

WordStar CUSTOMIZATION NOTES

7/31/80

for

WordStar Releases 2.0 and 2.1

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1. Introduction

These Customization Notes contain listings and descriptions of the user-modifiable portions of WordStar other than those described in the WordStar User's Guide. A diskette accompanying the Customization notes contains source files for certain modules, plus a special program (RETEXT.COM) used in incorporating new embedded texts.

Additional software useful for changing some or all of the modifiable areas includes:

DDT (or other debugging program), usually supplied by your operating system vendor.

The Microsoft assembler M80 and loader L80. These are available from

MicroSoft
10800 N.E. Eighth, Suite 819
Bellevue, Washington 98004 U.S.A.

M80 and L80 are used in making changes in WordStar's menus and other texts. (Minor changes can also be achieved by patching.)

Use of M80 and L80 release 3.10 or newer is recommended. Older revisions of M80 may produce all-upper-case text. M80 releases prior to 3.00 may not assemble all statements used in the files supplied with the Customization Notes.

The reader is assumed to be familiar with reading assembly listings and "patching" programs. Readers who wish to alter WordStar's menus and texts by reassembling and reloading (as discussed below) are assumed to be familiar with 8080 assembly language programming.

It is recommended that the reader familiarize himself with Sections 14 and 15 of the WordStar User's Guide, and with the listings of the Terminal and Printer Modification Areas, USER1 and USER4 (in Appendix D of the wordStar User's Guide) before reading these notes.

The modifiable program modules presented in the Customization Notes are, briefly:

USER2: contains initial (default) values for insert toggle, on-screen formatting parameters, and page format; flag characters; display characters for markers; and many other initialization and miscellaneous items. Part of WS.COM (or whatever name you chose for your installed WordStar; also present in uninstalled WordStar file WSU.COM).

USER3: contains the keystroke command dispatch tables, allowing keys for commands to be altered and new "help" commands to be added. Part of WS.COM.

USER5: contains additional printer-related patch items, for daisy wheel and similar printers, and print formatting items. Part of WS.COM.

POEM: OEM daisy wheel and similar printer driver. Part of WSOVLY1.OVR. Must be patched using offset of -3C00 Hex as detailed below.

WSMSG5: the separate message text file, WSMSG5.OVR, containing all menus, all text for the help commands, and many prompts and other messages. By modifying WSMSG5, the menus and many other texts may be altered.

WSMSG2: extracted copy of all messages and texts embedded in the various other WordStar files. A special program (RETEXT) is supplied to incorporate modified versions of these messages into WordStar.

The files on the diskette supplied with the Customization Notes are:

WSMSG5.MAC: source file for WSMSG5. May be edited, assembled, and loaded to produce a modified WSMSG5.OVR file containing modified menus and/or other texts.

WSMSG2.MAC: source file containing texts which are embedded in other WordStar files. May be edited, assembled, loaded, then RETEXtEd to change texts.

WSMSG2.COM: for convenience, an assembled, loaded copy of WSMSG2. May be patched then RETEXtEd to change texts.

RETEXT.COM: Special program to incorporate WSMSG2 texts into WordStar release 2.1. Modifies files WSU.COM, WSOVLY1.OVR, and (if present) MERGPRIN.OVR.

RETEXT20.COM: Alternate version of RETEXt for use in incorporating texts into WordStar release 2.0.

NOTE: Additional files and modules referred to in these Customization Notes include the following files which are parts of WordStar: WSU.COM, WS.COM, WSOVLY1.COM, WSMSG5.OVR, MERGPRIN.OVR (the latter is part of the optionally supplied MailMerge Option), and the modules USER1 and USER4, which are part of WS.COM. All of the preceding are described in the WordStar User's Guide.

Listings are included in these Customization Notes for all of the modules described. The listings are commented heavily; read them for a detailed description of each item. The descriptions in these notes give a general description of the modules, plus much detail that complements the listing comments; the text does not attempt to duplicate the detailed information contained in the program comments. Read the Listings.

Modules USER2, USER3, and USER5 may be modified by the user only by patching.

Modules USER2, USER3, and USER5 are three of several modules which were combined with a linking loader after assembly to form WSU.COM; thus, they contain external references whose values are not shown in the listings. Generally, these external references are in locations that there will be no need to change, but if you do need to move or use one of them, examine the locations with your debugger to determine the value of the contents. These values will probably change with each release of WordStar.

Module POEM is a portion of the overlay file WSOVLY1.OVR. POEM may be modified by the user by patching WSOVLY1.OVR using special offset techniques as described below under the heading "Patching the OEM Daisy Printer Driver".

Modules WSMMSG and WSMMSG2, together containing all of the menus and other texts displayed by WordStar, may be modified by patching or by reassembly and reloading as detailed below. Source files for these modules are supplied on the Customization Notes diskette.

Module WSMMSG is assembled and loaded separately, to become the file WSMMSG.OVR which must be on-line when WordStar is being used.

Module WSMMSG2 is assembled and loaded separately, then incorporated into WordStar by running the program RETEXT as detailed below. The special program RETEXT is supplied on the Customization Notes diskette.

For the modules intended to be modified only by patching, absolute assembly listings are included in the Customization Notes. The alphabetic symbol table at the end of each of these listings is a useful aid in finding an item in the listing when the label is mentioned in the text. The listings are assembled for TBASE=100H; if you have a special WordStar which loads at a different address, add the appropriate offset to the addresses shown in the listings.

For WSMMSG and WSMMSG2, source listings only are supplied. If you wish assembly listings, you may make them by assembling the source files supplied.

The next section contains additional discussion of the modules. The modules are discussed in the same order as the listings appear. The section after next, "Effecting Changes", gives information on patching, assembling, and loading. Be sure to read that section carefully before attempting to make changes in POEM, WSMMSG, or WSMMSG2.

2. Descriptions of Modifiable Modules

Initialization and Miscellaneous Parameters (USER2)

File USER2 (see listing) contains user-patchable items relating to defaults, the operation of various features, and the characters used for various purposes other than commands. By patching items in this module, you can effect the following changes. See the listing for additional details about each item, plus additional items not shown here. The following descriptions correspond, in order, to the items in the listing; you may follow along in the listing while reading the following text.

- * Make WordStar start with any help level 0 to 3, that is, with menus initially fully displayed, partly displayed, or fully suppressed (item ITHELP). If an initial help level of 1 or 2 is selected, you may also enable or suppress display of an additional message explaining how to select help level 3. This additional message, if enabled, is displayed once only, at the start of the first edit initiated after WordStar is invoked (item NITHLF).
- * Make WordStar start up with the insert toggle off or on as desired (item ITITOG)
- * Make WordStar start with directory display at the no-file menu off or on as desired (item ITDSDR)
- * Alter the default paper length, top margin, and other page format values used when not specified by dot commands in the document (INITPF)
- * Change the initial editing left and right margins (items INITLM and INITRM). These margin values are also used to determine the initial page number column for the print function, and also the initial right margin for Merge-Print's print time line forming (the print time line forming initial right margin is significant only if print time line forming occurs before a soft carriage return is encountered).
- * Change the initial subscript/superscript roll used when printing on daisy wheel or similar printers (item INITSR)
- * Change the initial values for document edits (edits initiated with a D command) of the following (INITWF):
 - word wrap on/off
 - justification on/off
 - variable tabbing on/off
 - soft hyphen entry on/off
 - print control display on/off
 - page break display on/off
 - line spacing 1-9

- * Change the "decimal point" character (normally period) that terminates the right-aligning action at decimal tab stops (item DECCHR)
- * Change the lead character of dot commands (normally period) (DOTCHR)
- * Suppress the interpretation of dot commands by the edit function (item DOTSON)
- * Increase or decrease the tendency for paragraph reform (with hyphen-help ON) to stop to allow the operator to decide whether a word is to be hyphenated. For more hyphenation stops, put a smaller value in item HZONE. For fewer hyphenation stops (more tendency to move the word that fits partly on a line to the next line), put a larger value in HZONE. A larger value in HZONE increases the number of characters in the word that must fit on the line before WordStar will propose hyphenation and stop to allow the operator to check the hyphen position, rather than place the entire word on the next line and continue reforming without a stop.
- * Change the tables used in classifying letters as vowels or consonants by hyphen-help. Such classification is used to syllabify words to determine that they are hyphenable (i.e. contain two or more syllables) and to determine the cursor placement (at a probable syllable break) at a hyphenation stop. If WordStar is to be used with a language other than English, particularly if additional character codes are to be used to represent vowels with accent marks, it may be desirable to change these tables. The label VOWTAB is the beginning of a table containing all characters to be treated as vowels. The label NONCON is the beginning of a table containing all LETTERS (A-Z) which are NOT consonants. Note that this table scheme allows a letter to be considered to be both a vowel and a consonant, as Y is in English. Each table consists of an indefinite number of characters, followed by a byte containing zero. The two tables may (and normally do) overlap. If it is necessary to change the beginning location of either table, adjust the corresponding pointer at PVWTB or PNCON.
- * Change the "flag" characters displayed in the rightmost screen column
- * Change the character used to display soft hyphens (item SOFHYC)
- * Change the characters used to display block and place markers (MARKS)
- * Change the defaults for all of the yes / no questions in the print initiation dialog (PODBLK)
- * Change the default values for the following print function parameters (these parameters may also be explicitly set with dot commands in the document):
 - omit page numbers on/off (item ITPOPN)
 - microjustification on/off (item ITMIJ)
 - bidirectional print on/off (item ITBIP)

- * Change the delimiter character (normally comma) and the quote character (normally ") used in data files read under control of the Merge-Print .DF and .RV dot commands. Note, however, that if you change these characters, Merge-Print will no longer be compatible with MicroPro DataStar and may be less compatible with MicroPro SuperSort and with files produced by BASIC and other languages.
- * Change the characters (normally "&") used before and after the variable's name in a variable reference in a form letter or other document to be Merge-Printed. The character that precedes the variable name (item VARCH1) and the character that follows the variable name (item VARCH2) may be made different from each other if desired.
- * Change the characters used to specify options in a Merge-Print variable reference, such as the characters (normally "/O") used after the variable name to specify omission of the entire line if the variable is null (item VAROPC).
- * Alter the name of the WS.COM file (item FNWSCM). This name is automatically set to the name chosen during INSTALLation, and is used by the R (run program) command to reload WordStar after completion of the program. You might wish to patch this item if the file is renamed after INSTALLation, though normally this item can be conveniently changed by rerunning the INSTALL program instead of renaming the file.
- * Alter the name of the message texts file (normally WSMSG5.OVR) and the overlay files (normally WSOVLY1.OVR and MERGPRIN.OVR)

Changing Command Keys (USER3)

File USER3 (again, see listing) contains the dispatch tables for the operator-entered commands. There are three tables:

No-file commands (NOFTAB)
Editing commands (VTAB)
Merge-Print commands (FPTAB)

These tables may be patched to change the keys which perform command functions, as to arrange the keyboard to your preferences, or to make function keys on your terminal active. Existing table entries may be altered, or duplicate entries for the same function may be added in the space provided at the end of each table.

Comments in the listing explain the format of table entries. When creating duplicate entries, be sure to copy the address for the function desired carefully from the existing entry. Examine with DDT to determine the address, and remember that these addresses will change from release to release.

The command dispatch tables may be moved, if desired, for example to redistribute the patch space among the tables. If the beginning of one or more of the tables is relocated, update the appropriate pointer or pointers at PNFTAB, PVTAB, and/or PPFTAB.

If you change the interrupt character, normally control-U, note that this character appears two places which must match: in the main dispatch table, VTAB, and in a special item on the last page of the listing, STPCHR.

Also in USER3 are patchable items for several of the control characters interpreted during entry of question answers, such as file names:

backspace (delete character)	(CLCHR)
forward space (undelete character)	(CRCHR)
take the next key as part of the answer	(LITCHR)
directory display/scroll up/scroll down	(DIRCH)

If you change the cursor control keys, the ^P prefix, or the directory display or scroll commands, you will probably want to change these to match.

Finally, the error release character (normally ESCAPE) may be changed (ERELCH).

After changing or adding command keys, you may wish to alter the menus to correspond. See "Menus and Other Texts" below.

The user may create new "Help" commands (commands that display text on the screen) by modifying USER3 and WSMSGs. See comments in USER3 listing above the label "XTAB" (about page 10), and see WSMSGs description below. A help command entry in NOFTAB or VTAB is like other command entries except the index into WSMSGs's pointer table replaces the address. This index must be less than 100 Hex; thus, only pointers between 180 Hex and 27F Hex in WSMSGs may be used. Of course, a presently unused pointer (DW SPARE in the listing) must be used when creating a new command. Put an 18 Hex byte in the text at points where you want WordStar to wait, with the preceding text on the screen, until the operator presses a key.

Daisy Printer Items (USER5)

Module USER5 -- see listing -- contains printer-related and print formatting items that are used for daisy wheel and similar printers only. Recall that modifiable items that relate to Teletype-like printers, and to both Teletype-like and daisy printers, are in USER4, listed in Appendix D of the WordStar User's Guide and discussed in Section 15 thereof. The following descriptions correspond in order to the items in USER5.

Function Strings For Serial Daisy Printers: these are the strings and related parameters for functions specific to particular serial daisy wheel and similar printers. These items also apply to 8-bit parallel (e.g. Centronics-like) printers, but they do not apply to OEM interface daisy and similar printers (see module POEM).

The functions include, for example, setting the vertical motion index in 48ths of an inch, setting the horizontal motion index in 120ths of an inch (60ths if DEMIFG is patched non-zero), moving the carriage in four directions, and printing phantoms. See the listing comments for details.

All of these items are set appropriately when a daisy wheel or similar printer is installed using the INSTALL program. The enterprising user might wish to patch them to adapt WordStar to one of the relatively rare daisy wheel printers not supported by the INSTALL program.

All of the following items in USER5 are EXPERIMENTAL and UNSUPPORTED. These features are subject to change or deletion; bugs in them, if any, may or may not be fixed by MicroPro.

Flags for Daisy Printers: These apply to both serial and OEM daisy printers; they may be set non-zero by patching only; they effect minor changes in print formatting:

DNPROS: set non-zero to print all characters the same width (normally, M's and W's are printed 1/60th wider than the character pitch in use, and periods, commas and other punctuation characters are printed narrower, when formed text is being printed on a daisy wheel or similar printer and Microjustification has not been disabled).

DMJWB: set non-zero to modify the Microjustification algorithm to allow more variation in the amount of space between words; the result will be that the character spacing within a word will be altered less often. DMJWB effects the printout only when printing formed text on a daisy wheel or similar printer with Microjustification on.

Proportional Spacing Table: This table is used when printing formed text on a daisy wheel or similar printer (either serial or OEM) and microjustification is on. The table is indexed by character value less 20 hex.

The left nibble of each byte in the proportional spacing table is normally used; it implements the minor variation in widths used by WordStar when printing formed text on a daisy wheel or similar printer with Microjustification on. These minor variations in character width are intended to enhance the appearance of printout when using a "non-proportional" printing element (daisy print wheel or NEC print thimble).

The right nibble of each byte in this table is used when the EXPERIMENTAL, UNSUPPORTED, and otherwise undocumented proportional spacing toggle (print control character ^P; next paragraph) is on. The table is currently set up for use with a Qume Theme P. S. 10 print wheel (and .CW 8) and will require patching for use with other print wheels.

(The EXPERIMENTAL, UNSUPPORTED, and otherwise undocumented proportional spacing feature is toggled on and off with a control-P print control character embedded in the text. When on, WordStar will attempt to proportionally space during printout the lines formed by the editor without regard for varying character widths. The relative widths only of characters are varied; the line length and number of characters on a line are left as formed by the editor. Thus, optimum printout appearance may not occur when a line contains an unusually large proportion of narrow characters such as i's or .'s, or an unusually large proportion of wide characters such as M's and W's. This proportional spacing action will only occur where Microjustification would normally occur: it will not occur in the last line of a paragraph unless the line is explicitly formed with ^B; it will not occur when .UJ OFF is in effect. The proportional spacing action may not occur on lines containing one word only. As noted in the preceding paragraph, if you wish to use the experimental, unsupported proportional spacing feature, you will normally need to patch the proportional spacing table to the correct relative character widths for the typewheel you wish to use.)

OEM Daisy Wheel Printer Driver (POEM)

The OEM daisy wheel and similar printer driver, listing POEM, is invoked when an OEM printer selection is made in the INSTALL program, or if CSWTCH (in USER4) is patched to 3.

As coded, the driver drives a Diablo Hy-type II or compatible printer, specifically:

Diablo Hy-Type II 1300 Series

Qume Sprint 3 with cable adapter to make Diablo-compatible

Nec Spinwriter 5500D

Diablo Hy-Type I (patch DHMIFG non-zero or make appropriate INSTALL selection)

The interface assumed is the MicroPro "I/O Master", or three parallel ports at port numbers F8 through FA (for example, IMSAI PIO-4 board) with appropriate bit assignments. The enterprising user may wish to patch the driver to accommodate other port or bit assignments, or to drive a printer that is not Diablo-compatible but has similar capabilities. Before attempting to locate and patch the POEM code, be sure to read carefully "Patching the OEM Printer Driver" below.

As detailed in the program comments, this driver's entry points and calling sequences are completely different from those of the other printer drivers. Since most OEM daisy printers do not have form feed features, the driver simulates form feeds if "USE FORM FEEDS" is specified when print is initiated.

When the OEM daisy printer driver is in use, the following parameters are pertinent. Most of these parameters are in USER4, listed in Appendix D and discussed in Section 15 of the WordStar User's Guide. The other printer function strings and most flags in USER4 and USER5 are not used; in particular, POSMTH is assumed to be 1 regardless of actual contents.

CSWITCH	must be 3 to invoke OEM daisy printer driver
HAVBSY	should be non-zero
DBLSTR	should be 2 or asdesired
BLDSTR	should be 2 (no other value)
DHMIFG	(in USER5) should zero if the printer moves in 120ths of an inch (Hy-Type II), or FF hex if the printer moves in 60ths of an inch (Hy-Type I).
OEMPAG	(in POEM) desired form length in 48ths of an inch for simulated form feeds

The POEM listing in these Customization Notes is a partial listing of one of the modules combined by MicroPro to form the overlay file WSOVLY1.OVR. (The listing published normally has no page 1.) The code is read in from this file at initiation of a print to an OEM Daisy printer. The addresses shown in the POEM assembly listing are the addresses at which the code runs. However, when modifying the OEM daisy printer driver by patching WSOVLY1 with DDT, the code will appear in memory at different addresses. Be sure to carefully read the section "Patching the OEM Printer Driver" below before attempting to locate and modify the POEM code.

There are no external references in the OEM daisy wheel and similar printer driver. All entries are via the Jumps on the first page of the code listing ("page 2"); all exits are with "return" instructions. All outputs are direct to the hardware ports. The only locations in the driver that are accessed from outside the driver are those shown on the first page ("page 2") of the code listing: (execution) locations 3E20 through 3E3E, or as shown in the listing. Thus, the rest of the code may be rearranged freely -- locations 3E3F through 3EBC or as shown on the listing.

Menus and Other Texts (WSMSG5 and WSMSG2)

All of the menus, prompts, and other texts displayed by WordStar may be altered by altering WSMSG5 and/or WSMSG2. The texts are in two modules of different structures for implementation-related reasons as further described below. Changes may be made either by patching, or by reassembly and reloading, as described in more detail below. Patching is convenient for minor changes, and may be used when the additional software required for reassembly -- M80 and L80 -- is not available. Editing, reassembling, and reloading the source files is convenient for moderate changes and especially recommended for large changes such as translation to a different language.

If you wish to change a specific menu or text, find the desired text by looking through the listings, or by searching (e.g. with the WordStar Find command) the WSMSG5.MAC and WSMSG2.MAC source files supplied on the Customization Notes diskette.

WSMSG5: WSMSG5 contains the texts which are read in from file WSMSG5.OVR as required during WordStar execution. WSMSG5 includes all menus, most error and warning messages, and many other longer and less frequently used texts.

The source file WSMSG5.MAC, supplied on the Customization Notes diskette, may be assembled and loaded (details below) to produce a new WSMSG5.OVR file; minor changes may alternately be made by patching WSMSG5.OVR as supplied on your WordStar distribution diskette.

At the beginning of the WSMSG5.MAC file (as supplied on the diskette, and listed below) there are several assembly parameters (EQUates) that may be of interest to the modifier:

TBASE1 and TBASE2 are set to 100 Hex in the file as supplied; these should be changed appropriately for special versions for systems where programs load at addresses other than 100 Hex.

WIDE and NARROW respectively control inclusion of menus for screens 80 columns wide and wider, and menus for screens 64 to 79 columns wide. Both are ON (-1) in the file as supplied on the Customization Notes diskette. Turning off (0) whichever is not needed in your system will result in a shorter reassembled WSMMSG.OVR file.

Starting on about page 4 of the WSMMSG.MAC listing, and assembling into locations 180 Hex through 2FF Hex, is the table of pointers to the message texts. These pointers are read by WordStar at startup and used to locate the individual texts when required for display, to make it possible to freely change the lengths, locations, and order of the texts in WSMMSG.OVR without otherwise modifying WordStar. If WSMMSG is modified by reassembly, the assembler will produce the correct pointer values and no special attention is needed beyond insuring that the label at the beginning of each text is not changed and is moved with the text, should the texts be rearranged. If WSMMSG is modified by patching, whenever the beginning of a text is moved to a new location, the two-byte pointer to that text must be patched to contain the new address.

NOTE: The length of the pointer table (previous paragraph) was increased for WordStar release 2.0. Do NOT attempt to use a WSMMSG file from a pre-2.0 release with WordStar 2.0 or newer.

After the pointer table, the next page (approximately page 9 of the source listing) contains comments describing special codes which are used in the texts. A number of codes display commonly-used phrases -- for example, a byte containing 14 Hex displays "NAME OF FILE TO ". The texts displayed by these special codes may be altered by changing WSMMSG2.

Next, the actual texts begin. The menus are first. There is a wide and a narrow version of most of the menus; assembly of the unneeded width menus may be suppressed by setting WIDE or NARROW to zero as noted above. When changing menus, be sure to keep the narrow texts 63 displayable characters long or shorter, and don't make the wide texts longer than 79 characters. Also, for neat appearance when inverse video highlighting is in use, all lines in the same menu should be the same length.

Before the assembly language statements which produce each menu, the text of the menu is shown in comments. This reiteration is intended to produce an easily-readable copy of the text in the assembly listing.

Following the menus are numerous other texts, all identified by comments. Read the listing to see exactly what is there. Then there are several pages of texts for the help commands, followed by the text displayed if WordStar accesses a pointer in WSMMSG.OVR which does not point to some other text.

Additional "help" commands may be added by modifying WSMMSG.OVR and USER3 only; it is not necessary to modify other parts of WordStar. See discussion of this subject in the USER3 description above.

Additional information on procedures to modify WSMMSG is given in the next section.

