

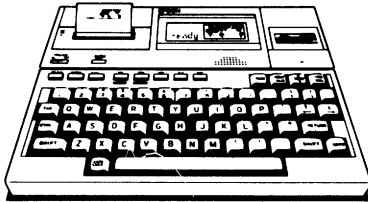
INTEXT

WP Text Editor

for the

EPSON HX-20

Portable Computer System



User Manual

Talbot Offset (Computer Division)
Talbot Park, Bournemouth.

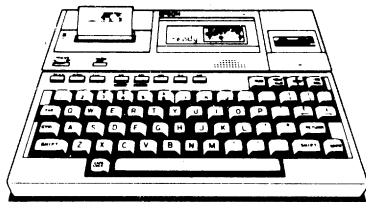
INTEXT

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for the

EPSON HX-20

Portable Computer System



User Manual

INTEXT Serial Number

I 991

Talbot Computers Ltd.

Bournemouth,
England

This manual has been typed on the
EPSON HX-20 using the **INTEXT** program.

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INTEXT

WP Text Editor™

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PLEASE NOTE: Good data processing procedure dictates that the user test the program, run and test sample sets of data, and run the system in parallel with the system previously in use for a sufficient period of time to ensure that results of operation of the programs are satisfactory.

INTEXT is compatible with the TYPE-PRINT SYSTEM II Computer-Typesetting link-up.

Bournemouth, June 1st. 1983.

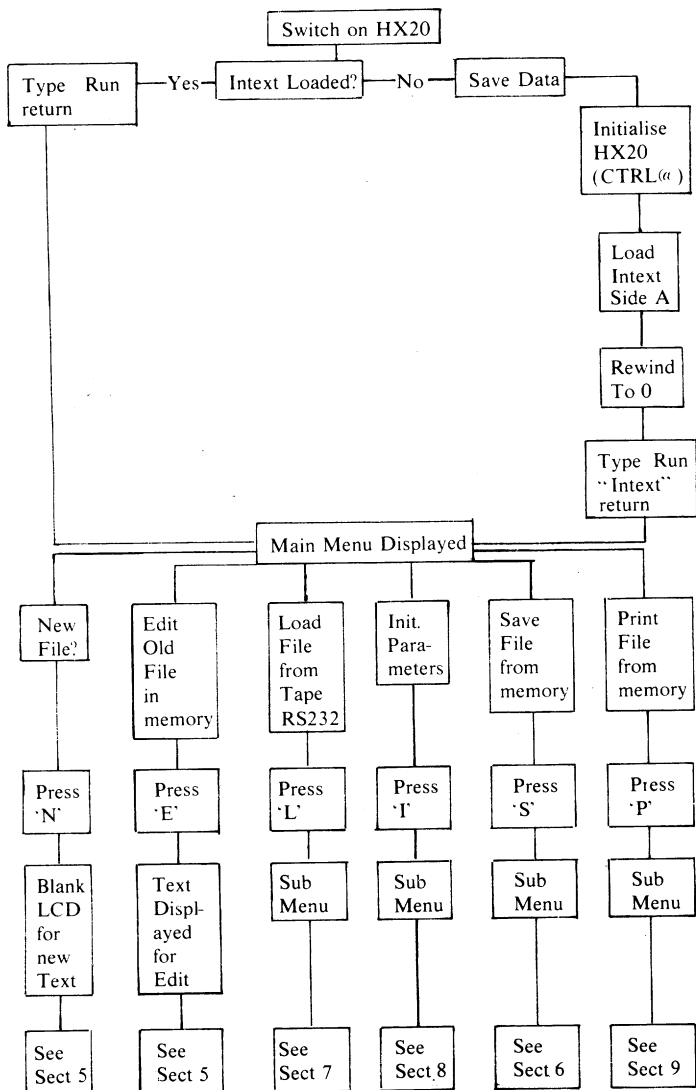
INTRODUCTION

INTEXT is a stand alone "mini word processor" specially designed for use on the HX-20 computer. It capitalizes on the unique features of the HX-20 to provide a text editor which can be used anywhere without complicated setting up procedures, and without inconvenient add-ons or bulky external equipment. Nevertheless, the documents produced by INTEXT are fully formatted for easy downloading into non-portable office terminal equipment, rapid print out through external printers, easy transmission in ready to use format to typesetting and publishing establishments, and using the HX-20 power supplies alone, can be passed down the telephone by Acoustic Coupler.

As the main part of the program is written in machine code, high speed operation is standard and a file length of just under 5500 characters is available before there is any need to save to tape, print out on internal/external printer, or output through RS232 interface. Text is retained in non-volatile RAM memory whether the HX-20 power is on or off for as long as is deemed necessary. Addition of the HX-20 expansion unit expands the available file length to up to 21,600 characters. The small subsidiary program in Basic is used for communication with other devices and enables the program to be customised to suit some individual user requirements, or to adjust to future developments.

