main menu comes up you can see that there are eleven options open. Note that pressing "?" will get a help screen. This is a general feature of FONT 464.

New select option G to load in a font. In response to the prompt for the filename, enter SPACEY. This is the name of one of the pre-designed fonts on the tape. (The others are ROMSET, ANCIENT, CHUNKY, STRIPED, ISTRAIN). When it has been found and loaded, select option A or C. Both of these will display the character sets OLD and NEW and wait for you to select a character. Note that the two sets are different as you have loaded SPACEY (and the loaded set always goes into OLD) and NEW holds the original ROM set by default (ie: at the start of the program). You can only see the first 130 designs in the fonts (as you can tell by the numbers on the left-hand side of the display), but you can easily get to the other characters by pressing <CTRL+F> ie: pressing the CTRL key with the F key.

Go back to the main menu by pressing "I" (shifted "@"). This is also a general principle in FONT 464: "I" gets you out. Now select option E from the main menu. This will copy what is in OLD into NEW and thus NEW will now contain the SPACEY set. Of course normally you don't have to use option E and by loading different sets into OLD you can build up a composite font in NEW.

Now select option C. This will allow you to draw characters from NEW to be edited and will display the whole set for convenience. Later on when you know what you're doing, options B and D will not display the fonts and will save time. Now you're looking at the selection screen. Try pressing "?" to get some help. This help page will tell you the three ways to select characters. Move the cursor with the cursor keys until it is positioned on the capital "A" (character 65). Now press the <ENTER> key four times and you will select the characters "A", "B", "C" and "D" and go into the editor.

You can experiment all you like. Note that only the leftmost set of four characters along the top line changes. This is the four character buffer. NEW and OLD are left alone and in fact you can never edit OLD at all. There are only two commands that delete anything important "P" will put the character that the cursor is in into NEW at the position indicated by the numbers at the top right. These are the numbers of the characters that you selected when you went into the editor and should be 65,66,67 and 68 (A,B,C,D). "E" will end the edit and put all four designs into NEW. Both these commands will, of course, wipe over anything that was previously in NEW at same positions. You can use "I" to end the edit without putting the characters into NEW thus effectively abandoning your edited designs.

The two commands "O" and "N" require some explanation. They allow you to load any character from either OLD or NEW into the editing grid. The effect of this is that if you mess up editing a character, you can get back what you started with (ie: get from NEW).

If you now quit the editor (by pressing "I"), you can practice some animation. The SPACEY font includes some special characters for this purpose. Select option H to animate and you will be prompted for the first character on page 1 of the animation. In this case we're going to use only four of the nine possible characters on a page leaving the rest blank (ie: spaces) and four out of a possible ten pages. Position the cursor on character 0 and press <ENTER> (to select it) and then <ENTER> again (this will select character 1 automatically). Press <SPACE> now to get a blank and then <ENTER>, <ENTER> again (characters 2 and 3) and finally four more spaces to make up the nine characters. You will now see a smiley face at the bottom right of the screen. You will now be given the choice to redefine this page (if you got it wrong), go on to define another page or animate the pages already defined. Select option 2 to define another page.

Continue for page 2 as for page 1 with :-

```
<ENTER> (selecting character 4)
<ENTER>
<SPACE>
<ENTER>
<ENTER>
<SPACE>, <SPACE>, <SPACE>, <SPACE>.
```

Now for page 3 exactly as before:-

```
<ENTER> (character 8)
<ENTER>
<SPACE>
<ENTER>
<ENTER>
<SPACE>, <SPACE>, <SPACE>, <SPACE>.
```

Finally, page 4 the same again (characters 12,13,14,15): Now use option 3 to animate. Select your pen colour. Bright yellow for a smiley (see Appendix IV, page 6)? That's 24. And your paper colour? 0. There is the

rotating smiley face. Press the keys 1 to 9 to speed up and slow down the rotation. Key 0 will allow you to single-step the individual pages. Any key will go onto the next page except the numbers (which will restart the animation) and "I". If you don't like the colours, press "P" to change them. When you have seen enough, press "I".

To see the second example, select Option H and enter in the same way as before, the characters 16 to 31. This is an animation of a man walking on the spot. You may like to alter it by using the scroll mode in the designer program. If so, return to the main menu and press "D". Select the characters 20, 21, 22, 23, (by pressing .20 <ENTER> and then <ENTER>,<ENTER>,<ENTER>) and press "S" for multi-scroll mode. Scroll them to the right by two pixels, ie: press cursor right twice (the scrolling is done only in the little box for speed), and then after quitting scroll mode ("I"), save the result by pressing "E" to end editing.

Do the same with characters 24 to 27, and 28 to 31 except that these should be scrolled right four and six pixels respectively. Now when you animate these, the man seems to walk across the squares. The last animation is of a marauding robot. Press <CTRL+F> to see page two of the font. <ENTER> numbers 240 to 255 as you did with the walking man. Simple!

Finally, for those who loaded the RSX at the start of this session, select option E from the main menu and quit the program with the OLD set in use. (If you had just loaded in the RSX and wanted to print in another font without using FONT 464 then you should type the statement:-

```
SYMBOL AFTER 0:A=HIMEM:LOAD "filename",A+1
```

which would bring in a font from disc or tape).

After either method, if you type the statement PRINT #8,"Hello world" then the printer will behave exactly as normal. However, now type !LPRINT,1. Now the statement PRINT #8,"Hello world" will cause the printer to output in the new font and this will continue until you type !LPRINT,0 to switch it off. EPSON users can type !LPRINT,2 to get the font in condensed mode. These commands can be used in exactly the same way from within a program as can the command !COPY (DMP1) and !COPY,1/ !COPY,2 (EPSON). All three !COPY commands will send the screen image to the printer whatever the screen mode, but EPSON users have the luxury of deciding ether a graphics or text dump (!COPY,1 and !COPY,2 respectively) would be more suitable. The former decodes the ink colours on the screen to simulate shading on the printer whereas the latter is just black and white.

HISOFT SOFTWARE FOR THE AMSTRAD CPC 464

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