WSMSG2: WSMSG2 contains the texts which are embedded in WS.COM, WSOVLY1.OVR, and MERGPRIN.OVR in order to permit display without the delay of a disk read, and/or to permit display even if WSMSG2.OVR is not available. WSMSG2 includes a number of short and frequently used texts, and texts used by many of the commands which are executed by code read in from one of the overlay files (WSOVLY1.OVR and MERGPRIN.OVR). In the latter case, the required code and text are read together from the overlay file, resulting in faster response than would occur if the code was read from the overlay file and the text was read from a separate messages file.

A special program, RETEXT.COM, is supplied on the Customization Notes diskette to embed the texts from an altered WSMSG2.COM into WSU.COM, WSOVLY1.OVR, and MERGPRIN.OVR (if present) at the proper places. RETEXT operation is detailed below.

Since a fixed amount of space is available at each text insertion point, a total length limit applies to each group of texts in WSMSG2.

At the beginning of WSMSG2.MAC there is an EQUate. When editing WSMSG2.MAC for reassembly, change this statement if necessary to match the system on which WSMSG2 is to be reloaded.

The texts in WSMSG2.MAC are in groups, with a two-byte group length and self-pointers to all texts in the group preceding the texts in the group. The ordering of the groups and the group in which each text is placed are essential to RETEXT and WordStar operation. DO NOT REORDER THE GROUPS NOR MOVE TEXTS FROM GROUP TO GROUP.

Each group begins with a heading in a box of #'s, usually at the top of a page. The following is a prototypical group of three texts which we will use for purposes of explanation; each group in the WSMSG2.MAC source file is similar in structure. WSMSG2.MAC is listed at the end of the Customization Notes and is included on the diskette.

```

;
;*****
;# TEXTX - FOR OVERLAY #N (PART OF WSOVLYN.OVR)      *
;#                                                    *
;*****
;
; TEXTS FOR MUMBLEDYFRATZ
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 99H
;
;         DW ETEXTX-$           ;LENGTH OF THIS GROUP OF TEXTS
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
;         DW TEXT1-$
;         DW TEXT2-$
;         DW TEXT3-$
;
TEXT1:   DB 'This is the message "TEXT1"',0
TEXT2:   DB 'This is "TEXT2"',0
TEXT3:   DB 'TEXT3',0
;
ETEXTX:           ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

The comment immediately below box of #'s may mean little to you -- this comments is intended for the programmers who create WordStar. The next comment, "THE VALUE . . ." is important to you: it indicates the maximum length this group may have.

The first code assembled in the group (the line DW ETEXTX-\$ in the above example) is the length of the group. This length word is essential to the operation of RETEXT, as well as allowing you to check that the length limit has not been exceeded. To check the length of a group after modification, make sure that the length value, which will appear in an assembly listing to the left of the DW ETEXTX-\$, is less than or equal to the maximum specified in the comment line above the DW -- less than or equal to 99H in our example.

A group containing no texts is represented by a zero length count -- a DW 0 only. There are several of these in WSMMSG2.MAC; they should not be disturbed.

After the length item, self-relative pointers to each text are assembled. Each consists of a statement of the form

```
DW XXXX-$
```

where XXXX is a label defined at the beginning of the text. These pointers are used by WordStar to locate the texts in the group, allowing free alteration of the lengths of the texts (subject to the group length limit) and free rearrangement of the TEXTS within the group. DO NOT REARRANGE, REMOVE, OR ADD POINTERS.

If WSMMSG2 is modified by reassembly, the assembler will automatically produce the correct pointer values. If WSMMSG2 is modified by patching, the pointer must be adjusted for any text which is moved, and for any following texts within the group. Note that the contents of the pointer is relative to its own location (i.e., the number of bytes from the first byte of the pointer to the first byte of the text), and that the pointer is stored low order byte first.

After the pointers come the texts for the group. Each is of the form

```
XXXX: DB 'Message Text',0
```

where XXXX is the label used in the pointer to the message. Each text must end with a null (zero) byte. Within the text, special codes may be used, as in WSMMSG2.MAC. Most texts are preceded by comments which explain their function. When looking for a specific text you wish to change, read these comments and/or search for one of the words in the text with WordStar's Find command.

All of the texts in a group must appear between the pointers and the end-of-group label. Do not attempt to make a pointer in one group point to a text in another group -- to do so would result in incorrect display after incorporation of the new WSMMSG2 into WordStar. Provided all of all texts for a group are between the last pointer and the end-of-group label, the texts may be rearranged, intermingled, and point into each other however desired.

After all of the texts in a group is the end-of-group label, ETEXTX: in the above example. This must be the last thing in the group. Do not insert any text (or anything else but comments) between the end-of-group label and the beginning of the next group. The end-of-group label is used in assembling the length item (DW ETEXTX-\$ in our example). If the length item does not assemble to the exact number of bytes from its location to the location of the length item for the next group, RETEXT will not operate correctly.

Information on procedures for modifying WSMMSG2 is given in the next section.

3. Effecting Changes

This section gives information on patching and/or reassembling and reloading the various modifiable modules. This section assumes you have already read the preceding module descriptions and determined the exact modifications you wish to make. It is especially important to read the foregoing descriptions of WSMSG1 and WSMSG2 before attempting to understand the procedures here relating to those modules.

Patching USER2, USER3, and USER5

USER2, USER3, and USER5 appear in WS.COM (or other file name chosen during INSTALLation). They may be patched using the techniques described in the WordStar User's Guide (Sections 14 and 15) for patching USER1 and USER4. Either INSTALL's patcher or your debugger (DDT) may be used to effect patches. INSTALL's patcher recognizes all of the labels in USER1 through USER5. The code appears at the addresses shown in the assembly listings in normal systems; if you have a special WordStar version for a system with a TBASE other than 100 Hex, make the appropriate adjustment in the addresses.

Be sure to INSTALL WordStar as described in Section 14 of the WordStar User's Guide before patching, then make patches in the INSTALLED copy. WordStar will not run if it has not been INSTALLED. INSTALL stores into many items in USER5 if a daisy or similar printer is selected (thus possibly overwriting your patches) and may delete any code added to the end of WS.COM.

Patching the OEM Daisy Printer Driver

To patch the OEM daisy wheel and similar printer driver (POEM listing), it is necessary to patch WSOVLY1.OVR with DDT at locations 3C00 Hex less than the addresses shown in the POEM listing in these Customization Notes. It is NOT possible to patch the OEM daisy printer driver with INSTALL's patcher. The OEM daisy printer driver may be patched before or after WordStar is INSTALLED.

The POEM listing supplied is a partial listing of a portion of one of the modules combined by MicroPro to form WSOVLY1.OVR. The POEM code is read into RAM memory when printing on a daisy printer is initiated. The code does not appear in WSOVLY1.OVR at the same address at which it executes. Specifically, the code appears in WSOVLY1.OVR (when being patched with DDT in a system with TBASE=100 Hex) at addresses 220 hex and up, while it is executed at addresses 3E20 Hex and up (the addresses shown in the assembly listing). Thus, 3C00 Hex (3E20-220) must be subtracted from an address shown in the listing to obtain the corresponding address in WSOVLY1.OVR when patching with DDT. Similarly, 3C00 Hex must be added to the address at which an instruction or data area appears in DDT if this address is to be used in a JMP, STA, etc. instruction being entered into the POEM code.

For example, the instruction which appears at location 3E3F in the listing will appear at 23F when WSOVLY1.OVR is being patched with DDT. If you wanted to enter a JMP to the instruction which appears at 23F in DDT, you would enter JMP 3E3F.

You may find it necessary to rename WSOVLY1.OVR to type .COM in order to permit reading the file into DDT.

Since (in most systems) the SAVE command will only produce a file of type .COM, you may need to rename the file resulting from SAVEing the patched code in order to re-establish the name and type WSOVLY1.OVR.

When making substantial changes to POEM, you may prefer to work with a source file. Create a source file containing the desired code, being sure that the locations of the JMPs and the constants (OEMLIM, OEMWID, and OEMPAG) on the first page of the listing match the listing. ORG the code at 3E20 Hex. Make sure the code does not extend beyond 3EBC or whatever the last address shown in the listing is. Assemble to produce a HEX file (this must be done using your operating system's assembler, not M80). Read the HEX file into DDT over WSOVLY1.OVR using an offset of -3C00, i.e. C400 Hex. Check that your new code appears in locations 220 Hex up.

After changing the OEM daisy printer driver and successfully testing WordStar using the modified WSOVLY1.OVR, be sure to remove all copies of the prior version from all diskettes which might be on-line when you intend to use the modified driver. Otherwise, WordStar may find the wrong copy of WSOVLY1.OVR and use the old driver (WordStar looks for WSOVLY1.OVR on both drive A and the logged drive, and the operator can change the logged drive at will).

Patching WSMSG.S.OVR

Minor changes in the message text file WSMSG.S.OVR (see preceding description) may be made readily by patching that file with DDT. WSMSG.S.OVR is supplied with WordStar on the WordStar distribution diskette; no already-loaded copy of this file is supplied on the Customization Notes Diskette. To assist in finding texts and the pointers to them, you may wish to make an assembly listing using the source file (WSMSG.S.MAC) supplied on the Customization Notes diskette.

To alter a text in WSMSG.S.OVR without changing its length, as to make a menu reflect a change in command keys, find the desired text in WSMSG.S, and patch it as desired. To shorten a text, move the following characters down, including the terminating null. To lengthen a text (by patching), move the text to the end of the file (extending the file as necessary, up to 32K), and locate the pointer to it in the area 180 hex - 300 hex and adjust the pointer to the new location of the text. When altering texts, be sure not to create lines longer than the screen width less 1.

After successfully changing WSMSG.S.OVR and checking your changes, be sure to remove all copies of the prior version from your working diskettes. Otherwise, WordStar may find the wrong copy of WSMSG.S.OVR and display the old texts (WordStar looks for WSMSG.S.OVR on both drive A and the logged drive, and the operator can change the logged drive at will).

Assembling and Loading WSMSG.S.OVR

Substantial changes in WSMSG.S.OVR are most easily made by editing the source file WSMSG.S.MAC (supplied on the Customization Notes diskette), then reassembling and reloading. Before editing WSMSG.S.MAC, verify that the release number in a comment at the beginning of the WSMSG.S.MAC file matches that in your WordStar's signon. When editing WSMSG.S.MAC with WordStar, be sure to use the N (Non-document edit) command. To assemble and reload, you must have the MicroSoft assembler (M80) and loader (L80).

Using M80 and L80, the commands to assemble then load WSMSG.S.OVR, with all files on the logged drive, are:

```
M80 =WSMSG.S
```

```
L80 WSMSG.S, WSMSG.S.OVR/N/E
```

(Enterprising users might wish to convert the source file to be assembled with another assembler, rather than obtaining M80 and L80. Necessary changes might include removing or changing the "ASEG" pseudo-operation (which specifies absolute as opposed to relocateable assembly), removal of the "PAGE" pseudo-ops (which effect assembly listing formatting only), removal of form feed (control-L) characters (which effect listing (both source and assembly) format only), and renaming the file if type .MAC is not acceptable to the assembler. Of course, the loader that goes with the assembler must be used. After loading, the resulting file must be renamed to type .OVR if the loader produces a file of type .COM.)

If, when you invoke WordStar using the newly-loaded WSMMSG.OVR, the following or a similar message is displayed

***** WARNING: Wrong version of WSMMSG.OVR,
some messages and menus may be wrong**

then the Customization Notes diskette from which WSMMSG.MAC was obtained was for a different release of WordStar than the release of WordStar you are running. Check the release number in the WordStar signon, and in the WSMMSG.MAC source file, and locate matching versions or obtain an updated WordStar and/or Customization notes from your dealer or from MicroPro. Until the error is corrected, go back to using your prior version of WSMMSG.OVR. Do not operate with the wrong version of WSMMSG.OVR, as incorrect messages and prompts might display and recently-added text might not be present.

WARNING: if you attempt to use a WSMMSG.COM file from a pre-2.0 WordStar release in place of WSMMSG.OVR with WordStar 2.0 or newer, WordStar is likely to display garbage on the screen or crash. **DO NOT USE PRE-2.0 WSMMSG** with WordStar 2.0 or newer.

After successfully changing WSMMSG.OVR and checking your changes, remove all copies of the prior version from your working diskettes. Otherwise, WordStar may find the wrong copy of WSMMSG.OVR and display the old texts.

Patching and RETEXTing WSMMSG2

Minor changes in the texts in WSMMSG2 may be achieved by patching WSMMSG2.COM with DDT then incorporating the changed messages in WordStar by running RETEXT.

The file WSMMSG2.COM is not a file normally used by WordStar, but rather an intermediary that holds the texts between assembling / loading WSMMSG2 and running RETEXT. However, for convenience in patching, a preassembled, pre-loaded WSMMSG2.COM is supplied on the Customization Notes diskette.

Before patching WSMMSG2.COM, we suggest making an assembly listing (using the WSMMSG2.MAC source file supplied on the Customization Notes diskette) to assist in locating the texts, pointers, and group length items.

When patching WSMMSG2.COM, any text may be altered in place (without increasing its length) by changing characters as desired. If the text is shortened, be sure to place a zero byte at the end. Texts within a "group" (see WSMMSG2 description above) may be moved or rearranged if the self-relative pointers for the texts in that group are properly readjusted.

To make space to lengthen a text, the entire WSMMSG2 file following that text may be copied to higher addresses, subject to the group's length limit. After making such a move, update the group's length item to reflect the length of the insertion, and update any pointers to following texts in the same group -- add the number of bytes inserted to the present contents of the group length and of the appropriate pointers. It is not necessary to make any adjustments regarding following groups (groups moved in their entirety), as all pointers and lengths are relative to their own locations.

CAUTION: the "Move" commands in most debuggers do not work correctly if the move destination area overlaps the source area. Thus, to move the contents of a block of memory to addresses, say, two bytes higher, move the entire block to an entirely different area (e.g. beyond the end of WSMMSG2.COM), then move it again from there to a destination two locations above the original source.

After making the desired patches in WSMMSG2.COM and SAVEing the patched version, run RETEXT: make sure the files WSU.COM, WSOVLY1.OVR, MERGPRIN.OVR (if you have the MailMerge option), and the patched WSMMSG2.COM are on the current drive, then enter the command (for WordStar release 2.1)

RETEXT (or RETEXT20 for WordStar 2.0)

RETEXT will incorporate the texts from WSMMSG2.COM into WSU.COM, WSOVLY1.COM, and (if present) MERGPRIN.OVR. The file RETEXT.COM need not be on-line when the resulting WordStar is in use. See the heading "RETEXT Operation" below for additional information on RETEXT.

INSTALL must be run before some of the new texts (those embedded in WSU.COM) will appear during WordStar operation -- unless, of course, the "WSU.COM" file present during RETEXT execution was actually a renamed previously INSTALLED WordStar (see below).

Assembling, Loading and RETEXTing WSMMSG2

Substantial changes in the texts in WSMMSG2 are most easily made by editing the source file WSMMSG2.MAC (supplied on the Customization Notes diskette), then reassembling, reloading, and RETEXTing.

Before editing WSMMSG2.MAC, check that the release number at the beginning of the WSMMSG2.MAC file matches that in your WordStar's signon. If it does not match, obtain an updated WordStar and/or Customization Notes from your dealer or from MicroPro. Use of mismatched releases may cause RETEXT to give an error and will in any case result in incorrect operation.

When editing WSMMSG2.MAC (or any program source file) with WordStar, be sure to use the N (Non-document edit) command. To assemble and reload, you must have the MicroSoft assembler (M80) and loader (L80), as well as the program RETEXT.COM. (Alternately, the user may wish to attempt to convert WSMMSG2.MAC to be assembled with a different assembler.)

If all files are on the current drive, the commands to assemble, load, and RETEXT WSMMSG2 are:

M80 =WSMMSG2	Uses file WSMMSG2.MAC Produces file WSMMSG2.REL
L80 WSMMSG2, WSMMSG2/N/E	Uses file WSMMSG2.REL Produces file WSMMSG2.COM
RETEXT	Uses WSMMSG2.COM, WSU.COM, WSOVLY1.OVR, and (if present) MERGPRIN.OVR. Produces updated versions of WSU.COM, WSOVLY1.OVR, and (if present) MERGPRIN.OVR (use RETEXT20 in place of RETEXT for WordStar 2.0)

RETEXT will incorporate the texts from WSMMSG2.COM into WSU.COM, WSOVLY1.OVR, and (if present) MERGPRIN.OVR. The file RETEXT.COM need not be on-line when the resulting WordStar is in use. See the heading "RETEXT Operation" below for additional information on RETEXT.

RETEXT Operation

The program RETEXT, supplied on the Customization Notes diskette, is used to incorporate changed WSMMSG2 texts into WordStar. As noted above, RETEXT must be run after patching WSMMSG2.COM or after reassembling and reloading WSMMSG2.MAC to produce a new WSMMSG2.COM. This section gives additional information on RETEXT operation and error conditions.

(Two versions of RETEXT are supplied on the Customization Notes diskette for WordStar releases 2.0 and 2.1: use RETEXT20.COM for WordStar 2.0; use RETEXT.COM for WordStar 2.1.)

RETEXT requires that the following files be on the current drive. There is no provision for accessing files on another drive, nor for alternate file names. If you are using a different name for any of the files, rename the file(s) before and after RETEXT execution.

WSMMSG2.COM	(containing texts to incorporate)
WSU.COM	
WSOVLY1.OVR	
MERGPRIN.OVR	(optional)

If any of the files except MERGPRIN.OVR are not found, RETEXT will display an error message and abort. If MERGPRIN.OVR (the overlay file for the Merge-Print command, supplied with the MailMerge option) is absent, RETEXT will display an informational message and proceed.

If the WSMMSG2.COM file is not for the same release of WordStar as the other files, RETEXT may display an error and abort. If RETEXT does not detect the error, incorrect operation or wrong texts may nevertheless result; thus, you should check carefully for matching releases (compare the WordStar signon and the comments at the beginning of the WSMMSG2.MAC file) before editing WSMMSG2.MAC and running RETEXT.

RETEXT inserts the groups of texts from WSMMSG2.COM at the appropriate places in WSU.COM, WSOVLY1.OVR, and, if present, MERGPRIN.OVR. These files are updated in place; thus, you will want to keep backup copies on another diskette or under other file names.

If any of the "groups" of texts (see WSMMSG2 description above) in WSMMSG2.COM are longer than the space available for that group, RETEXT will display a message and proceed, leaving the old texts in WordStar for that entire group.

The file WSMMSG2.COM is used only by RETEXT; there is no reason to have it on-line during WordStar execution.

The file WSU.COM present during RETEXT execution may be an uninstalled WordStar or a previously INSTALLED WordStar. To update texts in an already-INSTALLED WordStar, rename WS.COM (or whatever name was chosen at INSTALLation) to WSU.COM, run RETEXT, then rename back.

CAUTION: after using RETEXT, you may wish to use a different file name for the modified WordStar. If the WordStar was previously INSTALLED, be sure to run INSTALL again to change the name. If you merely rename the file, the R (Run program) command will not work because item FNWSCM in USER2 (described above) will not match the actual name of the WordStar .COM file.

After using RETEXT on an unINSTALLED WordStar (WSU.COM), you must of course INSTALL before the new versions of those texts which are inserted into WSU.COM will display during WordStar execution.

After successfully running RETEXT and checking all of the new texts (by entering whatever WordStar commands cause the texts to display), update all of the WS.COM, WSOVLY1.OVR, and MERGPRIN.OVR files on your working diskettes. Don't leave the old copies on some of the diskettes in active use, as WordStar might then occasionally find the wrong file and display the old texts (WordStar looks for all of these files on both drive A and the logged drive, and the operator can change the logged drive at will). Keeping backups of the old versions on an archive diskette is of course an excellent idea, in case a problem is later encountered with the new versions.

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TITLE USER2 07/16/80 PARAMETERS USER MAY ALTER
;
; WordStar RELEASE 2.0 and 2.1 JULY, 1980
;

; THIS FILE CONTAINS PARAMETERS USER MAY OPTIONALLY
; ALTER IN ORDER TO CHANGE THE INITIAL VALUES WHEN WordStar
; STARTS, OR TO DISABLE OR MODIFY CERTAIN FEATURES.

; SEE ALSO FILE USER1 FOR AREAS TO MODIFY TO
; ACCOMODATE VARIOUS TERMINAL DEVICES;
; FILE USER3 FOR AREAS TO MODIFY THE KEY OR KEY
; SEQUENCES WHICH PERFORM EACH COMMAND FUNCTION;
; AND FILES USER4 AND USER5 FOR AREAS TO MODIFY
; TO ACCOMODATE VARIOUS PRINTERS.

0000 OR4200 EQU 0 ;SET TO -1 FOR TRS80 MODEL1 OR HEATH89

IF OR4200
TBASE EQU 4300H ;THIS IS THE TBASE FOR TRS80 MOD1 & HEATH89
ELSE
TBASE EQU 100H ;WHERE PROGRAM BEGINS FOR NORMAL CP/M
ENDIF

0100 TBASE EQU 100H ;WHERE PROGRAM BEGINS FOR NORMAL CP/M

0000' ASEG

ORG TBASE+260H ;BEGINS AT LOCATION 360 HEX

000F CTRL0 EQU 15 ;CONTROL-0 CHARACTER

PAGE 65 ;SETS PAGE LENGTH

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0360

```
ENTRY ITHLP,NITHLF ; INITIAL HELP LEVEL
ENTRY ITITOG ; INITIAL INSERT TOGGLE
ENTRY ITDSR ; INITIAL DIRECTORY DISPLAY FLAG
ENTRY INITPR,LIPFE,LIPF ; INITIAL PAGE FORMAT ITEMS
ENTRY INITLM,INITRM ; INITIAL MARGINS
ENTRY INITSR ; INITIAL SUBSCRIPT ROLL
ENTRY INITWF ; INITIAL WRAP FLAG,
; .. JUSTIFY FLAG, ETC (10 ITEMS)

ENTRY DECCHR ; DECIMAL POINT FOR DECIMAL TAB
ENTRY DOTCHR ; FIRST CHAR FOR DOT COMMANDS
ENTRY BLNCHR ; CHARACTER THAT PRINTS AS BLANK
ENTRY DOTSON ; PATCH 0 TO DISABLE DOT COMMAND
; .. INTERPRETATION WHILE EDITING
ENTRY HZONE,PVWTB,PNCON ; RE HYPHENATION-HELP

ENTRY EOFCHR,BOFCHR ;FLAG CHARACTERS ..
ENTRY CONCHR,OVPCHR ;..(RIGHTMOST SCREEN COLUMN)
ENTRY LFCHR,PAGCHR,SOFTCR,HARDCR,FDTCHR ;..
ENTRY SOFHYC ; SOFT HYPHEN DISPLAY CHARACTER
ENTRY PAGFIL ; PAGE BREAK LINE CHARACTER
ENTRY MARKS ; MARKER DISPLAY CHARACTERS