Inevitably, any word processing package has a complex array of key functions and procedures to deal with the full range of basic editing routines and the facilities for loading, saving, printing, and transmission to peripheral devices. Control of the program is simple once the control sequences have been mastered, and this Manual starts by giving a broad outline of the structure of INTEXT to make subsequent understanding easier.

OUTLINE STRUCTURE OF INTEXT PROGRAM



Return from "Edit" and "New" to Main Menu is made by pressing Menu Key. Return from other modes to main menu is done automatically.

SECTION 1

LOADING INTEXT FROM CASSETTE

INTEXT will overwrite all other program files in the HX-20 memory, so it is necessary to save important data and programs before loading.

Switch on HX-20 and select Basic from the main menu i.e.:-
Press 2.

Put Side A of INTEXT cassette into microcassette drive and rewind to 0.

Type **RUN "INTEXT"** and press return.

The LCD will display:-
Backspace daisywheel Y/N?

Select **Y** if it is intended to use a daisywheel printer which has no auto-underline setting, otherwise type **N** and **RETURN**.

The program will now continue loading and after about two minutes the LCD will display the INTEXT main menu. (But see section 4 if memory expansion box is fitted.)

SECTION 2

RUNNING INTEXT WHEN ALREADY LOADED

Switch on HX-20 and select Basic from the main menu i.e.:-
Select 2

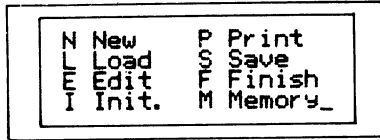
Type **RUN** and press return.

The INTEXT main menu will now be displayed on the LCD.

Note: **N** for New should always be typed first of all when the INTEXT program is loaded from tape.

SECTION 3 THE INTEXT MAIN MENU

The main menu displays:-



For clarity the functions of these options will now be summarised:-

New Clears the memory and starts a new document. To avoid inadvertant deletion of useful text the LCD will display:-

Are you sure?
Y or N

Type **Y** to clear the memory or **N** to return to main Menu without clearing the memory.

Typing can now begin from the Beginning of Document Marker at the top left hand corner of the LCD. If accidentally deleted the marker can be generated by using **SHIFT CTRL 4**

Load Allows loading of a document into memory from a cassette tape or through the RS232 interface. **See Section 7**

Edit Displays the text retained in memory for processing, addition or editing. Return to the text is always to the last position of the cursor when exit was made from the Edit mode, whether or not the HX-20 is switched off in the meantime. Return to the main menu is obtained by pressing the **Menu** key. For key functions in editing **See Section 5**.

Init Sets printer and RS232 parameters for output, if required to be different from the default values already set by the program. **See Section 8**

Print Outputs the formatted text file, or part of it if selected, to a printer or other device through the RS232. **See Section 9**.

Save Allows saving of a text file on a cassette tape or to other devices through the RS232. **See Section 6.**

Finish Returns the computer to HX-20 Basic Mode and displays

END OF INTEXT.

IMPORTANT:-Exit from INTEXT should always be from the main menu by pressing the F Key.

If the HX-20 is accidentally switched off from the Edit mode the display will freeze and can only be removed by pressing the **RESET** button on the side of the computer.(Document in memory will not be destroyed).

Memory Displays the amount of memory that is still free for typing in text and control characters. **See Section 4**

SECTION 4

TEXT MEMORY AVAILABLE

Memory available for documents is 5500 characters without a memory expansion box fitted.

If the memory expansion box is fitted the HX-20 must be re-initialised by pressing **CTRL @**.

Next Type **RUN "INTEXT"** to load the program.

The display will show the total amount of memory now available (21600 characters with 16K expansion unit) and request that a number is typed in to specify how much of this memory it is intended to use.

Note:-Insertion and deletion operations will become slower as the top of memory is approached.

Selection of **M** from the main menu at any time will cause the display to show the number of characters still free for typing in text or characters, e.g:-

Memory Free 2045

Shows that there are 2045 character spaces still free. Press any key to return to the main menu.

Out of Memory Warning

When editing a document/file if there is no memory left for textual input, a warning message will be displayed so that the document can be saved, or printed out before clearing the memory for further input.

SECTION 5

SUMMARY OF KEYBOARD FUNCTIONS IN THE EDIT MODE

The keyboard of the HX-20 is used in the same manner as a typewriter to produce the text for the documents it is desired to create. The actual text is displayed on the LCD in 4 lines of 20 characters. This display is a window which is positioned on the part of the document which is actually being worked on, and it can be scrolled around the text at will using the key functions provided by the program. There is no need to worry about line widths as the INTEXT program divides the text into standard line widths and inserts carriage return and line feed whenever necessary.

The keyboard functions can be broken down into 3 main groups:-

1. Key functions for manipulating text.
2. Key functions used for adjusting the actual layout.
3. Key functions used to control print styles for output through an external printer, or for other external devices through the RS232 interface.

5.1. FUNCTIONS USED FOR TEXT CONSTRUCTION

Alpha Numeric and Graphical Characters

Letters, Numbers, and Graphics

CAPS LOCK, SHIFT, GRPH

The operation of the above keys is exactly the same as described in the HX-20 users manual.

Moving the Cursor

The HX-20 single move cursor keys move the cursor horizontally or vertically one space at a time, in conjunction with the **SHIFT** key as in normal HX-20 operation.

SCRN moves the cursor back through the text 4 lines (80 characters).

SCRN SHIFT Moves the cursor forward through the text by 4 lines.

HOME/CLR moves the cursor to the last line of the text.

HOME/CLR SHIFT Moves the display back to the beginning of the document and places the cursor in the top left hand corner.

Deleting Text

Overtyping. Moving the cursor back to a previously typed character and overtyping it will correct single mistakes.

INS/DEL Deletes the character to the left of the cursor and moves the text back accordingly. Use of the repeat function by holding the key down, will cause continuous deletion until the key is released.

PF9 (PF4 SHIFT) Deletes 20 characters to the left of the cursor position at a single stroke.

Inserting Text

SHIFT INS DEL (First selection) Causes the Bold letter **I** to appear at the Cursor position and moves the text one character to the right. All text now typed will be inserted before the **I** symbol and after the preceding text (for as long as necessary up to the top of available memory), and the later text will be moved along to allow the necessary space.

SHIFT INS DEL (Second selection) Will remove the bold **I** symbol and the text will close up to return to normal editing mode.

Note:- Apart from the delete key cursor controls are inoperative between these two selections.

User definable keys

PF1 to PF3 Each of these three keys will generate a string of up to 40 characters length which are automatically inserted into the text by pressing the desired **PF** key.

PF10 (PF5 SHIFT) Allocates the character strings to **PF1,PF2,and PF3**. The display will change to:-

Which PF key?

Please type 1,2 or 3

(0 if none)

When a key number is selected the display will change to:-

Type PF string

When the string has been typed in and the **RETURN** key pressed, the display will repeat the procedure for the other keys. If 0 is typed the display will return to the text. Characters in excess of 40 will be ignored. These strings will be retained in memory until redefined even if the computer is switched off.

Note:- If strings are allocated to PF1,2 and 3, the keys will have to be redefined for normal HX-20 operations with other programs.

Searching

PF6 (PF1 SHIFT) This key initiates a search through the text for a defined string of characters and places the cursor at the beginning of the line containing the string. If the string does not exist, the cursor will return to its original position. Pressing this key causes the display to change to:-

Type search string

After the required string (up to 40 characters) has been typed in, pressing **RETURN** will start the search procedure.

CTRL S Repeats the search from the current cursor position for a string that has already been defined once using **PF6**. The last defined string remains valid (even after switching off) until a new string is defined. It is possible to search for a carriage return symbol by typing GRPH 0 (CAPS LOCK initiated).

5.2 FUNCTIONS FOR CONTROLLING TEXT LAYOUT

Centering a Line

CTRL C Displays a bold **C** character and causes the line that follows immediately after to be centred when printed out on an external printer. The bold **C** must be at the beginning of the line to be centred and the line must be followed by a carriage return (**RETURN**). Line width must be less than that specified in Printer Initialisation (See Section 8).

Carriage Return (End of paragraph)

RETURN Inserts **CR** into the text and forces a carriage return and line feed. (e.g. at the end of a paragraph). The **INTEXT** program divides the text into standard line widths and inserts carriage return and line feed wherever necessary. The extra carriage returns inserted by the use of the **RETURN** key enable the document to be changed to suit the style and layout required.

Left Margin Indent

Selection of **PF5** prints a bold **P** character. Characters printed between bold **P** symbols are treated as printer control codes. In this case **L** (upper case) followed by a two digit number inserted between the two **P** symbols will set the margin indentation to the selected number of spaces at the start of each new line until a new **L** sequence is encountered.

e.g **PL08P** will cause the text to be indented 8 spaces at the start of each new line after the next carriage return after the **L** sequence. (Single digits must be padded with a leading zero).

Note:- If the margin set is greater than Line Width minus 20, it will be ignored.

Tabulation

TAB Key When **TAB** is pressed in Edit mode the symbols **P ^ IP** are inserted into the text on the LCD. This control sequence causes the carriage to move a preset number of spaces to the next **TAB** position before starting to print again. The **TAB** positions may be set

during the initialisation procedure as outlined in Section 8. The default is no TABS.