ENTRY PODBLK ; PRINT OPTIONS DEFAULTS
ENTRY NOUFF ; DON'T ASK "USE FORM FEEDS" FLAG
ENTRY ITPOPN,ITMIJ,ITBIP

ENTRY VARCH1,VARCH2,VARNBC,VAROPC ;RE MERGE-PRINT VARIABLES
ENTRY RVELIM,RVQUOT ;DATA DELIMITER AND QUOTER

ENTRY FNWSCM ; FILE NAME FOR WORDSTAR (WS.COM)
ENTRY DSKTNA ; FILE NAME FOR MESSAGES FILE
ENTRY FNOVLY ; FILE NAME FOR OVERLAY FILES
ENTRY FNMGRP ; FILE NAME FOR MERGE-PRINT COMMAND
```

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PAGE 2

```

;
; *****  INITIALIZATION ITEMS  *****
;
; ALL OF THE FOLLOWING CAN BE SET BY COMMAND;
; CHANGING THEM HERE WILL MAKE THE EDITOR COME
; UP IN YOUR FAVORITE STATE, ELIMINATING THE
; NEED TO ISSUE THE RELEVANT COMMAND EACH
; TIME THE EDITOR IS INVOKED.
;
;
;
; INITIAL HELP LEVEL
;
; (CHANGE DURING EXECUTION WITH ^JH COMMAND)
;
360 03  ITHelp: DB 3 ; NORMALLY 3 FOR MAXIMUM HELP -- ALL MENUS
; DISPLAYED DURING EDITING. PATCH TO 2 TO
; SUPPRESS MAIN EDITING MENU (MAKING MORE
; OF SCREEN AVAILABLE FOR FILE DISPLAY);
; PATCH TO 1 TO ALSO SUPPRESS PREFIX HELP
; MENUS; PATCH TO 0 TO SUPPRESS ALL HELP.
;
;
;
; NITHLF: DB OFFH ; ZERO TO ENABLE DISPLAY OF THE MESSAGE
; ; "FOR MAXIMUMUM HELP TYPE ^JH3" AT THE
; ; START OF FIRST EDIT IF ITHelp IS 1 OR 2.
; ; OFFH TO SUPPRESS THAT MESSAGE.
;
;
; INITIAL INSERT TOGGLE
;
; (CHANGE DURING EXECUTION WITH ^V)
;
0362 FF  ITITOG: DB OFFH ; FF HEX TO COME UP WITH INSERT ON,
; ; CHANGE TO 0 TO COME UP WITH
; ; INSERT OFF. CONTENTS MUST
; ; NOT BE OTHER THAN 0 OR OFFH.
;
;
; INITIAL NO FILE DIRECTORY DISPLAY TOGGLE
;
; (CHANGE DURING EXECUTION WITH F COMMAND)
; (DIRECTORY DISPLAY DURING FILE EDIT DEFAULTS OFF)
;
0363 FF  ITDSDR: DB OFFH ; ZERO TO INITIALLY NOT DISPLAY
; ; DIRECTORY FF HEX TO DISPLAY,
; ; WHEN NOT EDITING A FILE.
;
;
0364 00 00  DB 0,0 ; BYTES RESERVED FOR EXPANSION

```

USER2 07/16/80 PARAMETERS USER MAY ALTER MACRO-80 3.13 PAGE 3

;INITIALIZATION ITEMS...

; INITIAL PAGE FORMAT FOR PAGE BREAK DISPLAY WHILE EDITING
 ; AND FOR PAGINATION DURING PRINTOUT. DOT COMMANDS IN FILE
 ; OVERRIDE THESE VALUES, BOTH DURING EDIT AND PRINT.

;INITPF:

0366	08	DB 8	;LINE HEIGHT, 1/48 INCHES (DAISY PRINTERS)
0367	42	DB 66	;PAPER LENGTH (.PL) IN LINES
0368	0210	DW 8*66	; .. IN 48THS
036A	08	DB 8	;LINE HEIGHT IS REPEATED HERE
036B	03	DB 3	;MARGIN AT TOP (.MT) IN LINES
036C	0018	DW 8*3	; .. IN 48THS OF AN INCH
036E	08	DB 8	;LINE HEIGHT IN 48THS REPEATED HERE
036F	02	DB 2	;HEADING MARGIN (.HM) IN LINES
0370	0010	DW 8*2	; .. IN 48THS OF AN INCH
0372	08	DB 8	;LINE HEIGHT IS REPEATED HERE
0373	08	DB 8	;BOTTOM MARGIN (.MB)
0374	0040	DW 8*8	; .. IN 48THS
0376	08	DB 8	;LINE HEIGHT MUST BE REPEATED HERE
0011		LIPFE EQU \$-INITPF	;LENGTH INITPF INFO FOR EDIT
0377	02	DB 2	;FOOTING (PAGE NUMBER) MARGIN (.FM)
0378	0010	DW 2*8	; .. IN 48THS
037A	08	DB 8	;LINE HEIGHT MUST BE REPEATED HERE
037B	00	DB 0	;MUST BE A 0 HERE FOR STANDARD CHAR WIDTH
037C	0C	DB 12	;STD CHAR WIDTH IN 1/120 INCH: 1/10 INCH
037D	0A	DB 10	;ALTERNATE CHAR WIDTH IN 120THS: 1/12 INCH
037E	08	DB 8	;PAGE OFFSET IN CHARS (PRINT ONLY)
0019		LIPF EQU \$-INITPF	;LENGTH OF INITPF INFO FOR PRINT

;NOTE: INITIAL PAGE NUMBER COLUMN (.PC) IS SET
 ; AUTOMATICALLY TO HALF WAY BETWEEN INITIAL
 ; LEFT AND RIGHT MARGINS (NEXT PAGE)

USER2 07/16/80 PARAMETERS USER MAY ALTER MACRO-80 3.13 PAGE 4

;INITIALIZATION ITEMS...

;

; INITIAL MARGINS FOR WORD WRAP AND PARAGRAPH REFORM

;

; INITLM AND INITRM MUST FOLLOW INITPF IN ORDER.

037F 00 INITLM: DB 0 ;INITIAL LEFT MARGIN COLUMN NUMBER LESS 1,

; VALID VALUES ARE 0 INITRM-3.

0380 40 INITRM: DB 64 ;INITIAL RIGHT MARGIN COLUMN NUMBER LESS 1

; ALLOWED VALUES ARE 2 TO SCREEN WIDTH-4.

; NOTE: INITRM WILL BE REDUCED TO SCREEN WIDTH-4

; (EG 60 FOR 64-COL SCREEN) IF GREATER.

; OPERATOR MAY SUBSEQUENTLY INCREASE

; (TO MAX OF 240) IF DESIRED.

; NOTE: INITRM IS ALSO THE DEFAULT APPLIED BY

; MERGE-PRINT AT BEGINNING OF FILE, BEFORE

; FIRST SOFT CARRIAGE RETURN SEEN, IF

; MERGE-PRINT'S PRINT TIME LINE FORMING IS

; INVOKED THERE (E.G. BY USING A VARIABLE).

;

; INITIAL SUBSCRIPT/SUPERSCRIPT ROLL IN 1/48THS

; INCH FOR PRINTOUT ON INCREMENTAL PRINTERS

0381 03 INITSR: DB 3 ;ROLL 3/48THS OF AN INCH.

0382 00 00 00 DB 0,0,0 ;BYTES RESERVED FOR EXPANSION

USER2 07/16/80 PARAMETERS USER MAY ALTER MACRO-80 3.13 PAGE 5

;INITIALIZATION ITEMS...

```

;
; INITIAL WORD PROCESSING FLAGS.
;
; THESE VALUES ARE USED UNLESS A NON-DOCUMENT IS EDITED
; (N COMMAND) IN WHICH CASE ALL CLEARED.
; FOR EACH, FF HEX MEANS "ON", 0 MEANS OFF,
; NO OTHER VALUES SHOULD BE USED.
; ALL ARE CHANGEABLE BY COMMAND EXCEPT AS NOTED.
;

```

INITWF:

```

0385 FF DB OFFH ;WORD WRAP FLAG (^OW COMMAND).
0386 FF DB OFFH ;JUSTIFY FLAG (0 FOR RAGGED RIGHT) (^OJ).
; (IS AT INITWF+1 & IS USED IN INIPRN.MAC.)
0387 FF DB OFFH ; VARIABLE TABS FLAG: ZERO FOR TAB
; CHARACTERS IN FILE WITH FIXED DISPLAY/
; PRINT STOPS EVERY 8 COLUMNS (^OV).
0388 00 DB 0 ;SOFT HYPHEN ENTRY FLAG (^OE COMMAND):
; OFFH TO ENTER SOFT HYPHEN WHEN "-" TYPED.
0389 FF DB OFFH ;HYPHEN-HELP FLAG (^OH). 0 FOR ^B TO NOT
; STOP TO ALLOW USER TO HYPHENATE.
038A FF DB OFFH ;PRINT CONTROL AND SOFT HYPHEN DISPLAY
; FLAG (^OD COMMAND): 0 FOR NO DISPLAY.
038B FF DB OFFH ;DISPLAY "RULER" SHOWING MARGINS AND TAB
; STOPS (0 TO NOT DISPLAY RULER) (^OT).
038C FF DB OFFH ;DYNAMIC PAGE BREAK DETERMINATION FLAG:
; ZERO TO NOT KEEP TRACK OF PAGE BREAKS
; DURING EDITING. ZERO ELIMINATES HIGH
; ORDER BITS USED IN FILE RE PAGE BREAKS.
; IF ZERO, PAGE # WON'T SHOW IN STATUS
; LINE, PAGE BREAKS WILL NOT DISPLAY, AND
; NEXT ITEM CANNOT BE SET NON-ZERO.
; NOT CHANGEABLE BY COMMAND --
; CANNOT BE CHANGED IN MID-EDIT.
038D FF DB OFFH ;PAGE BREAK DISPLAY FLAG: 0 PREVENTS LINE
; OF ---'S FROM DISPLAYING AT PAGE BREAK
; AND SUPPRESSES PAGE NUMBER IN STATUS
; LINE. (^OP COMMAND)
;
; INITIAL LINE SPACING. MUST FOLLOW ABOVE ITEMS.
;
038E 01 DB 1 ;SINGLE SPACE TEXT AS ENTERED. FOR
;DOUBLE SPACING, CHANGE TO 2, ETC.
038F 00 00 00 DB 0,0,0 ;RESERVED FOR EXPANSION

```

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```

; THE REST OF THE ITEMS ARE NOT
; INITIALIZATION ITEMS; THEY MAY BE
; CHANGED ONLY BY PATCHING HERE.

;
; "DECIMAL POINT" CHARACTER THAT TERMINATES
; ALIGNMENT ACTION WHEN DECIMAL TAB IS IN USE
;
0392 2E DECCHR: DB '.' ;NORMALLY POINT, USER MAY CHANGE
0393 00 DB 0 ;RESERVED FOR EXPANSION

; ***** DOT COMMANDS AND PRINT FORMATTING *****

;
; CHARACTER THAT BEGINS DOT COMMANDS
;
0394 2E DOTCHR: DB '.' ;NORMALLY PERIOD, USER MAY CHANGE
;
; NON-BREAK SPACE:
; CHARACTER THAT PRINTS AS SPACE BUT IS NOT
; TREATED AS A WORD BREAK BY WORD WRAP OR
; PARAGRAPH REFORM, NOR AS A PLACE FOR
; JUSTIFICATION TO ADD SPACES.
;
0395 0F BLNCHR: DB CTRL0 ;NORMALLY ^O, MAY BE CHANGED
; TO OTHER ASCII CHARACTER.

;
; FLAG TO ENABLE
; DYNAMIC INTERPRETATION OF DOT COMMANDS
;
0396 FF DOTSON: DB 0FFH ;NORMALLY ON, THIS MAY BE SET ZERO TO
;DISABLE ALL DOT COMMAND INTERPRETATION
;DURING EDITING, INCLUDING WITH REGARD
;TO DYNAMIC PAGE BREAK DISPLAY, AND THE
;DISPLAY OF A "?" FLAG FOR UNRECOGNIZED
;DOT COMMANDS.

0397 00 00 DB 0,0 ;RESERVED FOR EXPANSION

```

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```

; ***** HYPHENATION-HELP *****
;
; HYPHENATION CRITERION
;
; THIS NUMBER (ADJUSTED SOMEWHAT DEPENDING ON NUMBER
; OF WORDS ON LINE) DETERMINES MAXIMUM NUMBER OF COLUMNS
; SHORT OF RIGHT MARGIN LAST FULL WORD ON LINE MAY END
; WITHOUT A HYPHENATION STOP OCCURING DURING PARAGRAPH
; REFORM WITH HYPHENATION-HELP ON.
;
; INCREASE FOR FEWER HYPEH STOPS, DECREASE FOR MORE STOPS.
;
0399 04 HZONE: DB 4
;
; VOWELS AND CONSONANTS
;
; THE TESTS THAT POSITION THE CURSOR AT A HYPHENATION-
; STOP CLASSIFY CHARACTERS INTO VOWELS AND CONSONANTS
; USING THE FOLLOWING TABLES.
;
039A 039E PVWTB: DW VOWTAB ; ADDRESS OF VOWEL TABLE
039C 03A3 PNCON: DW NONCON ; ADDRESS OF NOT-CONSONANT TABLE
;
VOWTAB: ; TABLE OF ALL VOWELS BEGINS HERE
039E 59 DB 'Y' ; Y CAN BE EITHER VOWEL OR CONSONANT
039F 5B 5D 7B 7D DB '[' ']' ; THESE CODES ARE USED FOR ACCENTED
; VOWELS IN SOME EUROPEAN LANGUAGES
NONCON: ; TABLE OF NON-CONSONANT LETTERS,
; ALSO CONTINUATION OF VOWEL TABLE.
03A3 41 45 49 4F DB 'AEIOU' ; VOWELS, NOT CONSONANTS
03A7 55
03A8 00 DB 0 ; 0 TERMINATES TABLE
; NOTE: A CONSONANT IS ANY LETTER A-Z NOT IN NONCON TABLE.
03A9 00 00 00 DB 0,0,0 ; RESERVED FOR EXPANDING ABOVE TABLES

```

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; ***** RE SCREEN DISPLAY DURING EDITING *****

; ;
; FLAG CHARACTERS -
; DISPLAY IN RIGHTMOST COLUMN OF SCREEN
;

03AC 2E EOFCHR: DB '.' ;END FILE. MAY BE PATCHED TO
; BLANK OR OTHER CHAR AS DESIRED.
03AD 3A BOFCHR: DB ':' ;BEGINNING OF FILE
03AE 2B CONCHR: DB '+' ;FILE LINE CONTINUES
; ON NEXT SCREEN LINE
03AF 2D OVPCHR: DB '-' ;NEXT SCREEN LINE OVERPRINTS
; THIS ONE (CR WITHOUT LF)
03B0 4A LFCHR: DB 'J' ;LINE ENDS IN LINE FEED W/O CR
03B1 50 PAGCHR: DB 'P' ;LINE IS LAST LINE OF PAGE
03B2 20 SOFTCR: DB ' ' ;LINE IS NOT A PARAGRAPH ENDING
; IN DOCUMENT: THE CARRIAGE RETURN AT
; THE END OF THIS LINE CAN BE MOVED BY
; REFORM COMMAND.
03B3 3C HARDCR: DB '<' ;END OF LINE IS PARAGRAPH
; TERMINATION, CARRIAGE RETURN WILL
; NOT MOVE UNLESS MOVED BY OPERATOR.
;NOTE: USERS WHOSE FILES NORMALLY HAVE
;CARRIAGE RETURNS AT END OF EVERY LINE
;(EG PROGRAM SOURCE FILES) MAY WISH TO
;PUT BLANK IN HARDCR AND ANOTHER
;CHARACTER IN SOFTCR.
03B4 4D FDTCHR: DB 'M' ;LINE CONTAINS MERGE-PRINT DOT COMMAND
03B5 00 00 DB 0,0 ;RESERVED BYTES

; ;
; CHARACTER USED TO DISPLAY SOFT HYPHENS
; ;
; THIS CHARACTER IS USED TO DISPLAY "SOFT" HYPHENS
; -- BOTH THE "INACTIVE" ONES IN MID-LINE, AND THE
; "ACTIVE" ONES AT LINE END WHICH WILL PRINT AS A "-".
; ;
; THE HIGH ORDER BIT (80H) INVOKES HIGHLIGHTED DISPLAY
; -- INVERSE VIDEO, DIM, ETC DEPENDING ON TERMINAL.
;

03B7 AD SOFHYP: DB '-' +80H ;HIGHLIGHTED HYPHEN

; ;
; CHARACTER USED TO FILL LINE AT PAGE BREAK
;

03B8 2D PAGFIL: DB '-' ;DISPLAY A LINE OF -'S

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;SCREEN DISPLAY DURING EDITING...

```

;
; DISPLAY CHARACTERS FOR THE 15 PLACE MARKERS,
; INTERNALLY NUMBERED 1-15.
;
; TABLE IS INDEXED BY MARKER NUMBER LESS 1.
; EACH ENTRY IS ASCII CHAR TO DISPLAY BETWEEN
; <>'S, OR BINARY 0 TO NEVER DISPLAY THIS MARKER.
;

```

MARKS:

```

03B9 42 DB 'B' ;INTERNAL #1: BEGINNING OF BLOCK OF TEXT
03BA 4B DB 'K' ;INTERNAL #2: END OF MARKED BLOCK OF TEXT

```

```

;NOTE: WHEN SUPPORTED BY TERMINAL IN USE
; (AND PATCHES IN USER1 REFLECT THIS SUPPORT),
; THE MARKED BLOCK IS DISPLAYED DIM OR IN
; INVERSE VIDEO WITH THE <B> AND <E> AT ITS
; BEGINNING AND END SUPPRESSED. WHEN SUCH
; HARDWARE SUPPORT IS AVAILABLE, THESE
; MARKERS ARE DISPLAYED ONLY IF ONLY ONE IS
; SET, IF THE END IS BEFORE THE BEGINNING,
; OR THEY ARE BOTH IN THE SAME PLACE.

```

```

( BB 00 DB 0 ;INTERNAL #3: BEGINNING OF COMMAND:
; DOES NOT DISPLAY
; N. B. DO NOT MAKE DISPLAYABLE!
; ACCESSED BY OPERATOR WITH ^QP;
; USEFUL FOR RETURNING CURSOR TO
; POSITION BEFORE ^KS, ^QF, ^B, ETC.
03BC 00 DB 0 ;INTERNAL #4: START OF LAST FIND/REPLACE
; ITERATION, SOURCE OF TEXT FOR
; LAST BLOCK MOVE OR COPY. DOES
; NOT DISPLAY, ACCESSIBLE VIA ^QV.
03BD 00 DB 0 ;INTERNAL #5: CURRENTLY NOT USED
03BE 30 31 32 33 DB '0123456789' ;INTERNAL #6-#15 ARE USER
03C2 34 35 36 37
03C6 38 39

```

;PLACE MARKERS 0 THRU 9.

```

03C8 00 00 DB 0,0 ;BYTES RESERVED FOR EXPANSION

```


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```

; ***** RE MERGE-PRINT *****

;
; DELIMITER AND QUOTE FOR VALUES IN MERGE-PRINT DATA FILE
;
03D8 2C RVELIM: DB ',' ;COMMA DELIMITS DATA VALUES ON A LINE
03D9 22 RVQUOT: DB '"' ;DOUBLE QUOTE ENCLOSES VALUES CONTAINING
; COMMAS, LEADING BLANKS, TRAILING BLANKS.
03DA 00 DB 0

;
; DELIMITERS FOR MERGE-PRINT &VARIABLES& IN DOCUMENT FILE
;
03DB 26 VARCH1: DB '&' ;CHARACTER THAT INTRODUCES VARIABLE
03DC 26 VARCH2: DB '&' ;SAME CHARACTER TERMINATES VARIABLE
03DD 2A VARNBC: DB '*' ;CHAR AFTER FIRST & TO SAY OMIT LINE
; IF BLANK AND VBL VALUE IS NULL.
; &* IS OBSOLETE AND WILL BE REMOVED.
03DE 2F VAROPC: DB '/' ;CHARACTER AFTER NAME B4 OPTION LETTERS
03DF 4F DB 'O' ;OPTION LETTER FOR "OMIT LINE IF VBL NULL"
; OPTION LETTERS TO BE ADDED HERE

03E0 00 00 DB 0,0 ;RESERVED
03E2 00 00 00 00 DB 0,0,0,0 ;RESERVED
    
```

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; NAMES OF THE VARIOUS FILES CONSTITUTING WordStar

;

; NAME OF FILE CONTAINING WORDSTAR BASE

; NORMALLY WS.COM, BUT IF ANOTHER NAME IS SELECTED

; IN THE INSTALL PROGRAM, THE ACTUAL NAME IS

; STORED HERE. MUST ACTUAL NAME ON DISK FOR

; CORRECT OPERATION OF "R" (RUN PROGRAM) COMMAND.

03E6 00 57 53 20 FNWSCM: DB 0, 'WS COM' ; OCCUPIES 12 BYTES

03EA 20 20 20 20

03EE 20 43 4F 4D

;

; NAME OF FILE CONTAINING MESSAGE AND MENU TEXTS

; NORMALLY WSMMSG.OVR, BUT YOU MAY RENAME THE

; FILE AND PATCH ALTERED NAME HERE.

03F2 00 57 53 4D DSKTNA: DB 0, 'WSMSGS OVR'

03F6 53 47 53 20

03FA 20 4F 56 52

;

; BASE NAME OF OVERLAY FILES

; NORMALLY WSOVLY1.OVR, BUT YOU MAY RENAME THE

; FILE AND PATCH ALTERED NAME HERE.

03FE 00 57 53 4F FNOVLY: DB 0, 'WSOVLY1 OVR'

0402 56 4C 59 31

0406 20 4F 56 52

;

; MERGE-PRINT OVERLAY FILE NAME

; YOU MAY RENAME MERGPRIN.OVR AND CHANGE HERE.

040A 00 4D 45 52 FNMRGP: DB 0, 'MERGPRIN OVR'

040E 47 50 52 49

112 4E 4F 56 52

0416 00 00 00 00 DB 0,0,0,0 ; RESERVED FOR EXPANSION

041A 00 00 00 00 DB 0,0,0,0

041E 00 00 00 00 DB 0,0,0,0

0422 00 00 00 00 DB 0,0,0,0 ; RESERVED FOR EXPANSION

0426 00 00 00 00 DB 0,0,0,0

042A 00 00 00 00 DB 0,0,0,0

042E LABEL EQU \$; 42E SHOULD PRINT NEXT TO THIS

END ; NEXT MODULE LOADS AT 430 HEX.