Note:-It is inadvisable to insert the **^I** sequence with any other control characters. i.e. Within the same **PP** "bracket".

Print from Marker

PF7 (PF2 SHIFT) Inserts a bold symbol | into the text. Printing can be selected to commence from this marker as a printer option. (See Section 9)

Print to Marker

PF8 (PF3 SHIFT) Inserts a bold | marker into the text. Printing can be selected to stop at this marker as a printer option. (See Section 9)

Note:- Use of these two controls allows subsections of the document to be selected for printing without having to print the whole document.

5.3 FUNCTIONS USED TO CONTROL PRINT STYLES

Many computer printers permit the insertion of control characters within the text. For example, the **ESC (CTRL)** character followed by other characters. These controls can be implemented by the **INTEXT** program.

To simplify some of the more complex sequences the program provides some standard control sequences using mnemonics for EPSON printers. Your dealer can alter these sequences to suit some other printers which have underlining, enhanced, and condensed print facilities.

PF5 Mnemonic PF5 Inserts a bold **P** symbol after which the mnemonic should be typed followed by another bold **P** symbol.

Standard Control Sequence Mnemonics (Epson printers) **(To be inserted between bold P markers using upper case letters)**

BY Bold on	BN Bold off
CY Condensed on	CN Condensed off
FF Form feed	
IY Italic on	IN Italic off (not on MX-80)
SU Superscript on	SO Superscript Off
SD Subscript on	SO Subscript Off
UY Underline on	UN Underline off
WY Wide on	WN Wide off

For example the sequence **PUYP** will instruct the printer to underline the following text, and **PUNP** will stop the underlining. (Assuming the printer can accept such commands).

Note:- Insert/Delete keys can not be used between the bold **P** characters without creating unwanted symbols. If a mistake is made between the markers, return to the main menu with the **MENU** key and return to **EDIT** and start again with fresh markers. If the bold **P** symbol is accidentally deleted it can be re-instated using **SHIFT CTRL 3**.

Backspace Daisywheel Printers

If this option has been selected when first loading INTEXT the following mnemonics can be used.

BY Bold on **BN** Bold off
UY Underline on **UN** Underline off

PF5 Control Characters **PF5** inserts bold **P** characters either side of the printer control characters to activate a change in print style. When using control characters instead of mnemonics, if the ASCII value of the character is less than 32 decimal then the character will be preceded by the symbol ^ on the LCD. For example:-

CTRL A displays ^A

CTRL Z displays ^Z

A full set of ASCII control sequences for the HX-20 is given in Appendix I

5.4 Type Style Codes

(For publishing, typesetting, or printing establishments)

Now that agreements have been obtained from the National Graphical Association (NGA) and National Union of Journalists (NUJ); many publishing, typesetting and printing establishments are able to accept documents and files prepared on a micro computer or word processor, and some also accept audio cassettes or floppy discs. Type style codes are used to indicate where to change the typeface or format when sending documents to these establishments. Of course it must first be established which style code characters are required.

PF4 Style Code **PF4** Inserts a bold **T** either side of the style codes to enclose the character string.

The **T** markers remain in the text to show where the type style codes have been inserted. Print out on a computer printer (for Author's proofs etc) will omit the type style codes.

Transmission through the RS232 will replace the **T** markers with **STARTING** and **ENDING** indicators as specified in the Initialisation procedures (see Section 8) for typesetting or proof printing purposes.

Note:- The same rules apply for avoiding insertion/deletion between **T** markers as apply to the **P** markers in Section 5.2. except that an accidentally deleted **T** marker can be reinstated by typing **SHIFT CTRL 2**.

SECTION 6
SAVING A FILE/DOCUMENT

6. SAVING A FILE/DOCUMENT

The HX-20 has a non volatile memory sustained by internal batteries. INTEXT utilises the permanent RAM file memory so that there is no need to save each time before switching off the computer. Next time it is switched on, the text will still be retained, and further work can be done on the document. It will only be necessary to Save if it is required to clear the memory for a new document, or to retain the document on tape.

When **Save** is selected on the Main Menu, a sub menu is displayed as follows:-

- M Microcassette**
- E External Cassette**
- R RS232 Interface**
- ?**

Microcassette

To save to microcassette select **M** The display will change to:-

File name?

The file name should be typed in followed by **RETURN**. The display will change to (e.g.):-

TAPCNT 992

Type new TAPCNT

In this example the current tape count is 992 and the tape count from which it is intended to save should be typed in. If no movement of the tape is required, the same value as that already displayed should be typed in. If a new tape is required, it is at this point it should be placed in the microcassette drive. **TAPCNT 0** will rewind the tape to the beginning irrespective of the current tape count and **TAPCNT** will be reset to 0. If **TAPCNT** has been previously set so that a reading of 0 does not correspond to the beginning of the tape then setting **TAPCNT 1** will find this 'false' zero position on the tape.

The microprinter will now print the new **TAPCNT** together with the date, time, and name of the file. The document will then be saved on microcassette tape. After **SAVE** is complete, an ending **TAPCNT** will be printed on the microprinter and the LCD will return to the main menu.

External Cassette

If the external cassette recorder is to be used, select **E** and the LCD display will change to:-

File name?-

The file name should be typed in followed by **RETURN**. The display will now change to:-

Start Recorder TAB key when ready

Check that the tape is loaded, make a note of the start position and start the external cassette recorder (by pressing the **REC** and **PLAY** keys on most recorders). Finally the **TAB** key should be pressed. The display will change to show the file is being saved. On completion the display will return to the main menu. A note should be made of the tape finish position.

RS232 Interface

If the document is to be transferred to other devices (such as another computer) through the RS 232 Interface; **R** should be selected. The display will change to:-

Set printer/RS232, device ready to receive TAB key when ready

The receiving device should now be prepared and connections/mode settings checked. (See notes on transfer mode in Section 8)

When **TAB** key is pressed the 'raw' document will be sent to the RS232 receiving device with all of the special graphics symbols used

for printer control characters, forced carriage returns etc. retained in the document. The LCD display will change to:-

Sending

Note:- The HX-20 mode and width settings can be changed in the Initialisation procedure. See Section 8 for information on this and default values.

SECTION 7
LOADING A FILE/DOCUMENT

SECTION 7

LOADING A FILE/DOCUMENT

A document or file can be loaded into memory from either a cassette or a device linked to the RS232 interface.

The document will be loaded into the HX-20 following on from any file already in the computer memory. If it desired to clear the memory select **N** for New from the main menu before selecting **L** for Load. When **L** is selected from the INTEXT main menu, the LCD will display:-

- M Microcassette**
- E Ext cassette**
- R RS232 interface**

Microcassette

To load from the microcassette, **M** is typed in response to the sub menu, and this causes the LCD to display the following message:-

File name?

After the file name has been typed in, the **RETURN** key is pressed and the LCD will now display the current tape count number and request the tape count at which it is desired to start. For example:-

TAPCNT 1234
Type new TAPCNT

After the new tape count has been typed in the **RETURN** key is pressed and searching for the named document commences. When the document has been found the LCD displays:-

Loading

The program will return to the INTEXT main menu when loading is complete.

Note:- 1. If **0** is typed as the new **TAPCNT** the tape will be rewound to the beginning. If the tape counter is set so that **0** is not at the beginning of the tape, the 'false' zero can be found by typing **1**.

2. If it is decided to abort the loading operation, the **RESET** button on the side of the **HX-20** must be pressed and **INTEXT** re-run.

3. **INTEXT** is programed to load files created by its own **SAVE** operations. If files are loaded from another source, carriage returns will be ignored unless they are entered as ASCII character 224. The end of file is detected by a null character (ASCII zero).

External Cassette

To load from an external cassette **E** is selected from the sub menu. The LCD will display:-

File name?

After the file name has been typed in the **RETURN** key should be pressed. The display will change to:-

Start recorder

TAB key when ready

Note:- Make sure that the cassette is loaded and rewound/repositioned as necessary, press the **TAB** key and searching will begin. When the file is found the display on the LCD will change to:-

Loading

The LCD will return to the **INTEXT** main menu when loading is complete. To break into the loading operation see note 2 above. To load files not created by **INTEXT** see Note 3 above.

RS232 Interface

To load through the **RS232** interface **R** is selected from the sub menu. The LCD will display:-

Remove CR (char 13)

Y/N?

If forced carriage returns are required to be retained in the text file then type **N**.

If forced carriage returns are not required in the transmitted text type **Y** The LCD will now display:-

Echo back Y/N?

If no echo back is required by the sending device type **N**. The LCD will now display:-

**Set RS232 ready to
send
TAB key when ready**

When the sending device has been prepared (e.g. another computer) and connections/mode settings have been checked, press the **TAB** key and loading will commence. See note 4.

If the sending device needs a prompt echoed back after each line is received satisfactorily, then **Y** must be typed. The LCD will then display:-

Connecting

The program then sends out a stream of prompts (**CHR\$(24)**) to the RS232 device checking after each one for a **CHR\$(08)**. When a **CHR\$(08)** has been received the program then waits for a **CHR\$(03)** and on receipt of this character commences loading. After each carriage return is received **INTEXT** will load a complete line of characters before sending another prompt (**CHR\$(19)**), to indicate that the last line was received correctly and it is ready to receive another line. When **CHR\$(26)** is received, loading is complete and **INTEXT** returns to the **Main Menu**.