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Macros:

Symbols:

ALABEL	042E	BLNCHR	0395I	BOFCHR	03ADI	CONCHR	03AEI
CTRL0	000F	DECCHR	0392I	DOTCHR	0394I	DOTSON	0396I
DSKTNA	03F2I	EOFCHR	03ACI	FDTCHR	03B4I	FNMRGP	040AI
FNOVLY	03FEI	FNWSCM	03E6I	HARDCR	03B3I	HZONE	0399I
INITLM	037FI	INITPF	0366I	INITRM	0380I	INITSR	0381I
INITWF	0385I	ITBIP	03D5I	ITDSDR	0363I	ITHELP	0360I
ITITOG	0362I	ITMIJ	03D4I	ITPOP	03D3I	LFCHR	03B0I
LIPF	0019I	LIPFE	0011I	MARKS	03B9I	NITHLF	0361I
NONCON	03A3	NOUFF	03D1I	OR4200	0000	OVPCHR	03AFI
PAGCHR	03B1I	PAGFIL	03B8I	PNCON	039CI	PODBLK	03CAI
PVWTB	039AI	RVELIM	03D8I	RVQUOT	03D9I	SOFHYC	03B7I
SOFTCR	03B2I	TBASE	0100	VARCH1	03DBI	VARCH2	03DCI
VARNBC	03DDI	VAROPC	03DEI	VOWTAB	039E		

No Fatal error(s)

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```

TITLE USER3 7/16/80 KEYSTROKE DISPATCH TABLES
;
; AND OTHER SPECIAL INPUT CHARACTERS

```

```

; WordStar RELEASE 2.0 and 2.1 JULY, 1980
;

```

```

0000 OR4200 EQU 0 ;SET TO -1 FOR TRS80 MODEL1 OR HEATH89

```

```

IF OR4200
TBASE EQU 4300H ;WHERE TO LOAD THE TRS80 MODEL1 & HEATH89
ELSE

```

```

0100 TBASE EQU 100H ;WHERE PROGRAM IS LOADED FOR NORMAL CP/M
ENDIF

```

```

0000' ASEG

```

```

ORG TBASE+330H ;BEGINS AT 430 HEX OR 4630 HEX

```

```

ENTRY PVTAB,VTAB ;EDITING COMMAND DISPATCH TABLE
ENTRY XTAB ;WHERE TO ADD COMMANDS TO ABOVE
ENTRY PNFTAB,NOFTAB ;NO-FILE DISPATCH TABLE
ENTRY PFPTAB,FPTAB ;MERGE-PRINT DISPATCH TABLE
ENTRY CLCHR,CRCHR,LITCHR ;CHARACTERS USED
; .. IN LINE INPUT ROUTINE
ENTRY STPCHR ;"INTERRUPT" COMMAND CHARACTER
ENTRY ERELCH ;ERROR RELEASE CHARACTER
ENTRY DIRCH ;DIRECTORY DISPLAY CHARACTERS

```

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0430

;SYMBOLIC DEFINITIONS FOR ASCII CHARACTERS

```

0009      TAB      EQU X'09' ;TAB, CONTROL-I.
000D      CR       EQU X'0D' ;CARRIAGE RETURN
000A      LF       EQU X'0A' ;LINE FEED
000C      FF       EQU X'0C' ;FORM FEED
                                ;CONTROL-LETTER KEY FUNCTIONS:
0001      CTRLA   EQU 1     ;BACK WORD
0002      CTRLB   EQU 2     ;REFORM PARAGRAPH
0003      CTRLC   EQU 3     ;SCROLL UP SCREEN
0004      CTRLD   EQU 4     ;CURSOR RIGHT CHAR
0005      CTRL E  EQU 5     ;CURSOR UP
0006      CTRLF   EQU 6     ;RIGHT WORD
0007      CTRLG   EQU 7     ;DELETE RIGHT
0008      CTRLH   EQU 8     ;CURSOR LEFT CHAR
0009      CTRL I  EQU 9     ;TAB
000A      CTRLJ   EQU 10    ;HELP PREFIX
000B      CTRLK   EQU 11    ;PREFIX
000C      CTRL L  EQU 12    ;FIND/REPLACE AGAIN
000D      CTRL M  EQU 13    ;CARRIAGE RETURN
000E      CTRL N  EQU 14    ;INSERT LINE
000F      CTRL O  EQU 15    ;FORMAT OPTIONS PREFIX
010      CTRL P  EQU 16    ;ENTER PRINT CONTROL
0011      CTRL Q  EQU X'11' ;PREFIX - CURSOR MOTION, ETC
0012      CTRL R  EQU X'12' ;SCROLL DOWN SCREEN
0013      CTRL S  EQU X'13' ;LEFT CHAR
0014      CTRL T  EQU X'14' ;DELETE WORD
0015      CTRL U  EQU X'15' ;INTERRUPT / STOP
0016      CTRL V  EQU X'16' ;INSERT TOGGLE
0017      CTRL W  EQU X'17' ;SCROLL DOWN LINE
0018      CTRL X  EQU X'18' ;CURSOR DOWN
0019      CTRL Y  EQU X'19' ;DELETE LINE
001A      CTRL Z  EQU X'1A' ;SCROLL UP LINE
01B      ESC     EQU X'1B' ;ESCAPE KEY
001C      CTRLBS EQU X'1C' ;^\  

001D      CTRLRB EQU X'1D' ;^]  

001E      CTRLCT EQU X'1E' ;^^  

001F      CTRLUL EQU X'1F' ;^_, CTRL-DELETE: SOME TERMINALS  

007F      RUBOUT EQU X'7F' ;DELETE KEY, ALSO CALLED "RUBOUT"

```

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; **** NO-FILE MENU DISPATCH TABLE ****

; THIS TABLE IS USED TO INTERPRET CHARACTERS ENTERED
 ; AT THE MENU WHEN NO FILE IS BEING EDITED; IT MAY
 ; BE MODIFIED TO CHANGE THE COMMAND CHARACTERS.
 ;
 ; EACH TABLE ENTRY CONSISTS OF FOUR BYTES, IN THE SAME
 ; FORMAT AS THE FILE-EDITING COMMAND DISPATCH TABLE,
 ; AS EXPLAINED ON THE NEXT PAGE.
 ; THE LAST ENTRY IS FOLLOWED BY A ZERO.
 ;

```

0430 04 00      NOFTAB: DB CTRLD,0
0432 0000*      DW SFIL##      ;EDIT FILE, DOCUMENT MODE
0434 0E 00      DB CTRLN,0
0436 0000*      DW SFILP##    ;EDIT FILE, PROGRAM MODE
0438 08 00      DB CTRLH,0
043A 0000*      DW SETHL##    ;SET HELP LEVEL
043C 18 00      DB CTRLX,0
043E 0000*      DW EXITIF##   ;EXIT TO SYSTEM
0440 10 00      DB CTRLP,0
0442 0000*      DW PFIL##      ;PRINT FILE
0444 0E 00      DB CTRLM,0
0446 0000*      DW FPFIL##    ;MERGE-PRINT FILE *1.3*
0448 19 00      DB CTRLY,0
044A 0000*      DW DELFIL##   ;DELETE FILE
044C 06 00      DB CTRLF,0
044E 0000*      DW DIRTGL##   ;DIRECTORY DISPLAY
0450 1A 00      DB CTRLZ,0
0452 0000*      DW DSCRUP##   ;SCROLL DIRECTORY UP
0454 17 00      DB CTRLW,0
0456 0000*      DW DSCRDN##   ;SCROLL DIRECTORY DOWN
0458 0C 00      DB CTRLL,0
045A 0000*      DW SELDRV##   ;SELECT CURRENT DISK DRIVE
045C 12 00      DB CTRLR,0
045E 0000*      DW XPROG##   ;EXECUTE PROGRAM *1.2*
0460 0F 00      DB CTRL0,0
0462 0000*      DW COPYF##   ;COPY FILE *1.3*
0464 05 00      DB CTRL E,0
0466 0000*      DW RENF##     ;RENAME FILE *1.3*
0468 16 00      DB CTRLV,0
046A 0000*      DW VDDT##
046C 00 00      DB 0,0      ;SPACE FOR ONE ADDITIONAL
046E 0000      DW 0      ;.. (DUPLICATE) ENTRY
0470 00 00      DB 0,0      ;SPACE FOR ANOTHER ENTRY
0472 0000      DW 0      ;..
0474 00 00      DB 0,0      ;SPACE FOR ANOTHER ENTRY
0476 0000      DW 0      ;..
0478 00 00      DB 0,0      ;SPACE FOR ANOTHER ENTRY
047A 0000      DW 0      ;..
047C 00      DB 0      ;0 MARKS END TABLE
  
```

```
; ***** FILE-EDITING COMMAND DISPATCH TABLE *****  
;  
; THIS TABLE IS USED TO INTERPRET COMMANDS INPUT  
; DURING EDITING OF A FILE. THE COMMAND CHARACTER  
; PORTION OF THE ENTRIES MAY BE ALTERED TO CHANGE  
; THE KEYS USED FOR COMMANDS.  
;  
; COMMANDS MAY BE FREELY CHANGED BETWEEN SINGLE AND  
; DOUBLE KEYSTROKES, OR TO A DIFFERENT PREFIX (FIRST KEY)  
; FOR A TWO-KEYSTROKE COMMAND. HOWEVER, THE SAME KEY  
; MAY NOT BE USED BOTH AS A SINGLE-KEY COMMAND AND AS  
; THE FIRST (PREFIX) KEY OF TWO-KEY COMMANDS.  
;  
; DUPLICATE ENTRIES ARE OK: YOU MAY ADD A NEW KEY OR  
; KEY PAIR FOR AN EXISTING FUNCTION, WITHOUT DELETING THE  
; OLD COMMAND, USING THE EXTRA SPACE PROVIDED AT THE END.  
;  
; EACH TABLE ENTRY CONSISTS OF FOUR BYTES:  
; BYTE 0: (FIRST) COMMAND CHARACTER.  
; BYTE 1: ZERO FOR ONE-KEY COMMANDS, OR SECOND  
; CHARACTER OF TWO-KEY COMMANDS.  
; BYTES 3,4: ADDRESS, DO NOT ALTER; OR,  
; IF VALUE LESS THAN 256, IT IS THE INDEX  
; (SEE WSMGS.OVR) TO A TEXT STRING  
; TO DISPLAY, FOR A "HELP" COMMAND.  
; THE LAST ENTRY IS FOLLOWED BY A ZERO.  
;  
; COMMAND CHARACTERS IN THE FIRST BYTE OF EACH  
; TABLE ENTRY SHOULD BE CONTROL CODES  
; (01-3F HEX), AS ONLY CODES NOT IN THE TABLE  
; ARE TAKEN AS TEXT TO BE ENTERED IN THE FILE.  
;  
; THE SECOND CHARACTER CAN BE ANY CHARACTER  
; EXCEPT A LOWER CASE LETTER. THE EDITOR  
; DISREGARDS BIT 1 (40 HEX) WHEN MATCHING THE  
; SECOND KEYSTROKE AGAINST THE TABLE ENTRY,  
; SO THAT CONTROL CHARACTERS AND LETTERS  
; ARE EQUIVALENT. LOWER CASE LETTERS ENTERED  
; AS THE SECOND KEYSTROKE OF A COMMAND ARE  
; CONVERTED TO UPPER BEFORE THE TABLE SEARCH.  
;  
; TABLE BEGINS ON NEXT PAGE
```

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```

;
; DEFINITIONS OF SYMBOLS USED FOR PREFIX CHARS
0011 EGPRES EQU CTRLQ ;FOR ADDL CURSOR COMMANDS
000B QPRES EQU CTRLK ;MARKER, MARKED TEXT COMMANDS
000B FILPRES EQU CTRLK ;END EDIT / FILE COMMANDS
000F MARPRES EQU CTRLQ ;FORMAT OPTIONS COMMANDS
000A HELPRES EQU CTRLJ ;ADDITIONAL HELP COMMANDS

```

```

;FILE-EDITING COMMAND DISPATCH TABLE.
;SEE COMMENTS PREVIOUS PAGE.
;SYMBOLS USED ARE DEFINED IN EQU'S
; ON PREVIOUS AND PRECEDING PAGES.

```

VTAB:

```

;SPECIAL ENTRIES FOR HELP MESSAGES FOR PREFIXES -
;THESE MUST BE FIRST;
; YOU NORMALLY WON'T WANT TO ALTER THESE.

```

```

047D 11 FF DB EGPRES,OFFH ;FF 2ND BYTE: DISPLAY..
047F 0000* DW HELPF## ;HELP FOR ^Q GROUP
0481 0B FF DB QPRES,OFFH ; .. TEXT, THEN INPUT..
0483 0000* DW HELPB## ;HELP FOR ^K GROUP
0485 0F FF DB MARPRES,OFFH ; .. SECOND KEYSTROKE.
0487 0000* DW HELPU## ;HELP FOR ^O GROUP
0489 0A FF DB HELPRES,OFFH
048B 0000* DW HELPZ## ;HELP FOR ^J GROUP
; ^P PREFIX HELP IS DISPLAYED FROM
; ^P ROUTINE - "VESC" IN WMC2.MAC.

048D 0A 08 DB HELPRES,CTRLH
048F 0000* DW SETHEL## ;SET HELP PROMPTING LEVEL

0491 13 00 DB CTRLS,0 ;SEE ALSO CLCHR BELOW.
0493 0000* DW CRB## ;CURSOR BACK CHARACTER
0495 08 00 DB CTRLH,0 ;BACKSPACE ALSO WORKS FOR..
0497 0000* DW CRB## ;CURSOR BACK CHARACTER
0499 04 00 DB CTRLD,0 ;SEE ALSO CRCHR BELOW.
049B 0000* DW CRF## ;CURSOR FWD CHAR
049D 01 00 DB CTRLA,0
049F 0000* DW CBW## ;CURSOR BACK WORD
04A1 06 00 DB CTRLF,0
04A3 0000* DW CFW## ;CURSOR FORWARD WORD
04A5 18 00 DB CTRLX,0
04A7 0000* DW CRD## ;CURSOR DOWN LINE
04A9 05 00 DB CTRLQ,0
04AB 0000* DW CRU## ;CURSOR UP LINE

```

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KEYSTROKE DISPATCH TABLES

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;EDITING COMMAND DISPATCH TABLE...

04AD	11 13	DB EGPRE,CTRLS
04AF	0000*	DW CLL## ;CURSOR LEFT EDGE SCREEN
04B1	11 04	DB EGPRE,CTRLD
04B3	0000*	DW CRR## ;CURSOR RIGHT EDGE SCREEN
04B5	11 18	DB EGPRE,CTRLX
04B7	0000*	DW CBB## ;CURSOR BOTTOM OF SCREEN
04B9	11 05	DB EGPRE,CTRLE
04BB	0000*	DW CTT## ;CURSOR TOP SCREEN
04BD	11 42	DB EGPRE,'B' ;CURSOR TO INTERNAL MARKER 1 -
04BF	0000*	DW CMAR1## ; BLOCK BEGINNING
04C1	11 4B	DB EGPRE,'K' ;CURSOR TO MARKER 2 -
04C3	0000*	DW CMAR2## ; BLOCK END
04C5	11 50	DB EGPRE,'P' ;CURSOR TO MARKER 3 - WHERE
04C7	0000*	DW CMAR3## ; LAST COMMAND BEGAN
04C9	11 56	DB EGPRE,'V' ;CURSOR TO MARKER 4 - WHERE
04CB	0000*	DW CMAR4## ; SEARCH OR MOVE BEGAN
04CD	11 30	DB EGPRE,'O' ;CURSOR TO INTERNAL MARKER 6
04CF	0000*	DW CMAR6## ; - USER PLACE MARKER 0
04D1	11 31	DB EGPRE,'1' ;CURSOR TO INTERNAL MARKER 7
04D3	0000*	DW CMAR7## ; - USER PLACE MARKER 1
04D5	11 32	DB EGPRE,'2' ;CURSOR TO INTERNAL MARKER 8
04D7	0000*	DW CMAR8## ; - USER PLACE MARKER 2
04D9	11 33	DB EGPRE,'3' ;CURSOR TO INTERNAL MARKER 9
04DB	0000*	DW CMAR9## ; - USER PLACE MARKER 3
04DD	11 34	DB EGPRE,'4' ;CURSOR TO INTERNAL MARKER 10
04DF	0000*	DW CMAR10## ; - USER PLACE MARKER 4
04E1	11 35	DB EGPRE,'5' ;CURSOR TO INTERNAL MARKER 11
04E3	0000*	DW CMAR11## ; - USER PLACE MARKER 5
04E5	11 36	DB EGPRE,'6' ;CURSOR TO INTERNAL MARKER 12
04E7	0000*	DW CMAR12## ; - USER PLACE MARKER 6
04E9	11 37	DB EGPRE,'7' ;CURSOR TO INTERNAL MARKER 13
04EB	0000*	DW CMAR13## ; - USER PLACE MARKER 7
04ED	11 38	DB EGPRE,'8' ;CURSOR TO INTERNAL MARKER 14
04EF	0000*	DW CMAR14## ; - USER PLACE MARKER 8
04F1	11 39	DB EGPRE,'9' ;CURSOR TO INTERNAL MARKER 15
04F3	0000*	DW CMAR15## ; - USER PLACE MARKER 9
04F5	11 12	DB EGPRE,CTRLR
04F7	0000*	DW BFIL## ;CURSOR TO BEGINNING OF FILE
04F9	11 03	DB EGPRE,CTRLC
04FB	0000*	DW EFIL## ;CURSOR TO END FILE

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KEYSTROKE DISPATCH TABLES

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;EDITING COMMAND DISPATCH TABLE...

```

04FD 11 06 DB EGPRES,CTRLF
04FF 0000* DW VFIND## ;FIND. ASKS FOR SEARCH TEXT.
0501 11 01 DB EGPRES,CTRLA
0503 0000* DW VSUBS## ;REPLACE. ASKS FIND?, REPLACE W?
0505 0C 00 DB CTRLLO,0 ;REPEAT LAST FIND OR REPLACE
0507 0000* DW SAGIN## ; COMMAND, WITH OLD ARGS.
0509 11 17 DB EGPRES,CTRLW
050B 0000* DW DNGO## ;START SCROLLING DOWN
050D 11 1A DB EGPRES,CTRLZ
050F 0000* DW UPGO## ;START SCROLLING UP
0511 1A 00 DB CTRLZO,0
0513 0000* DW FILU1## ;SCROLL UP LINE
0515 17 00 DB CTRLWO,0
0517 0000* DW FILD1## ;SCROLL DOWN LINE
0519 12 00 DB CTRLRO,0
051B 0000* DW FILDS## ;SCROLL DOWN SCREEN
051D 03 00 DB CTRLCO,0
051F 0000* DW FILUS## ;SCROLL UP SCREEN

0521 7F 00 DB RUBOUT,0
0523 0000* DW DELEF## ;DELETE CHARACTER LEFT
0525 1F 00 DB CTRLUL,0 ;ALTERNATE FOR CONVENIENCE ON
0527 0000* DW DELEF## ; SOME TERMINALS: CTRL-DELETE
0529 07 00 DB CTRLG,0
052B 0000* DW DERIT## ;DELETE CHARACTER RIGHT
052D 19 00 DB CTRLYO,0
052F 0000* DW DELIN## ;DELETE ENTIRE LINE
0531 11 7F DB EGPRES,RUBOUT
0533 0000* DW DBOL## ;DELETE TO BEGINNING OF LINE
0535 11 1F DB EGPRES,CTRLUL ;ALTERNATE FOR CONVENIENCE ON
0537 0000* DW DBOL## ; SOME TERMINALS: CTRL-DELETE
0539 11 19 DB EGPRES,CTRLYO
053B 0000* DW DEOL## ;DELETE TO END OF LINE
053D 14 00 DB CTRLTO,0
053F 0000* DW DELWD## ;DELETE WORD RIGHT
0541 16 00 DB CTRLVO,0
0543 0000* DW TOGL## ;COMPLEMENT INSERT TOGGLE
0545 02 00 DB CTRLBO,0
0547 0000* DW MRGNAT## ;CLOSE LINE / MARGINATE PARAGRAPH
0549 11 11 DB EGPRES,CTRLQ
054B 0000* DW IRPT## ;REPEAT NEXT COMMAND TIL STOPPED

```

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;EDITING COMMAND DISPATCH TABLE...

```

054D  0E 00      DB CTRLN,0
054F  0000*      DW INLIN## ;INSERT CRLF AFTER CURSOR
0551  09 00      DB CTRLI,0
0553  0000*      DW TABBER## ;TAB
0555  0D 00      DB CTRLM,0 ;CARRIAGE RETURN...
0557  0000*      DW CARRET## ;...MUST DISPATCH TO THIS ADDRESS
0559  10 00      DB CTRLP,0 ; ***** SEE ALSO LITCHR BELOW
055B  0000*      DW VESC## ;INSERT NEXT CHAR IN FILE EVEN IF CONTROL

055D  0B 08      DB QPRE,CTRLH
055F  0000*      DW REMAR## ;HIDE/DISPLAY MARKING OF TEXT
0561  0B 42      DB QPRE,'B' ;SET INTERNAL MARKER # 1 -
0563  0000*      DW SMAR1## ; MARK BEGINNING OF BLOCK
0565  0B 4B      DB QPRE,'K' ;SET INTERNAL MARKER # 2 -
0567  0000*      DW SMAR2## ; MARK END OF BLOCK
0569  0B 30      DB QPRE,'O' ;SET INTERNAL MARKER # 6 -
056B  0000*      DW SMAR6## ; - USER PLACE MARKER 0
056D  0B 31      DB QPRE,'1' ;SET INTERNAL MARKER # 7 -
056F  0000*      DW SMAR7## ; - USER PLACE MARKER 1
0571  0B 32      DB QPRE,'2' ;SET INTERNAL MARKER # 8 -
0573  0000*      DW SMAR8## ; - USER PLACE MARKER 2
0575  0B 33      DB QPRE,'3' ;SET INTERNAL MARKER # 9 -
0577  0000*      DW SMAR9## ; - USER PLACE MARKER 3
0579  0B 34      DB QPRE,'4' ;SET INTERNAL MARKER # 10 -
057B  0000*      DW SMAR10## ; - USER PLACE MARKER 4
057D  0B 35      DB QPRE,'5' ;SET INTERNAL MARKER # 11 -
057F  0000*      DW SMAR11## ; - USER PLACE MARKER 5
0581  0B 36      DB QPRE,'6' ;SET INTERNAL MARKER # 12 -
0583  0000*      DW SMAR12## ; - USER PLACE MARKER 6
0585  0B 37      DB QPRE,'7' ;SET INTERNAL MARKER # 13 -
0587  0000*      DW SMAR13## ; - USER PLACE MARKER 7
0589  0B 38      DB QPRE,'8' ;SET INTERNAL MARKER # 14 -
058B  0000*      DW SMAR14## ; - USER PLACE MARKER 8
058D  0B 39      DB QPRE,'9' ;SET INTERNAL MARKER # 15 -
058F  0000*      DW SMAR15## ; - USER PLACE MARKER 9
0591  0B 16      DB QPRE,CTRLV
0593  0000*      DW MOVMAR## ;MOVE MARKED TEXT
0595  0B 03      DB QPRE,CTRLC
0597  0000*      DW DUPMAR## ;COPY MARKED TEXT
0599  0B 19      DB QPRE,CTRLY
059B  0000*      DW DELMAR## ;DELETE MARKED TEXT
059D  0B 1A      DB QPRE,CTRLZ
059F  0000*      DW VDDT##
05A1  15 00      DB CTRLU,0 ;STOP CHARACTER must DISPATCH,
05A3  0000*      DW RRET## ; TO WORK IN ALL CASES.
; ***** IF YOU ALTER THIS ENTRY, ALSO ALTER THE
; BYTE AT LABEL "STPCHR" BELOW TO MATCH *****

```

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;EDITING COMMAND DISPATCH TABLE...