Note 4 . Please see Initialisation procedures in Section 8 for mode selection and default values.

Note 5. Files saved by **INTEXT** will automatically send the **CR NULL CR** sequence when re-loaded. If the initial **CR** character is not received from the sending device after about 30 seconds then the message:-

Transmission failure

will be displayed on the LCD and the program will be terminated.

SECTION 8
INITIALISATION OF PARAMETERS

SECTION 8 INITIALISATION OF PARAMETERS

Anytime after INTEXT has been re-loaded, or before proceeding to output or receiving a document to/from other devices through the RS232, or an external printer, a check should be made to see whether the default parameters preset in the INTEXT program are appropriate for the printer, type style, or RS232 interface.

Whatever parameters are set during initialisation will be retained in the HX-20 (even if switched off) until they are changed by fresh initialisation.

If the default parameters are not as required **I** should be selected from the Main INTEXT menu. The LCD will display:-

INIT. P Printer
R RS232 mode
T Typeset
S Set TABs

Return from this sub menu can be achieved by typing **A**.

Printer

The default values preset for the printer by INTEXT are as follows:-

Line Width (**LW**) 72 characters
Page Length (**PL**) 60 lines
Bottom Margin (**BM**) 6 lines

These default values can be changed by selecting **P** from the sub menu. The LCD will display:-

Printer Parameters
LW,PL,BM?

Values for all 3 parameters must now be typed in, including the commas. For example

67,55,4

Sets the printer so that each page will be 67 characters in width, 55 lines in length, and will have 4 blank lines at the end.

When the **RETURN** key is pressed the LCD will display:-

No. of LFs. after CR

If normal spacing is required type **1**, if double spacing is required type **2** etc. The number typed will decide the number of line feeds at the end of each line. The default value is for no line feeds. (See Note 1)

When a number is typed in, the LCD display will change to:-

Stop after page Y/N?

If **Y** is typed output to the printer/RS232 will stop at the end of each page to allow a new sheet of paper to be inserted.

If automatic page stopping is not required then **N** should be typed. The LCD display will return to the Main Menu automatically.

Note 1. Carriage return (CR - ASCII char 13) is sent out alone in the default option for printers with automatic line feeding. If extra line feeds are inserted, LF (ASCII char 10) is used. E.g. Double line spacing will make INTEXT send out CRLF LF sequences at the end of each paragraph.

RS232 Mode

The interface conditions of the RS232 port are described fully in the HX-20 Manual (pages 3-46 and 3-47). The mode consists of 5 characters (BLPSC) each specifying one of the interface conditions of the RS232 port as follows:-

B Bit rate

L Word length

P Parity

S Stop bits

C Control line active

On selection of **R** the initialisation sub menu will change to:-

Mode for RS232

67E13

?

The default mode preset by **INTEXT** is **67E13** and this mode is suitable for **EPSON** printers, but may be unsuitable for other **RS232** devices. The mode **28N1F** should be suitable for many other devices. Type in the new mode and press **RETURN**. If it desired to retain the existing mode then press **RETURN** only.

The display will change to:-

Width 255

?-

Line width (for **RS232** transmission when saving) should now be typed in followed by the **RETURN** key. The number displayed indicates the current setting and this can be retained by pressig **RETURN** key only.

A value less than 255 should only be used when it is required to break the lines down into short line lengths. Normally this value should be set to 255. Printer line width is not affected by this setting. Printer width is set by the **LW** set during printer initialisation.

pressed. The LCD display will change to:-

D DTR/RTS
E ECHO back
A ETX/ACK
X XON/XOFF

The selection that is made from this sub menu will depend on the type of external printer in use and whether or not an Acoustic Coupler is to be used.

The most usual selection will be **DTR/RTS** by selecting **D** to arrange for transmission according to the mode settings of the **RS232** control lines.

If the printer requires the special protocols **ETX/ACK** or **XON/XOF** then **A** or **X** respectively should be selected.

Echo Back If the transmission is to be via a telephone line via an Acoustic Coupler, using the built-in error checking routine, then

Echo back should be selected by pressing **E** (See Section 10 on Acoustic Coupler).

Note:- To use the **Echo back** function satisfactorily a **Width** of less than 255 should be selected and a mode with a final character **F** should be used, e.g. **(28N1F)**

After selection of one of the options is made from this sub menu the display will return to the main **INTEXT** menu.

Typeset Codes

Typeset style codes are used to transmit a document through the RS232 ready prepared for further processing by publishing, typesetting, or printing establishments (see Section 5.4). These codes are enclosed by the bold **T** markers in the text on the LCD. The **T** markers are removed when the document is sent to the RS232 and replaced by **START** and **END** characters as specified in this initialisation procedure

To initialise for Typeset codes **T** should be selected from the sub menu. The display will change to:-

Typeset control char

START,END

“ ”, “ ”

?