05A5	OB 18	DB FILPRE,CTRLX
05A7	0000*	DW UPEX## ;END EDIT AND EXIT
05A9	OB 04	DB FILPRE,CTRLD
05AB	0000*	DW UPDAT## ;DONE EDITING THIS FILE
05AD	OB 13	DB FILPRE,CTRLS
05AF	0000*	DW UPRED## ;SAVE FILE AND CONTINUE EDITING
05B1	OB 11	DB FILPRE,CTRLQ
05B3	0000*	DW ABANDN## ;ABANDON EDIT
05B5	OB 12	DB FILPRE,CTRLR
05B7	0000*	DW RFIL## ;READ ANOTHER FILE AT CURSOR
05B9	OB 17	DB FILPRE,CTRLW
05BB	0000*	DW WFIL## ;WRITE MARKED BLOCK ON FILE
05BD	OB 0A	DB FILPRE,CTRLJ
05BF	0000*	DW DELFIL## ;DELETE FILE
05C1	OB 06	DB FILPRE,CTRLF
05C3	0000*	DW DIRTGL## ;FILE DIRECTORY ON/OFF *0.95*
05C5	OB 10	DB FILPRE,CTRLP
05C7	0000*	DW PFIL## ;PRINT FILE
05C9	OB 0C	DB FILPRE,CTRLL
05CB	0000*	DW SELDRV## ;SELECT DISK DRIVE *0.94*
05CD	OB 0F	DB FILPRE,CTRLO
05CF	0000*	DW COPYF## ;COPY FILE *1.3*
05D1	OB 05	DB FILPRE,CTRLE
05D3	0000*	DW RENF## ;RENAME FILE *1.3*
05D5	OF 0C	DB MARPRE,CTRLL
05D7	0000*	DW SETLM## ;SET LEFT MARGIN
05D9	OF 12	DB MARPRE,CTRLR
05DB	0000*	DW SETRM## ;SET RIGHT MARGIN
05DD	OF 09	DB MARPRE,CTRLI
05DF	0000*	DW SETTAB## ;SET TAB STOP
05E1	OF 0E	DB MARPRE,CTRLN
05E3	0000*	DW CLRTAB## ;CLEAR TAB STOP / ALL TAB STOPS
05E5	OF 06	DB MARPRE,CTRLF
05E7	0000*	DW SETRUL## ;SET MARGINS/TABS FROM FILE LINE

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; EDITING COMMAND DISPATCH TABLE...

```

05E9 OF 17 DB MARPRE,CTRLW
05EB 0000* DW SWRAP## ;WORD WRAP TOGGLE
05ED OF 0A DB MARPRE,CTRLJ
05EF 0000* DW SJUST## ;JUSTIFY TOGGLE
05F1 OF 16 DB MARPRE,CTRLV
05F3 0000* DW SVTAB## ;VARIABLE TABS TOGGLE
05F5 OF 04 DB MARPRE,CTRLD
05F7 0000* DW SSHOWD## ;DOT COMMAND DISPLAY TOGGLE
05F9 OF 14 DB MARPRE,CTRLT
05FB 0000* DW SSHOWM## ;RULER LINE DISPLAY TOGGLE
05FD OF 10 DB MARPRE,CTRLP
05FF 0000* DW SSHOWP## ;PAGE BREAK DISPLAY TOGGLE
0601 OF 05 DB MARPRE,CTRLE
0603 0000* DW SOFHY## ;SOFT HYPHEN ENTRY ON/OFF
0605 OF 08 DB MARPRE,CTRLH
0607 0000* DW HYASK## ;HYPHEN-HELP ON/OFF
0609 OF 07 DB MARPRE,CTRLG
060B 0000* DW PARAT## ;PARAGRAPH TAB
060D OF 18 DB MARPRE,CTRLX
060F 0000* DW RELMAR## ;MARGIN RELEASE
0611 OF 03 DB MARPRE,CTRLC
0613 0000* DW CENTER## ;CENTER LINE CONTAINING CURSOR
0615 OF 13 DB MARPRE,CTRLS
0617 0000* DW SLSPAC## ;SET LINE SPACING (DOUBLE, ETC)

```

; EXPLANATION COMMANDS

```

0619 OA 04 DB HELPRE,CTRLD
061B 0000* DW DDOTS## ;EXPLAIN DOT COMMANDS
061D OA 13 DB HELPRE,CTRLS
061F 0000* DW STATX##
0621 OA 06 DB HELPRE,CTRLF
0623 0000* DW FLAGTX##
0625 OA 10 DB HELPRE,CTRLP
0627 0000* DW PLACTX##
0629 OA 02 DB HELPRE,CTRLB
062B 0000* DW REFORX##
062D OA 0D DB HELPRE,CTRLM
062F 0000* DW MARGX##
0631 OA 09 DB HELPRE,CTRLI
0633 0000* DW FINCTX## ;COMMAND INDEX / ENTERING TEXT
0635 OA 16 DB HELPRE,CTRLV
0637 0000* DW MOVTX## ;MOVING TEXT
0639 OA 12 DB HELPRE,CTRLR
063B 0000* DW RULTX## ;EXPLAIN RULER LINE. ADDED *0.93*.

```

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;EDITING COMMAND DISPATCH TABLE...

```

;
; **** EXPANSION SPACE ****
;
; REDUNDANT ENTRIES USING YOUR FAVORITE KEYS MAY
; BE ENTERED IN THE FOLLOWING SPACES IF YOU WISH TO KEEP
; THE ORIGINAL ENTRY SO THE ORIGINAL KEYS STILL OPERATE.
; IN CREATING ADDITIONAL ENTRIES, COPY THE ADDRESS
; PORTION CAREFULLY FROM THE ENTRY ABOVE FOR THE DESIRED
; FUNCTION. SEE DESCRIPTION OF ENTRY FORMAT, ABOVE.
; USE THE SPACES FROM THE FIRST ONE FORWARD, AS THE
; FIRST ENTRY WITH A ZERO IN ITS FIRST BYTE ENDS TABLE.
; ADDITIONAL "HELP" COMMANDS MAY BE ADDED BY
; PATCHING IN AN ENTRY HERE AND MODIFYING THE DISK TEXT
; FILE, WSMGS.OVR. THE THIRD BYTE IN THE ENTRY SHOULD
; BE THE INDEX (NUMBER OF BYTES) INTO THE POINTER TABLE
; AT BEGINNING OF WSMGS.OVR (SEE SAME) FOR THE ADDED
; TEXT; FOURTH BYTE SHOULD BE ZERO. MENUS CAN ALSO BE
; CHANGED BY MODIFYING WSMGS.OVR (SEE SAME).
; THE INSTALL PROGRAM MAY USE SOME OF THESE SPACES
; FOR SPECIAL CURSOR CONTROL KEYS FOR SOME TERMINALS,
; SO LOCATE A SPACE THAT IS STILL 0 IN YOUR INSTALLED
; WORDSTAR BEFORE PATCHING.
;

```

XTAB:

063D	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
063F	0000	DW 0	
0641	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
0643	0000	DW 0	
0645	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
0647	0000	DW 0	
0649	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
064B	0000	DW 0	
064D	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
064F	0000	DW 0	
0651	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
0653	0000	DW 0	
0655	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
0657	0000	DW 0	
0659	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
065B	0000	DW 0	
065D	00 00	DB 0,0	;SPACE TO PATCH IN ANOTHER ENTRY
065F	0000	DW 0	
0661	00	DB 0	;0 TO TERMINATE TABLE IF ALL ;ABOVE SPACES ARE USED

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KEYSTROKE DISPATCH TABLES

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; **** MERGE-PRINT COMMAND DISPATCH TABLE ****

;

;USED TO INTERPRET KEYSTROKES ENTERED DURING

;EXECUTION OF MERGE-PRINT.

;

;SIMILAR FORMAT TO OTHER COMMAND TABLES,

;BUT ONLY 1-CHARACTER COMMANDS ARE HANDLED.

;

FPTAB:

0662	10 00	DB CTRLP,0	
0664	0000*	DW FPAWSC##	;STOP PRINT
0666	1A 00	DB CTRLZ,0	
0668	0000*	DW DSCRUP##	;SCROLL DIRECTORY UP
066A	17 00	DB CTRLW,0	
066C	0000*	DW DSCRDN##	;SCROLL DIRECTORY DOWN
066E	16 00	DB CTRLV,0	
0670	0000*	DW VDDT##	
0672	00 00	DB 0,0	;SPACE FOR 1 MORE ENTRY
0674	0000	DW 0	
0676	00	DB 0	;0 TERMINATES TABLE

;

; POINTERS TO THE COMMAND TABLES

;

;

; THESE MUST BE CHANGED IF YOU NEED MOVE ONE OR

; MORE OF THE COMMAND TABLES, E.G. TO REARRANGE

; THE PATCHING SPACE IN ORDER TO ALLOW ADDITION

; OF MORE ENTRIES TO ONE OF THE TABLES.

;

0677	0430	PNFTAB: DW NOFTAB	; POINTER TO NO-FILE DISPATCH TABLE
0679	047D	PVTAB: DW VTAB	; POINTER TO EDITING COMMAND DISPATCH TBL
067B	0662	PFPTAB: DW FPTAB	; POINTER TO MERGE-PRINT DISPATCH TABLE
067E	00	DB 0	; BYTE RESERVED FOR EXPANSION

USER3 7/16/80 KEYSTROKE DISPATCH TABLES

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Macros:

Symbols:

ABANDN	05B3*	BFIL	04F7*	CARRET	0557*	CBB	04B7*
CBW	049F*	CENTER	0613*	CFW	04A3*	CLCHR	067EI
CLL	04AF*	CLRTAB	05E3*	CMAR1	04BF*	CMAR10	04DF*
CMAR11	04E3*	CMAR12	04E7*	CMAR13	04EB*	CMAR14	04EF*
CMAR15	04F3*	CMAR2	04C3*	CMAR3	04C7*	CMAR4	04CB*
CMAR6	04CF*	CMAR7	04D3*	CMAR8	04D7*	CMAR9	04DB*
COPYF	05CF*	CR	000D	CRB	0497*	CRCHR	067FI
CRD	04A7*	CRF	049B*	CRR	04B3*	CRU	04AB*
CTRLA	0001	CTRLB	0002	CTRLBS	001C	CTRLC	0003
CTRLCT	001E	CTRLD	0004	CTRLE	0005	CTRLF	0006
CTRLG	0007	CTRLH	0008	CTRLI	0009	CTRLJ	000A
CTRLK	000B	CTRLL	000C	CTRLM	000D	CTRLN	000E
CTRLLO	000F	CTRLP	0010	CTRLQ	0011	CTRLR	0012
CTRLPB	001D	CTRLS	0013	CTRLT	0014	CTRLU	0015
CTRLPL	001F	CTRLV	0016	CTRLW	0017	CTRLX	0018
CTRLY	0019	CTRLZ	001A	CTT	04BB*	DBOL	0537*
DDOTS	061B*	DELEF	0527*	DELFIL	05BF*	DELIN	052F*
DELMAR	059B*	DELWD	053F*	DEOL	053B*	DERIT	052B*
DIRCH	0681I	DIRTGL	05C3*	DNGO	050B*	DSCRDN	066C*
DSCRUP	0668*	DUPMAR	0597*	EFIL	04FB*	EGPRE	0011
ERELCH	0685I	ESC	001B	EXITIF	043E*	FF	000C
FDI	0517*	FILDS	051B*	FILPRE	000B	FILU1	0513*
FLLUS	051F*	FINCTX	0633*	FLAGTX	0623*	FPAWSC	0664*
FPFIL	0446*	FPTAB	0662I	HELPE	0483*	HELPE	047F*
HELPRE	000A	HELPU	0487*	HELPZ	048B*	HYASK	0607*
INLIN	054F*	IRPT	054B*	LF	000A	LITCHR	0680I
MARGX	062F*	MARPRE	000F	MOVMAR	0593*	MOVTX	0637*
MRGNAT	0547*	NOFTAB	0430I	OR4200	0000	PARAT	060B*
PFIL	05C7*	PFPTAB	067BI	PLACTX	0627*	PNFTAB	0677I
PVTAB	0679I	QPRE	000B	REFORX	062B*	RELMAR	060F*
REMAR	055F*	RENF	05D3*	RFIL	05B7*	RRET	05A3*
RUBOUT	007F	RULTX	063B*	SAGIN	0507*	SELDRV	05CB*
SHELL	048F*	SETLM	05D7*	SETRM	05DB*	SETRUL	05E7*
SLTAB	05DF*	SFIL	0432*	SFILP	0436*	SJUST	05EF*
SLSPAC	0617*	SMAR1	0563*	SMAR10	057B*	SMAR11	057F*
SMAR12	0583*	SMAR13	0587*	SMAR14	058B*	SMAR15	058F*
SMAR2	0567*	SMAR6	056B*	SMAR7	056F*	SMAR8	0573*
SMAR9	0577*	SOFHY	0603*	SSHOWD	05F7*	SSHOWM	05FB*
SSHOWP	05FF*	STATX	061F*	STPCHR	0684I	SVTAB	05F3*
SWRAP	05EB*	TAB	0009	TABBER	0553*	TBASE	0100
THEEND	068E	TOGL	0543*	UPDAT	05AB*	UPEX	05A7*
UPGO	050F*	UPRED	05AF*	VDDT	0670*	VESC	055B*
VFIND	04FF*	VSUBS	0503*	VTAB	047DI	WFIL	05BB*
XPROG	045E*	XTAB	063DI				

Fatal error(s)

USER5 7/16/80 DAISY PRINTER PATCHES MACRO-80 3.13 04-Dec-78 PAGE 1

TITLE USER5 7/16/80 DAISY PRINTER PATCHES

; FOR WordStar RELEASE 2.0 and 2.1 JULY, 1980

; THE ITEMS IN THIS FILE ARE NORMALLY USED AS ASSEMBLED
 ; OR SET BY THE INSTALL PROGRAM TO VALUES REQUIRED
 ; FOR PRINTER SELECTED. LISTING IS PROVIDED FOR UNUSUAL
 ; USER MODIFICATION REQUIREMENTS ONLY; THERE IS NORMALLY
 ; NO NEED TO REFER TO IT.

; SEE USER4.MAC FOR BASIC PRINTER ITEMS.

ENTRY DVMILE,DVMMIN,DVMRNG, DHMILE,DHMIFG,DHMIN
 ENTRY DHRNG, DFWD,DBAK, DSP,DBS,DLF,DRLF, DPHSPC,DPHRUB
 ENTRY DNPROS,DMJWB, PSTAB

0000 OR4200 EQU 0 ;SET TO -1 FOR TRS80 MODEL 1 OR HEATH89

IF OR4200

TBASE EQU 4300H ;TBASE FOR TRS80 MODEL 1 & HEATH89

ELSE

0100 TBASE EQU 100H ;WHERE PROGRAM IS LOADED FOR NORMAL CP/1
 ENDIF

0000' ASEG ;ABSOLUTE CODE, FOR USER LISTING

ORG TBASE+690H ;BEGINS AFTER END OF USER4

;ASCII CHARACTERS

0008	BS	EQU	8	;BACKSPACE
0009	TAB	EQU	9	;HORIZ TAB
000A	LF	EQU	10	;LINE FEED
000C	FF	EQU	12	;FORM FEED
000D	CR	EQU	13	;CARRIAGE RETURN
001B	ESC	EQU	27	
001E	RS	EQU	30	
001F	US	EQU	31	
007F	DEL	EQU	7FH	;DELETE OR RUBOUT

PAGE 65 ;SETS PAGE LENGTH

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; ***** FUNCTION STRINGS FOR DAISY PRINTERS *****

; ITEMS ON NEXT 2 PAGES APPLY ONLY TO DAISY PRINTERS
 ; (POSMTH=1) THAT ARE MANIPULATED WITH ESCAPE SEQUENCES.
 ; THAT IS, THOSE DAISY PRINTERS WITH SERIAL OR 8-BIT
 ; PARALLEL (CENTRONICS-LIKE) INTERFACES (CSWTCH=00,01,
 ; 02, OR 04), AS OPPOSED TO OEM INTERFACES (CSWITCH=03).
 ; FOR OEM DAISY PRINTERS SEE OEM DAISY DRIVER LISTING.

; DAISY INITIALIZE STRING: AREA "PSINIT" IN USER4
 ; IS USED. FOR EXAMPLE, FOR DIABLO 1610/1620:
 ;PSINIT: DB 5 ;LENGTH - # BYTES USED
 ; DB CR ;RET CARAGE/SET FWD PRINT
 ; DB ESC,'4' ;GRAPHICS OFF
 ; DB ESC,'B' ;BLACK RIBBON

; DAISY TERMINATE STRING: AREA "PSFINI" IN USER4
 ; IS USED. FOR EXAMPLE, FOR DIABLO 1610/20:
 ;DFINI: DB 5 ;LENGTH - # BYTES USED
 ; DB CR ;RETURN CARRIAGE / SET FWD PRINT
 ; DB ESC,'4' ;FOR 1640/50 RESTORE
 ; DB ESC,'B' ;(ESC,CR,'P') BETTER.

; VERTICAL MOTION INDEX LEADIN STRING:
 ; SEND THIS THEN BYTE TO SPECIFY # 48THS

DVMILE: DB 2
 DB ESC,RS ;1610/50/SPRINT 5
 DB 0,0

; LIMITS FOR VMI ARGUMENT BYTES:
 DVMMIN: DW 1 ;MIN VALUE (REPRESENTS 0) (1610/50/SPRINT 5)
 DVMRNG: DW 125+1 ;RANGE+1: MAX VALUE REPRESENTABLE, +1,
 ; B4 DVMMIN ADDED. DVMMIN+DVMRNG MUST BE < 256.

; HORIZONTAL MOTION INDEX LEADIN STRING:
 ; SEND THIS THEN BYTE TO SPECIFY # 60/120THS

DHMILE: DB 2
 DB ESC,US ;1610/50/SPRINT 5
 DB 0,0
 DHMIFG: DB 0 ;0 FOR 120THS, OFFH FOR 60THS
 ; APPLIES TO OEM DAISIES ALSO

; LIMITS FOR HMI ARGUMENT BYTES:
 DHMIN: DW 1 ;MIN VALUE (REPRESENTS 0) (1610/50/SPRINT 5)
 DHRNG: DW 125+1 ;RANGE+1: MAX VALUE REPRESENTABLE, +1,
 ; BEFORE DHMIN ADDED. DHMIN+DHRNG MUST BE < 256.

0790 02
 0791 1B 1E
 0793 00 00

0795 0001
 0797 007E

0799 02
 079A 1B 1F
 079C 00 00
 079E 00

079F 0001
 07A1 007E

USER5 7/16/80 DAISY PRINTER PATCHES MACRO-80 3.13 04-Dec-78 PAGE 2

;ESCAPE SEQUENCE DAISY STRINGS...

; SET FORWARD PRINT FOR DAISY

```
07A3 02 DFWD: DB 2
07A4 1B 35 DB ESC,'5' ;1610/50/SPRINT 5
07A6 00 00 DB 0,0
```

; SET BACKWARD PRINT

```
07A8 02 DBAK: DB 2
07A9 1B 36 DB ESC,'6' ;1610 ETC
07AB 00 00 DB 0,0
```

; FORWARD SPACE HMI INCREMENTS

```
07AD 01 DSP: DB 1
07AE 20 00 00 00 DB ' ',0,0,0
```

; BACKSPACE HMI INCREMENTS

```
07B2 01 DBS: DB 1
07B3 08 00 00 00 DB BS,0,0,0
```

; LINE FEED VMI INCREMENTS

```
07B7 01 DLF: DB 1
07B8 0A 00 00 00 DB LF,0,0,0
```

; REVERSE LINE FEED (UP) VMI INCREMENTS

```
07BC 02 DRLF: DB 2
07BD 1B 0A 00 00 DB ESC,LF,0,0 ;1610 ETC
```

; PRINT "PHANTOM SPACE" (CENTS SIGN) ON DAISY

```
07C1 02 DPHSPC: DB 2
07C2 1B 59 00 DB ESC,'Y',0 ;1610-50.
```

; PRINT "PHANTOM RUBOUT" ON 96-CHAR WHEELS

```
07C5 02 DPHRUB: DB 2
07C6 1B 5A 00 DB ESC,'Z',0 ;1650.
```

; RED (ALTERNATE COLOR) RIBBON FOR DAISY:

; "RIBBON" IN USER4 IS USED. FOR EXAMPLE:

```
;RIBBON: DB 2
; DB ESC,'A',0 ;1610,50, SPRINT 5
```

; BLACK (STANDARD COLOR) RIBBON.

; "RIBOFF" IN USER4 IS USED. FOR EXAMPLE:

```
;RIBBOF: DB 2
; DB ESC,'B',0 ;1610,50, SPRINT 5
```

```
07C9 00 00 00 00 DB 0,0,0,0 ;RESERVED
07CD 00 00 00 00 DB 0,0,0,0
07D1 00 00 DB 0,0
```

; ***** FLAGS FOR DAISY PRINTERS *****
 ; THESE APPLY WHEN POSMTH=1, REGARDLESS OF CSWTC.

07D3 00 DNPROS: DB 0 ;FF TO SUPPRESS ALL PROPORTIONAL
 ;SPACING, INCLUDING THE MINOR
 ;ADJUSTMENTS NORMALLY APPLIED TO
 ;PERIODS, ETC EVEN FOR "NON-
 ;PROPORTIONAL" TYPEWHEELS
 ;(EXPERIMENTAL ^P TOGGLE OFF).

07D4 00 DMJWB: DB 0 ;FF TO ALTER MICROJUSTIFY
 ;ALGORITHM TO PUT MORE EMPHASIS
 ;ON EXPANDING SPACES BETWEEN
 ;WORDS AND LESS ON SPREADING
 ;OUT CHARACTERS WITHIN LINE.

07D5 00 00 00 DB 0,0,0 ;RESERVED

; ;
 ; PROPORTIONAL SPACING TABLE - DEVELOPMENTAL
 ; ;

; BITS 4-6 ARE MODERATE ADJUSTMENTS TO APPLY
 ; TO NON-PROPORTIONAL TYPEWHEELS; VALUE IS
 ; RELATIVE WIDTH IN 60THS, SPACE=5.
 ; BITS 0-2 ARE FOR TRUE PROPORTIONAL SPACING
 ; TYPEWHEEL (THEME P.S. 10, ETC), SPACE=3.
 ; BITS 0 AND 4 ARE UNASSIGNED.
 ; ;

; TABLE BEGINS ON NEXT PAGE

USER5 7/16/80 DAISY PRINTER PATCHES MACRO-80 3.13 04-Dec-78 PAGE 4

		PSTAB: ; PROPORTIONAL SPACE TABLE: COMMENTS PREVIOUS PAGE
07D8	52	DB 052H ; PHANTOM SPACE (CENT SIGN,)
07D9	43	DB 043H ; !
07DA	44	DB 044H ; "
07DB	54	DB 054H ; #
07DC	54	DB 054H ; \$
07DD	56	DB 056H ; %
07DE	56	DB 056H ; &
07DF	32	DB 032H ; '
07E0	43	DB 043H ; (
07E1	43	DB 043H ;)
07E2	54	DB 054H ; *
07E3	54	DB 054H ; +
07E4	42	DB 042H ; ,
07E5	54	DB 054H ; -
07E6	32	DB 032H ; .
07E7	53	DB 053H ; /
07E8	54	DB 054H ; 0
07E9	54	DB 054H ; 1
07EA	54	DB 054H ; 2
07EB	54	DB 054H ; 3
07EC	54	DB 054H ; 4
07ED	54	DB 054H ; 5
07EE	54	DB 054H ; 6
07EF	54	DB 054H ; 7
07F0	54	DB 054H ; 8
07F1	54	DB 054H ; 9
07F2	43	DB 043H ; :
07F3	42	DB 042H ; ;
07F4	54	DB 054H ; <
07F5	54	DB 054H ; =
07F6	54	DB 054H ; >
07F7	54	DB 054H ; ?
07F8	56	DB 056H ; @
07F9	55	DB 055H ; A
07FA	55	DB 055H ; B
07FB	55	DB 055H ; C
07FC	56	DB 056H ; D
07FD	55	DB 055H ; E
07FE	55	DB 055H ; F
07FF	56	DB 056H ; G
0800	56	DB 056H ; H
0801	53	DB 053H ; I
0802	53	DB 053H ; J
0803	56	DB 056H ; K
0804	55	DB 055H ; L
0805	66	DB 066H ; M
0806	56	DB 056H ; N
0807	56	DB 056H ; O
0808	54	DB 054H ; P

USFR 7/16/80 DAISY PRINTER PATCHES MACRO-80 3.13 04-Dec-78 PAGE 5

0809	56	DB 056H ;Q
080A	56	DB 056H ;R
080B	54	DB 054H ;S
080C	55	DB 055H ;T
080D	56	DB 056H ;U
080E	56	DB 056H ;V
080F	67	DB 067H ;W
0810	56	DB 056H ;X
0811	56	DB 056H ;Y
0812	55	DB 055H ;Z
0813	54	DB 054H ;[
0814	56	DB 056H ;\
0815	54	DB 054H ;]
0816	56	DB 056H ;^
0817	55	DB 055H ;_
0818	54	DB 054H ;`
0819	54	DB 054H ;a
081A	54	DB 054H ;b
081B	54	DB 054H ;c
081C	54	DB 054H ;d
081D	54	DB 054H ;e
081E	53	DB 053H ;f
081F	54	DB 054H ;g
0820	54	DB 054H ;h
0821	52	DB 052H ;i
0822	52	DB 052H ;j
0823	54	DB 054H ;k
0824	52	DB 052H ;l
0825	66	DB 066H ;m
0826	54	DB 054H ;n
0827	54	DB 054H ;o
0828	54	DB 054H ;p
0829	54	DB 054H ;q
082A	53	DB 053H ;r
082B	53	DB 053H ;s
082C	53	DB 053H ;t
082D	54	DB 054H ;u
082E	54	DB 054H ;v
082F	66	DB 066H ;w
0830	54	DB 054H ;x
0831	54	DB 054H ;y
0832	54	DB 054H ;z
0833	54	DB 054H ;{
0834	56	DB 056H ;
0835	54	DB 054H ;}
0836	56	DB 056H ;~
0837	55	DB 055H ; PHANTOM RUBOUT (NOT SIGN, DOUBLE UNDERLINE).

0838 ALABEL EQU \$;ASSEMBLER PRINTS ENDING ADDRESS
END

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Macros:

Symbols:

ALABEL	0838	BS	0008	CR	000D	DBAK	07A8I
DBS	07B2I	DEL	007F	DFWD	07A3I	DHMIFG	079EI
DHMILE	0799I	DHMIN	079FI	DHRNG	07A1I	DLF	07B7I
DMJWB	07D4I	DNPROS	07D3I	DPHRUB	07C5I	DPHSPC	07C1I
DRLF	07BCI	DSP	07ADI	DVMILE	0790I	DVMMIN	0795I
DVMRNG	0797I	ESC	001B	FF	000C	LF	000A
OR4200	0000	PSTAB	07D8I	RS	001E	TAB	0009
TBASE	0100	US	001F				

No Fatal error(s)

POEM 07/16 /80 OEM DAISY PRINTDRIVER MACRO-80 3.13 04-Dec-78 PAGE 2

```

;
; ** OEM PARALLEL DAISY WHEEL PRINTER DRIVER **
;
; CALLED ONLY IF CSWITCH=3. IF USED, HAVBSY SHOULD
; BE FF. POSMTH IS ASSUMED 1 IF CSWITCH IS 3.
; THESE PRINTERS USE 3 PORTS AND AN ENTIRELY
; DIFFERENT INTERFACE THAN ANY OF THE OTHER PRINTERS
; SUPPORTED FOR BY WORDSTAR.
; THUS, THIS DRIVER HAS DIFFERENT ENTRY POINTS THAN THE
; OTHER PRINTER DRIVERS; NONE OF THE USUAL PATCH STRINGS
; ARE USED; EVERYTHING IS DONE VIA ENTRIES ON THIS PAGE.
; ALL OF THESE ENTRIES RETURN CY=1 IF THE PRINTER IS
; BUSY; CALLER RECALLS (EDITING BETWEEN CALLS IF A FILE
; IS BEING EDITED) UNTIL CY=0 IS RETURNED.
;
; OEM DAISY DRIVER IS READ IN FROM OVERLAY FILE 1
; WHEN NEEDED. LOCATIONS AT WHICH CODE APPEARS IN OVERLAY
; FILE ARE NOT THE LOCATIONS IT RUNS AT. LOCATIONS SHOWN
; IN LISTING ARE EXECUTION LOCATIONS; LOCATIONS IN OVERLAY
; FILE ARE DIFFERENT.
;
OEMINI: ; ENTRY TO INIT OEM PRINTER
        JMP OINI
OEMFIN: ; ENTRY TO CLOSE OEM PRINTER
        JMP OFIN
OEMVER: ; ENTRY TO SPACE VERTICALLY (DE) 48THS.
        ; B=FF TO MOVE UP, 0 TO MOVE DOWN.
        JMP OVER
OEMHOR: ; ENTRY TO MOVE HORIZONTALLY (DE) 60THS.
        ; FOR 120THS (DHMIFG=0) LO BIT IN C.
        ; B=FF TO MOVE LEFT, 0 TO MOVE RIGHT.
        JMP OHOR
OEMSND: ; ENTRY POINT TO PRINT CHAR (A)
        JMP OSND
OEMRIB: ; ENTRY TO SET RIBBON COLOR
        ; A=0 FOR BLANK, FF FOR RED.
        JMP ORIB
        DB 0,0,0 ;RESERVED

;DHMIFG (USER5.MAC) SHOULD BE FF FOR HORIZ MOTION
; IN 60THS, 0 FOR 120THS.
OEMLIM: DW 1023 ;MAXIMUM NUMBER OF 48THS OR 60THS PRINTED
        ; CAN MOVE IN ONE OPERATION (LIMIT ON DE
        ; ARGUMENT TO OEMHOR, OEMVER)
OEMWID: DW 132*12 ;CARRIAGE WIDTH IN 120THS
OEMPAG: DW 66*8 ;PAGE LENGTH (48THS) FOR FORM FEEDS,
        ; APPLIES IF "USE FORM FEEDS" SPECIFIED.
        DW 0,0 ;RESERVED

```

```

3E20    C3 3E45
3E23    C3 3E3F
3E26    C3 3E4F
3E29    C3 3E5A
E2C     C3 3E63
3E2F    C3 3E49
3E32    00 00 00
3E35    03FF
3E37    0630
3E39    0210
3E3B    0000 0000

```

OEM 07/16 /80 OEM DAISY PRINTDRIVER MACRO-80 3.13 04-Dec-78 PAGE 3

;OEM DAISY DRIVER...

```

;THE OEM DRIVER AS CODED HERE DRIVES A DIABLO OR
;DIABLO-COMPATIBLE "OEM" DAISY PRINTER:
;   NEC SPINWRITER 5500
;   QUME SPRINT 3
;   DIABLO HY-TYPE II 1345, 1355, 1355WP
;THRU THE MICROPRO "I/O MASTER" INTERFACE ADDRESSED AT
;   PORTS F8-FA AND MICROPRO PRINTER CABLE
;   (OR IMSAI PIO-4 BOARD AND THE IMSAI CABLE, WITH
;   A CONDUCTOR ADDED FOR THE "DATA 1/2" BIT).
;
;TO DRIVE DIABLO 1200 HY-TYPE I, WITH THE SAME INTERFACE
;   BOARD AND CABLING, PATCH "DHMIFG" IN USER5.MAC TO FF.
;IF NO CONDUCTOR IS PRESENT IN THE CABLE FOR THE
;   "DATA 1/2" BIT, PATCH "DHMIFG" IN USER5 TO FF.

;USER MAY RECODE THIS DRIVER FOR A DIFFERENT INTERFACE,
;CABLE, OR (OEM-TYPE DAISY) PRINTER, AS DESIRED.

```

;EQUATES FOR OEM DAISY DRIVER

; PORTS

```

DATA1 EQU 0F8H ;LO ORDER DATA LINES PORT
DATAH EQU 0F9H ;HI ORDER DATA LINES PORT
CMAND EQU 0FAH ;COMMAND PORT
STATS EQU 0F8H ;STATUS PORT

```

; COMMAND BITS

```

RESTR EQU 1 ;RESTORE CARRIAGE
CHSTB EQU 2 ;CHARACTER STROBE
XSTB EQU 4 ;CARRIAGE STROBE
YSTB EQU 8 ;PAPER FEED STROBE
SELPR EQU 16 ;SELECT PRINTER
SELRY EQU 32 ;SELECT READY
RBLFT EQU 64 ;RIBBON LIFT
CMASK EQU 0FFH-SELPR-RBLFT
;COMMAND MASK

```

; STATUS BITS

```

CHECK EQU 2 ;CHECK
CHRDY EQU 8 ;CHARACTER READY
XRDY EQU 16 ;CARRIAGE READY
YRDY EQU 32 ;PAPER FEED READY

```

; DATA BITS

```

SIGN EQU 4 ;NEGATIVE MOTION BIT
; IN HIGH DATA BYTE
HALF EQU 8 ;"DATA 1/2" BIT USED
; FOR 120THS

```

POEM 07/16 /80 OEM DAISY PRINTDRIVER MACRO-80 3.13 04-Dec-78 PAGE 4

```

;OEM DAISY DRIVER...
;ROUTINES FOR THE VARIOUS ENTRIES
;
; FINISH (CLOSE): CALLED AFTER PRINT COMPLETE
;
OFIN:
; WAIT FOR READY BEFORE FINAL RESTORE
3E3F 06 38 MVI B,YRDY+XRDY+CHRDY
3E41 CD 3E79 CALL STATUS
3E44 D8 RC ;IF BUSY RET CY TO CALLER
; REST IS SAME AS INIT, FALL THRU.
;
; INITIALIZE OEM DAISY
;
3E45 CD 3E8D OINI: CALL RESTOR ;DO A "RESTORE" OPERATION
3E48 AF XRA A ;AND FALL THRU TO ORIB TO
;SET NORMAL RIBBON COLOR.
;
; RIBBON COLOR ROUTINE
;
ORIB: ;A=0 FOR NORMAL RIBBON COLOR, FF
;FOR ALTERNATE (RED, STENCIL, ETC
;DEPENDING ON RIBBON FITTED).
3E49 E6 40 ANI RBLFT ;MASK BIT OF INTEREST
3E4B 32 3EA9 STA RIBCOL ;SAVE FOR USE IN
3E4E C9 RET ;..LATER COMMANDS
;
; VERTICAL MOTION ROUTINE
;
OVER: ;AT ENTRY # 48THS TO MOVE IS IN DE,
;B IS OFFH TO MOVE UP, 0 TO MOVE DOWN.
3E4F 0E 00 MVI C,0 ;NO "DATA 1/2" BIT
3E51 CD 3E96 CALL MOARG ;FORMAT DATA, PUT
;ON DATA LINES
3E54 01 20A7 LXI B,YRDY*256+CMASK-YSTB
3E57 C3 3E69 JMP COMAN ;OUTPUT COMMAND,
;OR RETURN CY=1 IF
;NOT READY
;
; HORIZONTAL MOTION ROUTINE
;
OHOR: ;AT ENTRY # 60THS TO MOVE IS IN DE,
;C IS LO ORDER FOR 120THS MOTION,
; 0 FOR 60THS MOTION,
; B IS OFFH TO MOVE LEFT, 0 RIGHT.
3E5A CD 3E96 CALL MOARG ;FORMAT DATA (BCDE),
;PUT ON DATA LINES
3E5D 01 10AB LXI B,XRDY*256+CMASK-YSTB
3E60 C3 3E69 JMP COMAN ;OUTPUT COMMAND,
;OR RETURN CY=1 IF
;NOT READY

```

;OEM DAISY DRIVER...

;ROUTINES FOR ITS VARIOUS ENTRIES...

;
; PRINT CHARACTER ROUTINE. DOES NOT MOVE CARRIAGE.

;
OSND: ;SEND CHARACTER (A)

3E63 2F
3E64 D3 F8
3E66 01 08AD

CMA ;COMPLEMENT FOR TRUE-LOW
OUT DATAL ;PUT ON DATA LINES
LXI B,CHRDY*256+CMASK-CHSTB
; FALL INTO COMAN TO PRINT CHAR, OR
; RETURN CY=1 TO CALLER IF NOT READY

OEM 07/16 /80 OEM DAISY PRINTDRIVER MACRO-80 3.13 04-Dec-78 PAGE 6

; SUBROUTINES FOR OEM DAISY DRIVER

;NB FALL THRU

```

; TEST WHETHER PRINTER IS READY FOR
; CHARACTER, CARRIAGE, OR PAPER MOTION
; PER STATUS BIT (B), RETURN CY=1 IF NOT,
; ISSUE COMMAND (C) IF SO.

```

COMAN:

```

; CHECK STATUS
3E69      CD 3E79      CALL STATUS      ;DO STATUS TEST (B),
3E6C      D8          RC          ;RETURN CY IF BUSY.
;ISSUE COMMAND. RIBBON LIFT BIT FALSE (HIGH)
; IF ALTERNATE RIBBON COLOR IN USE.
3E6D      3A 3EA9     LDA RIBCOL ;0 NORMAL, RBLFT ALTERNATE
3E70      B1          ORA C      ;COMBINE WITH CALLER'S CMD
3E71      D3 FA      OUT CMAND   ;OUTPUT IT
;RESET LINES HIGH, EXCEPT RIBBON LIFT PRESERVED.
3E73      A9          XRA C      ;REMOVE CALLER'S CMD:
;GET RIBBON LIFT BIT AGAIN
3E74      F6 AF      ORI CMASK  ;BASIC COMMAND MASK; CLEAR CY
3E76      D3 FA      OUT CMAND
3E78      C9          RET          ;CY=0

```

```

; TEST WHETHER PRINTER IS READY FOR CHARACTER,
; CARRIAGE, OR PAPER MOTION PER STATUS BITS
; (ACTIVE LOW) IN B. RETURN CY=1 IF NOT.

```

STATUS:

```

; GET STATUS
3E79      3A 3EA9     LDA RIBCOL      ;RIBBON LIFT BIT
3E7C      F6 8F      ORI CMASK-SELRY
3E7E      D3 FA      OUT CMAND   ;REQUEST STATUS
3E80      DB F8      IN STATS    ;GET STATUS
;RESTORE IF "CHECK" STATUS BIT ON (LOW)
3E82      F5          PUSH PSW
3E83      E6 02      ANI CHECK
3E85      CC 3E8D     CZ RESTOR
3E88      F1          POP PSW      ;STATUS
;RETURN CY=1 IF READY BIT SPEC'D BY CALLER
; IN B IS OFF (HIGH)
3E89      A0          ANA B
3E8A      C8          RZ          ;IF BIT LOW, RETURN CY=0
3E8B      37          STC          ;ELSE MUST BE HIGH,
3E8C      C9          RET          ;SO RETURN CY=1.

```

```

;OEM DAISY DRIVER...
;SUBROUTINES...
    
```

```

; ISSUE A "RESTORE" COMMAND: INITS PRINTER,
; ALSO USED FOR ERROR RECOVERY ("CHECK"
; CONDITION RETURNED BY PRINTER).
    
```

```

3E8D 3E AE RESTOR: MVI A,CMASK-RESTR
3E8F D3 FA OUT CMAND
3E91 3E AF MVI A,CMASK
3E93 D3 FA OUT CMAND
3E95 C9 RET
    
```

```

; FORMAT MOTION ARGUMENT TO DE:
; INSERT "DATA 1/2" BIT FROM C,
; DIRECTION BIT FROM B,
; COMPLEMENT DE FOR TRUE-LOW.
; AND PUT ON DATA LINES.
    
```

MOARG:

```

; COMBINE SIGN AND LO ORDER
3E96 78 MOV A,B ;FF FOR "NEGATIVE"
3E97 E6 04 ANI SIGN ;ISOLATE DESIRED BIT
9 B2 ORA D ;COMBINE WITH DATA
3E9A 0C INR C ;TEST C FOR NON-ZERO
3E9B 0D DCR C ;..WITHOUT CHANGING A
3E9C .CA 3EA1 JZ $+5 ;JIF NO "1/2" BIT
3E9F F6 08 ORI HALF ;"HALF" BIT
;HI ORDER DATA LINES BYTE IS IN A
    
```

```

; PUT ON DATA LINES
3EA1 2F CMA ;LINES ARE TRUE-LOW
3EA2 D3 F9 OUT DATAH
3EA4 7B MOV A,E
3EA5 2F CMA
3EA8 D3 F8 OUT DATAL
C9 RET
    
```

;VARIABLE FOR OEM DAISY DRIVER

```

3EA9 00 RIBCOL: DB 0 ;RIBBON COLOR: 0 NORMAL,
;BIT "RBLFT" ON FOR ALT COLOR
    
```

;SPACE RESERVED FOR EXPANSION OR PATCHES:

```

3EAA 00 00 00 DB 0,0,0
3EAD 00 00 00 00 DB 0,0,0,0, 0,0,0,0
3EB1 00 00 00 00
3EB5 00 00 00 00 DB 0,0,0,0, 0,0,0,0
3EB9 00 00 00 00
    
```

```

TITLE WSMSGs 07/29/80 *2.0* WORDSTAR DISK TEXTS (WSMSGs.OVR)
; ASSEMBLED AND LOADED SEPARATELY.
; FOR WordStar RELEASE 2.0 and 2.1 JULY, 1980
;
; ASSEMBLY PARAMETERS RELATING TO CUSTOMIZATION - FOR USER AND MICROPRO USE
;
; TBASE - WHERE PROGRAMS LOAD UNDER CP/M - 100H EXCEPT IN SPECIAL VERSIONS
; FOR COMPUTERS WITH MEMORY AT LOW ADDRESSES DEDICATED TO OTHER PURPOSES,
; SUCH AS THE TRS-80 MOD 1 OR THE HEATH H-9 (CP/M IS A TRADEMARK OF DIGITAL RESEARCH).
; TWO TBASE'S ARE DEFINED:
; TBASE1 MUST MATCH SYSTEM IN WHICH WORDSTAR WILL RUN.
; TBASE2 MUST MATCH SYSTEM IN WHICH WSMSGs IS LOADED, IF DIFFERENT.

TBASE1 EQU 100H ;TBASE FOR TARGET SYSTEM. DETERMINES BOOT (LOCATION
; TO JMP TO TO EXIT A PROGRAM) AND ADDRESS AT WHICH
; MESSAGE CODE (THIS FILE) EXPECTS WORDSTAR'S ABSOLUTE-
; LOCATION FLAGS TO BE.

TBASE2 EQU 100H ;TBASE FOR DEVELOPMENT SYSTEM - SAME AS TBASE1 UNLESS
; WSMSGs IS TO BE LOADED ON A DIFFERENT SYSTEM THAN IT
; IS TO BE RUN ON. DETERMINES ORIGIN AT WHICH LOADER
; LOADS THIS FILE, ONLY.

BOOT EQU TBASE1-100H ;JMP ADDRESS TO REBOOT OPERATING SYSTEM.

; WIDE AND NARROW SCREEN SUPPORT.
; WSMSGs USUALLY CONTAINS TWO COPIES OF MANY MENUS: ONE FOR NARROW SCREENS,
; ONE FOR WIDE SCREENS. BY CHANGING THE FOLLOWING PARAMATERS, THE USER MAY
; GENERATE A SHORTER WSMSGs.OVR FILE CONTAINING ONLY THE MESSAGES NEEDED
; FOR HIS SCREEN WIDTH.
; VERSIONS OF WORDSTAR RELEASED FOR SPECIFIC SYSTEMS MAY ALREADY HAVE THE
; MESSAGES FOR THE UNNEEDED SCREEN WIDTH REMOVED.

WIDE EQU -1 ;-1 TO INCLUDE TEXTS FOR SCREENS 80 OR MORE COLUMNS
; WIDE, 0 TO OMIT.
NARROW EQU -1 ;-1 TO INCLUDE TEXTS FOR SCREENS 64 TO 79 COLUMNS WIDE,
; 0 TO OMIT.
PAGE 48 ;NEW PAGE, SET ASSEMBLY LISTING PAGE LENGTH

```

```
; ASSEMBLY PARAMETERS RELATING TO FEATURES TO INCLUDE - FOR MICROPRO USE
;
BOOBEY EQU 0 ;INCLUDE INTERNAL ERROR MSG TEXTS ETPHOL ETC
ZEBOOB EQU 0 ;INCLUDE INTERNAL ERROR MSG TEXT ETZCLB
;
; ABSOLUTELY ADDRESSED VARIABLES IN WS.COM
;
ABSBAS EQU TBASE1+120H ;MUST MATCH "WSMSGSGS COMMUNICATION AREA" IN FIRST.MAC.
;
; CHANGED FROM 210 TO 220 *.945B*
;
; OPTIONS SETTABLE BY COMMAND, SETTING DISPLAYS IN CONTROL-O MENU:
WRAPF EQU ABSBAS ;NON-ZERO FOR WORD WRAP
JUSTF EQU WRAPF+1 ;NON-ZERO FOR RIGHT-JUSTIFICATION
VTABF EQU JUSTF+1 ;NON-ZERO FOR VARIABLE TABS
SHYPF EQU VTABF+1 ;NON-ZERO FOR SOFT HYPHEN ENTRY *** INSERTED *1.18*
HYPF EQU SHYPF+1 ;NON-ZERO FOR HYPHENATE-HELP
SHOWDF EQU HYPF+1 ;NON-ZERO TO DISPLAY PRINT CONTROLS & SOFT -'S *1.18*
SHOWMF EQU SHOWDF+1 ;NON-ZERO TO DISPLAY TABS/MARGINS RULER
;ONE VARIABLE HERE NOT ACCESSED (PAGON).
PAGDIS EQU SHOWMF+2 ;NON-ZERO FOR PAGE BREAK DISPLAY
;VARIABLE HERE NOT ACCESSED (LSPACE).
;BYTE RESERVED FOR EXPANSION HERE.
;
; DIRECTORY DISPLAY FLAG:
DISDIR EQU PAGDIS+3 ;NON-ZERO IF FILE DIRECTORY DISPLAYED
;
;
EQU 0 ;USED TO IF OUT OBSOLETE CODE
;
; ASCII CHARACTERS
TAB EQU X'09'
CR EQU X'0D'
LF EQU X'0A'
FF EQU X'0C'
```

```

ASEG      ;SAY ABSOLUTE CODE
ORG TBASE2 ;SAY BEGIN AT BASE OF PROGRAM AREA

JMP BOOT  ;IF INVOKED AS A PROGRAM, REBOOT SYSTEM TO EXIT:
           ; THIS FILE SHOULD NOT BE INVOKED AS A PROGRAM.