If for example ****** is to be used as **START** characters and **\$\$** as an **END** character, then **“**”**, **“\$\$”** should be typed in to the display and the **RETURN** key pressed. Subsequently any style code characters will be preceded by ****** and followed by **\$\$** when transmitted to the RS232 interface. The quote marks will not be transmitted. The default values are **START “;”** and **END ” ”** i.e. Null

Note:- The quote marks must always be typed in.

The program will return to the main **INTEXT** menu when the **RETURN** key is pressed

Set TABs

If it is required to use the **TAB** facility in a document, the number and position of the **TABs** may be set at any time by selecting **I** initialisation. When **S** is selected from the sub menu the LCD display changes to:-

How many TABs?

The number of **TAB** positions needed should now be typed in (maximum 12, minimum 0, default value is 0).

The LCD display will now change to:-

Type TAB positions

?-

The **TAB** position for each column should now be typed in and the **RETURN** key pressed after each number. When the last position has been typed, the LCD display will return to the **INTEXT** Main Menu.

Example If 3 **TAB** positions have been specified, and **TABs** in columns 15,30 and 45 are required:-

Type TAB positions

? 15 **RETURN**

? 30 **RETURN**

? 45 **RETURN** (**INTEXT** returns to Main Menu)

SECTION 9
PRINTING A FILE/DOCUMENT

SECTION 9

PRINTING A FILE/DOCUMENT

Documents/text files can be printed out on the Microprinter or on an External Printer. They can also be output to another RS232 compatible device.

When **PRINT** is selected the document will be output with print control markers, typeset style code markers, and the 'print to/print from' markers deleted and/or substituted as required.

When **P** is selected from the main menu the LCD display changes to:-

Print from:-

B Beginning of Document

M Marker |

?

To print from the very beginning of the document **B** should be selected.

If **M** is selected printing will start from the first marker in the text without actually printing the marker itself. If there is no marker the LCD will return to INTEXT main menu. The LCD display will change to:-

Print to:-

E End of document

M Marker |

P Paragraph end?

Selection of **E** will cause the printer to continue printing to the end of the document.

Selection of **M** will cause the printer to print as far as the first marker selected in the text.

Selection of **P** will cause the printer to print as far as the end of the first paragraph after the print starting position.

The LCD display will now change to:-

M Microprinter

E External printer

R RS232 interface

?

Microprinter

If it is desired to print out on the microprinter, **M** should be selected from the sub menu. The display will change to:-

Wrap-around

Y/N

Selection of **N** will cause the document to be printed out on the microprinter exactly as on the LCD, including all special markers and control characters.

Selection of **Y** will cause the document to be printed out on the microprinter with wrap-around i.e. with whole words on a line.

When used in this mode it is best not to use graphical characters in the text as these could cause problems.

Note:- If the LCD display should freeze for any reason, press the **RESET** button and re-run **INTEXT**. The text in memory will still be intact.

External Printer

Before using an External printer it is important to check first the mode and control settings as described in Section 8 under Initialisation. If the default values of the **INTEXT** program do not match those of the external printer then the necessary adjustments must be made to the interface conditions of the printer and RS232 port. Also select automatic page stopping if required, and any special line feed operation required (e.g. for double spacing).

Selection of **E** from the sub menu will cause the LCD display to change to:-

New Page Y/N?-

Type **Y** if printing is required to start at the top of a new page, or type **N** if printing is required to start immediately after the last line of text sent by **INTEXT** to the printer.

For example:- Page length is 60 lines, with end of document print out at line 45. If **N** is selected in this case print out will commence at line 46 and continue to line 60. **INTEXT** will then insert a bottom margin before the printer moves on to a new page.

The LCD display will now change to:-

**Set printer/RS232
device ready to
receive
TAB key when ready**

When the **TAB** key is pressed the display will change to:-

Sending

and printing will commence. The program will scan through the text and fit complete words within the line width specified in printer initialisation (see Section 8). All printer controls inserted in the text will be obeyed and the text layout will be in accordance with the control codes inserted in the text (See section 5.2)

When all the document has been output to the printer the LCD display will return to the main **INTEXT** menu.

If the end of a page is reached part of the way through the print out of a document and automatic page stopping has been selected (see Section 8), the LCD will change to:-

**New Page
TAB key when ready**

When a new sheet of paper has been inserted **TAB** is pressed and printing will continue from the top of the next page.

RS232 Interface

If RS232 interface is selected for output of the document/file, INTEXT will transmit it as a continuous stream of ASCII characters without wrap-around, and will ignore initialisation settings such as Line Length (**LW**), Page length (**PL**), Bottom Margin (**BM**), RS232 **WIDTH** setting, and Automatic Page stop and all printer controls.