```

```

;
; COPYRIGHT. DO NOT ALTER, OR THE BOOGEY MAN WILL GET YOU.
; DISPLAYS IF FILE IS TYPED OR DUMPED. LENGTH MUST BE CORRECT.
; ;103H
DB ' COPYRIGHT(C) 1980 MICROPRO INTERNATIONAL, '
DB ' SAN RAFAEL, CALIFORNIA, USA. '
DB ' ALL RIGHTS RESERVED. ' ;KEEP LEN CONSTANT W/BLANKS
;LOCATION 160H
      PAGE ;GO TO NEW ASSEMBLY LISTING PAGE
;LOCATION 160H

```

```

;
; VERSION AS TEXT
;160H      KEEP LENGTH CONSTANT WITH BLANKS AT END
VERTXT: DB ' WordStar 2.1 Message Texts '
;17DH
DB CR,LF,1AH ;CTRL-Z AT END SO CAN "TYPE" COM FILE TO SEE VERSION
;180H

```

;LOCATION IS NOW 180H, BEGINNING OF SECOND SECTOR.

POINTER TABLE TO MESSAGE TEXTS.

WS.COM READS THIS TABLE FROM SECTORS 1 - 3 OF WSMSGs.OVR
 AND USES POINTERS TO ACCESS MSG TEXTS.
 TABLE MUST BE AT LOCATION 180H AND HAVE LENGTH 384.
 TABLE ENTRIES MUST BE IN CORRECT ORDER.
 TABLE BEGINS WITH VERSION NUMBER; POINTERS START ON NEXT PAGE.

DW 15 ;VERSION IN BINARY: WS VERIFIES THAT THIS MATCHES MSGVER
 ; (LOCATION 10E) IN WS.COM.
 ;CHANGE WHEN A CONSEQUENTIAL AND INCOMPATIBLE CHANGE IS MADE.
 ; VERSION HISTORY INCLUDES:
 ;15 *2.0* 1-5/1980 TXITHL ADDED; "HIT" -> "PRESS"; MANY
 ; CHANGES & ADDITIONS RE RAM TEXT FORMAT CHANGE;
 ; COPY, RENAME, AND MERGE-PRINT MESSAGES;
 ; POINTER TABLE AT BEGINNING EXTENDED TO 3 SCTRS;
 ; RENAMED TO WSMSGs.OVR DUE TO INCOMPATIBILITY;
 ; SOFT HYPHENATION; DON'T DISPLAY CONTROLS; ^QZ, ^QW;
 ; SHYFF FLAG INSERTED; NO-FILE MENU LETTERS CHANGED;
 ; RUN PROGRAM MESSAGES; OVERLAY-RELATED MESSAGES.
 ;7 *1.0* 10-12/79 ABSVAR MOVED; DISDIR ADDED;
 ; ADDED: STPRM1, TXWEPS, TSWPES, TSFIPS, TXFIPB,
 ; TXNAFO, TXEBAK, SEDTX1,2,3, ETZCLB,
 ; ETMMER, ETADD2, PPDFTX;
 ; REVISIONS FOR OPERATION ON 16-LINE SCREENS;
 ; MENUS REVISED RE DIRECTORY.
 ;2 *.93* 9/1979 RULTX, WRAPTX, ENTTX REMOVED
 ;1 ORIGINAL VERSION

; COMPUTE FUDGE FACTOR SO FOLLOWING POINTERS WILL ASSEMBLE AS THOUGH
 ; TBASE=100H EVEN IF TBASE2 IS CHANGED. NEEDED BECAUSE WS.COM ASSUMES
 ; WSMSGs.OVR LOADED AT 100H.

EQU TBASE2-100H ;NORMALLY ZERO, TAKES ON APPROPRIATE VALUE
 ; IF USER ALTERS TBASE2 (SEE PAGE 1).

```

; MESSAGE POINTER TABLE

    DW BADVTX-F      ;BAD VERSION TEXT *** DO NOT MOVE *** IMPEMETED 0.906;
                    ;IF AN OLDER WSMSGs IS USED, SPARE-BUG MSG WILL DISPLAY
    DW SPARE-F      ;SPARE ENTRY, FOR POSSIBLE FUTURE INSERTION
; MENU TEXTS, ACCESSED FROM COMMAND TABLE (USER2)
    DW HENNOF-F     ;NO-FILE MENU, NARROW
    DW HEWNOF-F     ; .. WIDE
    DW HEN1-F       ;MAIN MENU (1-CTRL-CHAR EDIT CMDS), NARROW
    DW HEW1-F       ; .. WIDE
    DW HENF-F       ; ^Q PREFIX COMMANDS MENU, NARROW
    DW HEWF-F       ; .. WIDE
    DW HENB-F       ; ^K PREFIX MENU, NARROW
    DW HEWB-F       ; .. WIDE
    DW HENQ-F       ; ^P PREFIX MENU, NARROW (WMC2)
    DW HEWQ-F       ; .. WIDE
    DW HENU-F       ; ^O PREFIX MENU, NARROW
    DW HEWU-F       ; .. WIDE
    DW HENZ-F       ; ^J PREFIX MENU, NARROW
    DW HEWZ-F       ; .. WIDE
    DW TXQM-F       ;MENU OF SPECIAL CHARS DISPLAYED DURING ?-QUESTIONS
; MISCELLANEOUS TEXTS
    DW TXHYH-F     ;HYPHENATION-HELP MESSAGE
    DW PPAUSM-F    ;PRINTER PAUSE TEXT (STALIN.MAC)
    DW AFSAVM-F    ;AFTER-SAVE TEXT (WMV1.MAC)
    DW TXDFW-F     ;DISK FULL WARNING (DIO.MAC)
    DW OPMENU-F    ;SEARCH/SUBS OPTIONS MENU (WMC5.MAC)
    DW PPDFTX-F    ;"PRINT PAUSED BECAUSE DISK IS FULL" (PRINT2.MAC)
; TEXTS USED IN VARIOUS COMMANDS
    DW SEDTX1-F    ;SELECT DISK, PART 1
    DW SEDTX2-F    ;SELECT DISK, PART 2
    DW SEDTX3-F    ;SELECT DISK, PART 3
    DW HELTX1-F    ;HELP COMMAND (^JH) SCREEN DISPLAY, PART 1
    DW HELTX2-F    ; .. PART 2                (WMC6.MAC)
    DW HELTX3-F    ; .. PART 3
    DW NDOCTX-F    ;NON-DOCUMENT EDIT COMMAND (N) TEXT
    DW DOCTX-F     ;DOCUMENT EDIT COMMAND (D) TEXT
    DW FILTX-F     ;FILE NAME EXPLANATION FOR N, D COMMANDS
    DW FINPTX-F    ;"FINISHING PRINT BEFORE EXIT"
    DW ABUNTX-F    ;" ABANDONING UNCHANGED " FILE TEXT
    DW ABCHTX-F    ;" ABANDON CHANGED " FILE TEXT
    ; SEE ALSO TXEBAK, TXWEPS, TXFIPS, TXFIPB, ADDED AT END
; TEXTS USED IN ASKPRN.MAC: PRINT DIALOG.
    DW TXNAFP-F    ;"NAME OF FILE TO PRINT?" (FORMERLY CEFPTX)
    DW STPRM1-F    ;STOP PRINT QUESTION PART 1 (EDITING ONLY)
    DW STPRM-F     ;STOP PRINT QUESTION TEXT PART 2
    DW POPHED-F    ;PRINT OPTIONS HEADING
    DW SPQTX-F     ; PRINT OPTIONS QUESTIONS TEXTS
    DW DFOQTX-F    ; ..
    DW UFFQTX-F    ; ..
    DW SPFQTX-F    ; ..
    DW PBPQTX-F    ; ..
    DW RPTXT-F     ;..
    DW TOOLPE-F    ;TOO LITTLE MEMORY TO PRINT AND EDIT (PFIL.MAC)
    DW TOOLEP-F    ;TOO LITTLE MEMORY TO EDIT AND PRINT

```

DW STPQTX-F ;"STOP AFTER PAGE NUMBER?" (CPFETX WAS ONCE HERE)
 DW TXNAFO-F ;"NAME OF DISK OUTPUT FILE? "
 DW NCOPTX-F ;"NUMBER OF COPIES (RETURN for 1)?" (WAS SETRTX)
 ; SEE ALSO TXWPES, ADDED AT END.

; MISCELLANEOUS

DW SPARE-F ;SPARE, WAS NIYETX "NOT IMPLEMENTED YET".
 DW SPARE-F ;SPARE, WAS SHODTX -- DISPLAY DOT COMMANDS MSG
 DW SHOWPT-F ; PAGE BREAK DISPLAY COMMAND (UNDER N)
 DW SPARE-F ;SPARE ENTRY, FOR POSSIBLE FUTURE INSERTION
 DW TXRPTP-F ; "TYPE 1-9 FOR SPEED, SPACE TO STOP" -- WMV1.MAC

TEXT USED IN WMC9.MAC

DW WLLWMS-F ;WMC9: WORD TOO LONG WARNING
 DW SPARE-F,SPARE-F ;SPARE ENTRIES, FOR POSSIBLE FUTURE INSERTION

ERROR MESSAGE TEXTS, DISK PORTION. SEE ALSO "MORE ERROR MESSAGES" BELOW.

DW ETPMNS-F
 DW ETBBNM-F
 DW ETBENM-F
 DW ETEB4B-F
 DW ETBT00-F
 DW ETFXIS-F
 DW ETDFUL-F
 DW ETCOPY-F
 DW ETADDR-F
 DW ETMFUL-F
 DW ETMSHT-F
 DW ETPTFR-F

IF BOOBEY

DW ETPHOL-F

ELSE

DW SPARE-F

ENDIF

DW ETNEM-F ;NOT ENUF MEMORY TO START WORDSTAR

DW ETDIRF-F

DW ETCLS-F

DW ETREN-F

DW ETBSS-F ;INVALID SCREEN SIZE

DW ERERR-F ;UNASSIGNED ERROR NUMBER

DW SPARE-F ;SPARE ENTRY, FOR POSSIBLE FUTURE INSERTION

WARNING MESSAGES, OTHERS ABOVE.

DW TXPABF-F ;"PUT AT BEGINNING FILE FOR CORRECT PAGE DISPLAY"

DW SSWTX-F ;SCREEN SIZE WARNING

MESSAGE DISPLAYED ONCE ONLY AT START OF EDIT AT HELP LEVEL 1 OR 2,
 TO SAY HOW TO GET THE MAIN MENU.

DW TXITHL-F ;"TYPE ^JH3 FOR FULL MENU DISPLAY", ETC.

TEXTS FOR ADDITIONAL HELP COMMANDS

DW DOTX-F ;DOT COMMAND EXPLANATIONS (4 FRAMES)

DW STATX-F ;STATUS LINE

DW FLAGTX-F ;FLAG CHARACTERS

DW PLACTX-F ;PLACE MARKERS

DW RULTX-F ;RULER LINE

DW REFORX-F ;PARAGRAPH REFORM / WORD WRAP

DW MARGX-F ;SETTING MARGINS

DW MOVTX-F ;MOVING TEXT

DW SPARE-F ;SPARE ENTRY

DW FINCTX-F ;COMMAND INDEX / ENTERING TEXT / WORD WRAP

DW SPARE-F ;SPARE ENTRY, FOR POSSIBLE FUTURE INSERTION

```

    DW SPARE-F      ;SPARE ENTRY, FOR POSSIBLE FUTURE INSERTION
    DW SPARE-F      ;SPARE ENTRY, FOR POSSIBLE FUTURE INSERTION
; MORE ERROR MESSAGES
    IF ZEBOOB
        DW ETZCLB-F
    ELSE
        DW SPARE-F
    ENDIF
    IF BOOBIEY
        DW ETMMER-F
        DW ETADD2-F
    ELSE
        DW SPARE-F,SPARE-F
    ENDIF
; SEE ALSO "OVERLAY ERROR MESSAGES" BELOW
; MORE TEXTS USED IN INITIATE EDIT COMMANDS
    DW TXFFPF-F      ;"FINISH MERGE PRINT FIRST, THEN EDIT"
    DW TXEBAK-F      ;"CAN'T EDIT .$$$ AND .BAK FILES" (INIT.MAC)
    DW TXFIPS-F      ;"FINISHING PRINT OF SAME FILE BEFORE SAVE"
    DW TXFIPB-F      ;"FINISHING PRINT OF .BAK FILE BEFORE SAVE"
    DW TXWEPS-F      ;"WARNING: EDITING FILE THAT IS BEING PRINTED"
; MORE TEXTS USED IN ASKPRN.MAC
    DW TXWPES-F      ;"WARNING: PRINTING FILE THAT IS BEING EDITED"
    DW SPARE-F
; FILE NAME ENTRY ERRORS
    DW TXBFN-F      ;"INVALID FILE NAME: " (PROGRAM THEN DISPLAYS INPUT)
    DW TXBFN2-F      ;SPACE, CR, LF: REST OF INVALID FILE NAME MESSAGE
    DW TXNF-F        ;FILE XXXX NOT FOUND (OPNSUB SETS NFFCB)
; OVERLAY-RELATED ERROR MESSAGES
    DW ETBOVN-F      ;BAD OVERLAY NUMBER
    DW SPARE-F      ;FORMERLY ETBOVB: BAD OVLY BUF # (FLAGGED IN OBUFZS)
    DW ETBOVF-F      ;EOF WHILE READING OVERLAY FILE
    DW ETBOV1-F      ;BAD OVERLAY (MAGIC # AT BEGINNING)
    DW ETBOV2-F      ;BADLY TERMINATED OVERLAY (MAGIC # AT END)
    DW ETOV2L-F      ;OVERLAY TOO LONG FOR BUFFER
    DW ETBOVV-F      ;BAD VERSION # IN OVERLAY
    DW ETBOVL-F      ;OVERLAY LINKED FOR WRONG VERSION OF WS
    DW ETBONO-F      ;BAD OVERLAY (OVERLAY # IN OVERLAY DOES NOT MATCH)
    DW SPARE-F
    DW ETONF1-F      ;OVERLAY FILE #1 NOT FOUND
    DW ETONF2-F      ;OVERLAY FILE #2 NOT FOUND
    DW SPARE-F
; EXTERNAL-PROGRAM-EXECUTION-RELATED ERRORS AND MESSAGES
    DW ETPNF-F
    DW ETPNUL-F
    DW ETPTBG-F
    DW TXPXD-F
    DW TXNEMX-F
    DW TXWSNF-F
    DW SPARE-F
; TEXTS FOR COPY AND RENAME COMMANDS - NOFILE OVERLAY
    DW TXREN3-F      ;TO FILE ALREADY EXISTS
    DW TXREN4-F      ;FILES HAVE TO BE ON SAME DRIVE CANNOT RENAME
    DW SPARE-F
    DW SPARE-F
    DW TXCOP2-F      ;"FILE EXISTS -- DELETE OLD COPY (Y/N): "

```

```

DW SPARE-F
DW TOOLCO-F ;TOO LITTLE MEMORY TO COPY WHILE EDITING OR PRINTING
DW IUSETX-F ;FILE IN USE BY WORDSTAR
DW SPARE-F ;SPARE
; TEXTS USED IN MERGE-PRINT
DW TXFPMU-F ;'MENU' -- "P=STOP PRINT" (FPRUN.MAC)
DW FXTXT-F ;"READ SCREEN, HIT RETURN" -- USED B4 RET TO NOFILE MU
DW BADOTX-F ;"INVALID DOT COMMAND IGNORED" (FPDOT.MAC)
DW FNFTX1-F ;"FILE ..."
DW FNFTX2-F ;"... NOT FOUND" (S1SUB.MAC)
DW FFTX1-F ;"BUT FILE ..."
DW FFTX2-F ;"... FOUND AND WILL BE USED" (S1SUB.MAC)
DW CNCTX1-F ;"CANNOT CHANGE DISK IN DRIVE ..."
DW CNCTX2-F ;"... REQUEST IGNORED" (S1SUB.MAC)
DW DCHTX1-F ;"INSERT DISKETTE WITH FILE ..."
DW DCHTX2-F ;"... THEN PRESS RETURN" (S1SUB.MAC)
DW TOOLFP-F ;"TOO LITTLE MEMORY FOR MERGE-PRINT"
DW SPARE-F
DW TXNODF-F ;" *** No .DF before .RV: "
DW TXWLOD-F ;" *** WARNING: Overlong data value truncated "
DW SPARE-F ;SPARE / LATER ADD DATA FILE NAME AND 2ND MSG AFTER?
DW TXWBVN-F ;" *** Invalid variable name in .RV command ignored "
DW SPARE-F ;SPARE / LATER ADD VBL NAME & 2ND MSG?
DW TXWDEX-F ;" *** WARNING: Data exhausted, null value(s) used "
DW SPARE-F,SPARE-F,SPARE-F,SPARE-F

```

EXPANSION SPACE - FILL TABLE TO 192 ENTRIES (384 BYTES = 180 HEX)

;2C0 HEX

```

DW SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F ;2D0 HEX
DW SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F ;2E0 HEX
DW SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F ;2F0 HEX
DW SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F,SPARE-F ;300 HEX

```

ABEL EQU \$; LOCATION SHOULD NOW BE 300 HEX

***** SPECIAL CHARACTER CODES *****

THE FOLLOWING CODES ARE INTERPRETED FROM WITHIN THE "TEXT" IN THIS FILE.

0 TERMINATES TEXT
05H DISPLAYS " on (OFF)" FOR Z, OR " off (ON)" FOR NZ, PER FLAG IN
NEXT 2 BYTES (DW ADDRESS) USED TO PRINT ^O MENU ITEMS.
09 TAB - TABS TO NEXT MULTIPLE OF 8 COLUMNS, AS USUAL.
MUCH USED IN TEXT - ENTERED AS TAB WITHIN QUOTED AREA.
0A LINE FEED (LF) AS USUAL
0D CARRIAGE RETURN (CR) AS USUAL
0EH ERASE TO EOL, CR, LF
0FH CR, LF
10H DISPLAYS "ERROR"
11H DISPLAYS " INTERNAL ERROR"
12H DISPLAYS "FATAL"
13H DISPLAYS INDENT FOR PROMPTS: 3 INVERSE (INVERSE) VIDEO SPACES
14H DISPLAYS " NAME OF FILE TO "
15H DISPLAYS "FILE"
16H DISPLAYS "MERGE-" IF MERGE-PRINT
17H DISPLAYS "Print a file ", "STOP PRINT ", OR "CONTINUE PRINT"
FOR P= ITEMS ON NO-FILE MENU, ^K MENU.
18H ERASES TO END LINE, AWAITS KEYSTROKE (UPDATING FILE DISPLAY
AREA WHILE WAITING), THEN CONTINUES OUTPUT AT TOP SCRIN.
USED BETWEEN FRAMES AND AT END OF HELP EXPLANATIONS.
19H DISPLAYS NAME OF LAST NOT-FOUND FILE, W/O DRIVE
1AH DISPLAYS NAME OF LAST NOT-FOUND FILE, OR OTHER CALLER-SET FCB

; ***** NO-FILE MENU *****

TEXT ASSEMBLED WILL DISPLAY AS FOLLOWS:

```

;
; D=create or edit a Document file      H=set Help level
; N=create or edit a Non-document file  X=eXit to system
; M=Merge-print a file                  P=Print a file
; F=File directory off (ON)             Y=delete a file
; L=change Logged disk drive            O=cOpy a file
; R=Run a program                       E=rEname a file

```

HENNOF: ; NARROW AND WIDE PRESENTLY THE SAME

HEWNOF:

```

DB 0EH,13H,' D=create or edit a Document file      H=set Help level '
DB 0EH,13H,' N=create or edit a Non-document file  X=eXit to system '
DB 0EH,13H,' M=Merge-print a file                  P=',17H,' '
DB 0EH,13H,' F=File directory',5
DW DISDIR
DB '
DB 0EH,13H,' L=change Logged disk drive            Y=delete a file '
DB 0EH,13H,' R=Run a program                       O=cOpy a file '
DB 0A0H,0                                           E=rEname a file '

```

PAGE

```

;HELP LEVEL 1 AND 2 INITIAL HELP MESSAGE TO EXPLAIN HOW TO GET MAIN MENU.
; DISPLAYED AT START 1ST EDIT IF HELP IS 1 OR 2 AND "NITHLF" IN USER2 IS 0.