Before selecting RS232 for transmission, check the interface mode and connections (see Section 8) for compatibility with the receiving device.

Select **R** and the LCD display will change to:-

**Set printer/RS232
device ready to
receive
TAB key when ready**

When ready press **TAB** and the LCD display will change to:-

Transmitting

When transmission is completed the display will return to the INTEXT main menu.

Note:- Markers and typeset controls are transmitted as follows:-
The start **T** marker is replaced by the **Start** string specified in initialisation, or its default value (See Section 8), and the end **T** marker is replaced by the **End** string or its default value.

For example:- If **Start** string is ****** and **End** string is **\$\$0**, the sequence **TibT** will be replaced by ****ib\$\$**.

SECTION 10

ACOUSTIC COUPLER/MODEM

INTEXT works well with almost any make of coupler/modem, but it is important to establish the requirements for any particular coupler and set the RS232 interface options accordingly (see Section 8).

Data Transfer without Echo back.

RS232 initialisation (see Section 8) should be set to:-

(28N1F), WIDTH 255, and DTR/RTS.

Save or **Print** can then be selected.

Data transfer using Echo back.

RS232 initialisation should be set to:-

(28N1F), WIDTH less than 255, and Echo Back.

Using **Echo back** either HX-20 can prepare the data transfer. The **TAB** key can be pressed on either computer before coupling up as the data will only be sent when both computers have established a positive link through the couplers (See note on **Echo back** below).

Echo Back

Printing and Saving.

When **Echo back** is in use for printing or saving, the receiving device must send back a CHR\$(19) prompt after each line is successfully received. Initially, however, in order to establish a positive connection, a CHR\$(08) is sent to the receiving device and when a CHR\$(19) prompt is received back in response a CHR\$(03) is sent back to the receiving device and saving/printing commences and a complete line of characters up to the next carriage return (Char 13) is sent.

Loading.

When **Echo back** is used for loading (See Section 7) the program sends out a stream of CHR\$(24) prompts to the RS232 sending device and checks after each one to see if a CHR\$(08) has been received. If it has been received it will then wait for a CHR\$(03) and

INTEXT will load a complete line of characters (ending with ASCII char 13) and send a CHR\$(19) prompt back to indicate the last line was received satisfactorily and it is ready to receive another line. If an initial ASCII char 08 is not received by INTEXT from the sending device after about 30 seconds, the LCD will display:-

Transmission failure

and the program will be terminated.

When CHR\$(26) is received from the sending device, the loading is completed and the LCD display returns to the main INTEXT menu. (See note 3, Section 3).

Note:- It is possible when using SENDATA coupler/modems to take the power direct from the HX-20 using a single lead for both power and data transmissions. Consult your dealer for details of the simple HX-20 modification required.

SECTION 11 USER CUSTOMISATION

It is possible for the INTEXT dealer to customise the program to suit individual requirements by adjusting some of the statements in the BASIC part of the program, and then re-saving the BASIC program at the beginning of the tape.

The following features lend themselves to modifications:-

Default options

Printer control sequences for special mnemonics

Echo back prompts.

The program can be protected from accidental deletion once loaded by selecting BASIC (2) from the HX-20 main menu and typing:-

Title "INTEXT"

This puts INTEXT into the main menu as option 3 so that when the HX-20 is switched on, selecting (3) takes the display straight into the INTEXT main menu.

Document Memory

The size of memory available to INTEXT can be reduced to create space for other programs by entering BASIC and typing:-

CLEAR, NEWM

where NEWM is the new value of the memory size required. This value should not be greater than 5500 for a standard HX-20, or 21500 for an HX-20 with memory expansion.

For example CLEAR50, 3000 will give a maximum document size of 3000 characters.

Note:- NEW should always be selected after resetting document memory. Care should be taken in the use of RAM File area for other purposes if it is intended to return to INTEXT later.

APPENDIX 1

Keys	Control Code
CTRL 0	0
CTRL A.....	1
CTRL B.....	2
CTRL C.....	3
CTRL D.....	4
CTRL E.....	5
CTRL F.....	6
CTRL G	7
CTRL H.....	8
CTRL I	9
CTRL J.....	10
CTRL K	11
CTRL L.....	12
CTRL M.....	13
CTRL N	14
CTRL O	15
CTRL P.....	16
CTRL Q	17
CTRL R.....	18
CTRL S.....	19
CTRL T.....	20
CTRL U	21
CTRL V.....	22
CTRL W.....	23
CTRL X	24
CTRL Y.....	25
CTRL Z.....	26
CTRL 	27(ESC)
CTRL /.....	28
CTRL].....	29
CTRL SHIFT @.....	30 (i.e. CTRL ^)
CTRL SHIFT 0.....	31 (i.e. CTRL -)

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