```

TXITHL: DB 0EH

```

DB TAB+80H,'          For maximum help (full menu display),      ',0EH
DB TAB+80H,'          select Help Level 3 by typing ^JH3.        ',0EH
DB TAB+80H,' This message will clear when a key is pressed.     ',0EH,0EH,0

```

PAGE

; HYPHEN-HELP MESSAGE

TXHYH: DB 0EH

```

DB ' TO HYPHENATE, PRESS -. Before pressing -, you may ',0EH
DB '   move cursor: ^S=cursor left, ^D=cursor right.   ',0EH
DB ' If hyphenation not desired, type ^B.              ',0EH,0EH,0

```

```
; ***** EDITING COMMAND MENUS *****
```

```
;MAIN EDITING MENU - NON-PREFIX EDITING COMMANDS
```

```
; WIDE VERSION TEXT IS AS FOLLOWS:
```

```
;
;
;CURSOR:   ^A=left word      ^S=left char    ^D=right char   ^F=right word
;          ^E=up line       ^X=down line
;SCROLL:   ^Z=up line       ^W=down line    ^C=up screen    ^R=down screen
;DELETE:   DEL=char left    ^G=char right   ^T=word right   ^Y=entire line
;OTHER:    ^V=insert off/on ^I=tab          RETURN=end para ^U=stop
;          ^N=insert a RETURN ^B=reform to end para ^L=find/replace again
;HELP:    ^J displays menu of information commands
;PREFIX KEYS ^Q ^J ^K ^O ^P display menus of additional commands
```

```
; NARROW VERSION TEXT:
```

```
;CURSOR:   ^A=left word      ^S=left char    ^D=right char
;          ^F=right word     ^E=up line      ^X=down line
;SCROLL:   ^Z=up line       ^W=down         ^C=up screen    ^R=down
;DELETE:   DEL=char left    ^G=right        ^T=word         ^Y=line
;OTHER:    ^V=insert off/on ^I=tab          RETURN=end para ^U=stop
;          ^N=insert a RETURN ^B=reform      ^L=find/replace again
;PREFIX KEYS ^Q ^J ^K ^O ^P display additional menus
```

```
IF NOT NARROW
```

```
HEN1: ; THEN DEFINE NARROW LABEL OVER WIDE TEXT
ENDIF
```

```
LEW1:
```

```
IF WIDE ;ELSE NARROW VERSION DISPLAYS EVEN ON WIDE SCREENS
;WIDE VERSION
```

```
DB ' CURSOR:   ^A=left word      ^S=left char    ^D=right char   ^F=right word   ',OEH
DB '          ^E=up line       ^X=down line
DB ' SCROLL:   ^Z=up line       ^W=down line    ^C=up screen    ^R=down screen  ',OEH
DB ' DELETE:   DEL=char left    ^G=char right   ^T=word right   ^Y=entire line  ',OEH
DB ' OTHER:    ^V=insert off/on ^I=tab          RETURN=end para ^U=stop         ',OEH
DB '          ^N=insert a RETURN ^B=reform to end para ^L=find/replace again ',OEH
DB ' HELP:    ^J displays menu of information commands ',OEH
DB ' PREFIX KEYS ^Q ^J ^K ^O ^P display menus of additional commands ',0
```

```
ENDIF
```

```
IF NARROW
```

```
HEN1: ;NARROW VERSION OF MAIN MENU
```

```
DB ' CURSOR:   ^A=left word      ^S=left char    ^D=right char   ',OEH
DB '          ^F=right word     ^E=up line      ^X=down line    ',OEH
DB ' SCROLL:   ^Z=up line       ^W=down         ^C=up screen    ^R=down',OEH
DB ' DELETE:   DEL=char left    ^G=right        ^T=word         ^Y=line',OEH
DB ' OTHER:    ^V=insert off/on ^I=tab          RETURN=end para ^U=stop',OEH
DB '          ^N=insert a RETURN ^B=reform      ^L=find/replace again',OEH
DB ' PREFIX KEYS ^Q ^J ^K ^O ^P display additional menus ',0
ENDIF
```

P R E F I X

WIDE VERSION TEXT IS AS FOLLOWS:

```

^Q PREFIX (to cancel prefix, press SPACE bar)
CURSOR: S=left Side screen E=top screen X=bottom D=right end line
        R=beginning file C=end file 0-9, B, K, V, P = to marker
SCROLL: Z=continuous up W=continuous down
DELETE TO END LINE: DEL=left Y=right
FIND, REPLACE: F=Find a string A=find And substitute
REPEAT NEXT COMMAND: Q=repeat until key pressed

```

IF NOT WIDE

```

IF: ; THEN DEFINE WIDE LABEL OVER NARROW TEXT
ENDIF

```

```

IF: ;NARROW VERSION

```

```

IF NARROW ;ELSE WIDE VERSION DISPLAYS EVEN ON NARROW SCREENS

```

```

DB 13H,0A0H,0A0H
DB ' ^Q PREFIX (to cancel prefix, press SPACE bar) ',0EH
DB ' CURSOR: S=left Side E=top X=bottom D=right end line ',0EH
DB ' R=beginning file C=end file 0-9,B,K,V,P=to marker',0EH
DB ' SCROLL: Z=continuous up W=continuous down ',0EH
DB ' DELETE TO END LINE: DEL=left Y=right ',0EH
DB ' FIND, REPLACE: F=Find a string A=find And substitute',0EH
DB ' REPEAT NEXT COMMAND: Q=repeat until key pressed ',0

```

ENDIF

PAGE

IF WIDE

```

IF: ;WIDE VERSION OF ^Q PREFIX MENU

```

```

DB 13H,13H
DB ' ^Q PREFIX (to cancel prefix, press SPACE bar) ',0EH
DB ' CURSOR: S=left Side screen E=top screen X=bottom D=right end line ',0EH
DB ' R=beginning file C=end file 0-9, B, K, V, P = to marker ',0EH
DB ' SCROLL: Z=continuous up W=continuous down ',0EH
DB ' DELETE TO END LINE: DEL=left Y=right ',0EH
DB ' FIND, REPLACE: F=Find a string A=find And substitute ',0EH
DB ' REPEAT NEXT COMMAND: Q=repeat until key pressed ',0
ENDIF

```

```
; ^K PREFIX
```

```
; WIDE VERSION TEXT DISPLAYS AS FOLLOWS:
```

```
; ^K PREFIX (to cancel prefix, press SPACE bar)
;END EDIT/SAVE: D=Done edit X=done, eXit S=Save, reedit Q=abandon
;MARK BLOCK: B=Block start K=block end H=Hide/display
;BLOCK OPERATIONS: V=moVe block C=Copy block Y=delete block W=Write
;ADDITIONAL FILES R=Read file W=Write block J=delete file
; & PRINTING: O=cOpy file E=rEname file P=Print a file
;DISK & DIRECTORY: L=change Logged disk F=File directory off (ON)
;PLACE MARKERS: 0-9 = set/hide place marker 0-9
```

```
; NARROW VERSION (old rev)
```

```
; ^K PREFIX (to cancel prefix, press SPACE bar)
;end edit/save: D=DONE X=DONE,EXIT S=SAVE,REEDIT Q=ABANDON
;mark block: B=MARK START K=MARK END H=HIDE/DISPLAY
;block operations: V=MOVE block C=COPY block Y=DELETE BLOCK
;additional files R=READ file W=WRITE block J=DELETE file
; & printing: O=cOpy file E=rEname P=continue print
;DISK & DIRECTORY: L=Log disk F=File directory off (ON)
;place markers: 0-9 = SET/HIDE PLACE MARKER 0-9
```

```
IF NOT WIDE
```

```
HEWB: ; THEN DEFINE WIDE LABEL OVER NARROW TEXT
      ENDIF
```

```
HENB: ;NARROW VERSION
      IF NARROW ;ELSE WIDE VERSION DISPLAYS EVEN ON NARROW SCREENS
```

```
DB 13H,0AOH,0AOH
```

```
DB ' ^K PREFIX (to cancel prefix, press SPACE bar) ',0EH
DB 'END EDIT/SAVE: D=Done X=done,eXit S=Save,reedit Q=abandon',0EH
DB 'MARK BLOCK: B=Block start K=block end H=Hide/display',0EH
DB 'BLOCK OPERATIONS: V=moVe block C=Copy block Y=delete block',0EH
DB 'ADDITIONAL FILES R=Read file W=Write block J=delete file',0EH
DB ' & PRINTING: O=cOpy file E=rEname P=',17H,0EH
;CONTINUE PRINT <- 17H
DB 'DISK & DIRECTORY: L=Log disk F=File directory'
DB 5
```

```
DW DISDIR
DB 0EH
',0
```

```
DB 'PLACE MARKERS: 0-9 = set/hide place marker 0-9
```

```
ENDIF
```

IF WIDE

;WIDE ^K PREFIX MENU

DB 13H,13H

DB ' ^K PREFIX

(to cancel prefix, press SPACE bar) ',0EH

DB ' END EDIT/SAVE: D=Done edit X=done, eXit S=Save, reedit Q=abandon ',0EH

DB ' MARK BLOCK: B=Block start K=block end H=Hide/display ',0EH

DB ' BLOCK OPERATIONS: V=moVe block C=Copy block .Y=delete block W=Write ',0EH

DB ' ADDITIONAL FILES R=Read file W=Write block J=delete file ',0EH

DB ' & PRINTING: O=cOpy file E=rEname file P=',17H,' ',0EH

DB ' DISK & DIRECTORY: L=change Logged disk F=File directory'

DB 5

DW DISDIR

DB ' ',0EH

',0

DB ' PLACE MARKERS: 0-9 = set/hide place marker 0-9

;CONTINUE PRINT <- FOR 17H ALIGNMENT

ENDIF

; ^P PREFIX

WIDE VERSION TEXT DISPLAYS LIKE THIS:

^P PREFIX: Put Control Character in File

```
;V=subscript begin/end      T=superscript begin/end      Y=ribbon color change
;S=underscore begin/end     B=boldface begin/end        D=double strike begin/end
;A=alternate pitch          N=standard pitch            X=strikeout begin/end
;O=non-break space          F=phantom space              G=ph. rubout (see manual)
;C=pause when printing      H=overprint next character  RETURN=overprint next line
;Q, W, E, R = user printer controls      SPACE=cancel prefix
```

; NARROW VERSION:

^P PREFIX: Put Control Character in File

```
;V=subscript      T=superscript      Y=ribbon color change
;S=underscore     B=boldface        D=double strike
;A=alternate pitch N=standard pitch  X=strikeout begin/end
;O=non-break space F=phantom space   G=phantom rubout
;C=pause          H=overprint char  RETURN=overprint line
;Q,W,E,R=user printer controls      SPACE=cancel prefix
```

IF NOT WIDE

; THEN DEFINE WIDE LABEL OVER NARROW TEXT

ENDIF

;NARROW VERSION

IF NARROW ;ELSE WIDE VERSION DISPLAYS EVEN ON NARROW SCREENS

DB TAB+80H,0A0H

DB ' ^P PREFIX: Put Control Character in File ',0EH

DB 'V=subscript T=superscript Y=ribbon color change',0EH

DB 'S=underScore B=Boldface D=Double strike ',0EH

DB 'A=alternate pitch N=standard pitch X=strikeout begin/end',0EH

DB 'O=non-break space F=phantom space G=phantom rubout ',0EH

DB 'C=pause H=overprint char RETURN=overprint line',0EH

DB 'Q,W,E,R=user printer controls SPACE=cancel prefix ',0

ENDIF

IF WIDE

;WIDE VERSION OF ^P PREFIX MENU

DB TAB+80H,TAB+80H

DB ' ^P PREFIX: Put Control Character in File ',0EH

DB ' V=subscript begin/end T=superscript begin/end Y=ribbon color change ',0EH

DB ' S=underScore begin/end B=Boldface begin/end D=Double strike begin/end ',0EH

DB ' A=alternate pitch N=standard pitch X=strikeout begin/end ',0EH

DB ' O=non-break space F=phantom space G=ph. rubout (see manual) ',0EH

DB ' C=pause when printing H=overprint next character RETURN=overprint next line ',0EH

DB ' Q, W, E, R = user printer controls SPACE=cancel prefix ',0

ENDIF

; ^O PREFIX

WIDE VERSION TEXT DISPLAYS AS FOLLOWS:

```

;
;
; ^O PREFIX: on-screen formatting commands
;S=set line Spacing C=Center cursor line F=margins/tabs from File line
;L=set Left margin X=margin release E=soft hyphen - Entry off (ON)
;R=set Right margin W=Word wrap off (ON) D= -, print ctrl dspy off (ON)
;I=set tab stop J=Justification off (ON) P=Page break display off (ON)
;N=clear tab stop V=Variable tabs off (ON) T=ruler display off (ON)
;G=paraGraph tab H=Hyphen-Help off (ON) SPACE=cancel prefix

```

;NARROW VERSION

```

;
;
; ^O PREFIX: on-screen formatting commands
;S=line Spacing C=Center cursor line F=margins/tabs from line
;L=Left margin X=margin release E=soft - Entry off (ON)
;R=Right margin W=Word wrap off (ON) D= -, ctrl dspy off (ON)
;I=set tab stop J=Justify off (ON) P=Page display off (ON)
;N=clear tab V=Var tabs off (ON) T=ruler display off (ON)
;G=para tab H=Hyphen-Help off (ON) SPACE=cancel prefix

```

NARROW ^O PREFIX MENU

```

        IF NOT WIDE
HEWU:    ; THEN DEFINE WIDE LABEL OVER NARROW TEXT
        ENDIF
HEWU:    ;NARROW VERSION LABEL
        IF NARROW          ;ELSE WIDE VERSION DISPLAYS EVEN ON NARROW SCREENS

; IN TEXT, TAB+80H=TAB TO NEXT 8TH COLUMN, INVERTED VIDEO (HIGHLIGHTING),
;     AOH=INVERSE VIDEO (HIGHLIGHTED) SPACE, 13H=3 SUCH SPACES,
;     05=PRINT " ON (OFF)" OR " OFF (ON)" PER FLAG NXT 2 BYTES POINT TO.
;     TEXT IS ALIGNED ON TAB STOP AND CONTAINS TAB CHARACTERS.

DB TAB+80H,0AOH
DB      ' ^O PREFIX: on-screen formatting commands ',0EH
DB 'S=line Spacing C=Center cursor line F=margins/tabs from line',0EH
DB 'L=Left margin X=margin release E=soft ','-' +80H
                                           DB ' Entry ',05
                                           DW SHYPF
                                           DB 0EH
DB 'R=Right margin W=Word wrap',05
                                           DW WRAPP
                                           DB ' D= ','-' +80H
                                           DB ' , ctrl dspy',05
                                           DW SHOWDF
                                           DB 0EH
DB 'I=set tab stop J=Justify',05
                                           DW JUSTF
                                           DB ' P=Page display ',05
                                           DW PAGDIS
                                           DB 0EH
DB 'N=clear tab V=Var tabs',05
                                           DW VTABF
                                           DB ' T=ruler display',05
                                           DW SHOWMF
                                           DB 0EH
DB 'G=para tab H=Hyphen-Help',05
                                           DW HYPF
                                           DB ' SPACE=cancel prefix',0

ENDIF

```

```

; WIDE ^O PREFIX MENU
  IF WIDE
    ; WIDE VERSION OF ^O MENU
    DB TAB+80H,TAB+80H,' ^O PREFIX: on-screen formatting commands ',0EH
    DB ' S=set line Spacing C=Center cursor line F=margins/tabs from File line ',0EH
    DB ' L=set Left margin X=margin release E=soft hyphen ','-' +80H
    DB ' Entry',05
    DW SHYPF
    DB ' ',0EH

    DB ' R=set Right margin W=Word wrap',05
    DW WRAPF
    DB ' D= ','-' +80H
    DB ' ', print ctrl dspy',05
    DW SHOWDF
    DB ' ',0EH

    DB ' I=set tab stop J=Justification',05
    DW JUSTF
    DB ' P=Page break display ',05
    DW PAGDIS
    DB ' ',0EH

    DB ' N=clear tab stop V=Variable tabs',05
    DW VTABF
    DB ' T=ruler display ',05
    DW SHOWMF
    DB ' ',0EH

    DB ' G=paraGraph tab H=Hyphen-Help',05
    DW HYPF
    DB ' SPACE=cancel prefix ',0
  ENDIF

```

```

^J PREFIX: PREFIX FOR HELP COMMANDS
HENZ: ;NARROW SAME AS WIDE
HEWZ: DB TAB+80H,13H
DB ' ^J PREFIX: help commands ',0EH
DB ' H = display and set Help level M = Margins and tabs ',0EH
DB ' F = Flags in right screen column S = Status line ',0EH
DB ' I = command Index; entering text R = Ruler line ',0EH
DB ' B = paragraph reform (^B command) V = moving text ',0EH
DB ' D = Dot commands, print controls P = Place markers ',0EH
DB ' SPACE=cancel prefix ',0

```

; MENU OF SPECIAL CHARACTERS DISPLAYED ABOVE "NAME OF FILE?" AND SUCH QUESTIONS

```

ORG ($+7FH) AND OFF80H ;ORG BEGINNING OF NEXT SECTOR FOR FAST READ
TXQM: DB 0EH
DB ' ^S=delete character ^Y=delete entry ^F=File directory ',0EH
DB ' ^D=restore character ^R=Restore entry ^U=cancel command ',0EH,0
PAGE
;MISCELLANEOUS PROMPTS

```

;TEXT DISPLAYED ABOVE 1-CHAR W/FILE HELP MESSAGE WHENEVER PRINT IS PAUSED
; INDENT MATCHES "PRINT PAUSE" IN STATUS LINE. ENDS IN CR.

```

PPAUSM:
DB TAB+80H,0A0H,' TYPE ^KP TO CONTINUE PRINT ',0EH,0

```

;TEXT DISPLAYED ABOVE 1-CHAR W/FILE HELP MESSAGE AFTER "SAVE & CONTINUE"
;COMMAND, UNTIL NEXT KEYSTROKE ONLY

```

AFSAVM:
DB 13H,' TO RETURN CURSOR TO POSITION BEFORE SAVE, ',0EH
DB 13H,' TYPE ^QP BEFORE TYPING ANYTHING ELSE. ',0EH,0

```

;TEST DISPLAYED AFTER ENTRY OF "REPEAT" COMMAND AND CMD TO BE REPEATED:

```

TXRPTP:
DB 13H,13H,' TYPE 1-9 TO VARY SPEED, SPACE TO STOP ',0EH,0

```

; MISCELLANEOUS MESSAGES AND WARNINGS

; WRONG VERSION OF WSMSG5.OVR FOR THE VERSION OF WS.COM MESSAGE

; ADVTX: DB OEH

DB '*** WARNING: ',OEH

DB ' WRONG VERSION OF WSMSG5.OVR -- ',OEH

DB ' SOME MESSAGES MAY BE INCORRECT. *** ',OEH,OEH,0

; UNTESTED LARGE SCREEN WARNING

; SSWTX:

DB '*** WARNING ',OEH

DB ' SCREENS OVER 48 LINES HIGH OR 120 COLUMNS WIDE ',OEH

DB ' HAVE NOT BEEN TESTED AND DEBUGGED. PROCEED WITH ',OEH

DB ' CAUTION; REDUCE WIDTH IF BUGS ENCOUNTERED. ',OEH,0

; DISK FULL WARNING - DIO.MAC

; TXDFW: DB OEH

DB '*** WARNING: DISK FULL, ',OEH

DB ' DELETING OLD .BAK FILE TO MAKE SPACE ',OEH

DB ' (NORMALLY, THE PREVIOUS BACKUP FILE IS DELETED ',OEH

DB ' ONLY AFTER EDIT IS SUCCESSFULLY COMPLETED). ',OEH,OEH,OEH,0

;2 BLANK LINES AFTER TEXT

; TEXT USED IN WMC8.MAC

; SHOWPT: DB OEH, ' CAN'T DISPLAY PAGE BREAKS IN A NON-DOCUMENT FILE ',OEH,0

; FOR WMC9.MAC:

; LWMS: DB '*** WARNING: WORD TOO LONG TO FIT MARGINS ',OEH,0

; DISPLAYED ON SCREEN LINE WITH DOT CMD THAT DYNAPAGING CAN'T HANDLE

; (WMV2D.MAC)

; TXPABF: DB ' PUT AT FILE BEGINNING FOR CORRECT PAGE BREAK DISPLAY ',0

; TEXT FOR FIND AND REPLACE

OPMENU: DB OEH,OEH

DB ' Normally press RETURN only, or enter one or more of: ',OEH
 DB ' number=repeat count, B=search Backwards, W=whole Words only,',OEH
 DB ' U=ignore case, N=replace w/o asking, G=replace in entire file.',OEH,OEH,0

; SET HELP LEVEL COMMAND

HELTX1: ;HELTX1 NOT DISPLAYED AT HELP LEVEL 0 NOR IF TYPAHED.

DB OEH
 DB ' HELP LEVELS ',OEH
 DB ' 3 all menus and explanations displayed ',OEH
 DB ' 2 main editing menu (1-control-char commands) suppressed ',OEH
 DB ' 1 prefix menus (2-character commands) also suppressed ',OEH
 DB ' 0 command explanations (including this) also suppressed ',OEH,0

HELTX2: DB OEH

DB ' CURRENT HELP LEVEL IS ',0 ;DIGIT TYPED HERE

HELTX3: DB ' ',OEH,OEH

DB ' ENTER Space OR NEW HELP LEVEL (0, 1, 2, OR 3): ',0

; TEXTS FOR LOG DISK COMMAND

SEDTX1: ;SEDTX1 NOT DISPLAYED AT HELP LEVEL 0 OR IF TYPEAHEAD

DB OEH
 DB ' The LOGGED DISK (or Current Disk or Default Disk) is the ',OEH
 DB ' disk drive used for files except those files for which ',OEH
 DB ' you enter a disk drive name as part of the file name. ',OEH
 DB ' WordStar displays the File Directory of the Logged Disk. ',OEH,0

SEDTX2:

DB OEH
 DB ' THE LOGGED DISK DRIVE IS NOW ',0 ;DRIVE, CR, LF TYPED HERE BY PROGRAM

SEDTX3:

DB OEH
 DB ' NEW LOGGED DISK DRIVE (letter, colon, RETURN)? ',0

INITIATE EDIT (N AND D) COMMANDS

```

NDOCTX:          ;FOR NON-DOCUMENT (N) COMMAND ONLY
DB OEH
DB ' Use this command to create and alter program source files      ',OEH
DB '   and other non-documents. Word wrap defaults off;             ',OEH
DB '   tabbing defaults to fixed (TAB chars in file; 8-col stops); ',OEH
DB '   page breaks not shown; hi bit flags not used in file.      ',OEH
DB ' For normal word processing uses, use the "D" command instead. ',OEH,0
      ;CR ABOVE LINE IS LAST LINE THAT FITS 16-LINE SCREEN *****

```

```

DOCTX:          ;FOR DOCUMENT EDIT (D) ONLY
DB OEH
DB OAOH,' Use this command to create a new document file,          ',OEH
DB OAOH,' or to initiate alteration of an existing document file. ',OEH,0

```

```

FILTX:          ;FOR BOTH N AND D COMMANDS
DB OEH
DB 13H,' A file name is 1-8 letters/digits, a period,             ',OEH
DB 13H,' and an optional 0-3 character type.                        ',OEH
;;DB OEH          ;;;screen too full
DB 13H,' File name may be preceded by disk drive letter A-D      ',OEH
DB 13H,' and colon, otherwise current logged disk is used.       ',0

```

DISPLAYED AFTER INITIATION OF EDIT OF SAME FILE AS THAT BEING PRINTED:

```

WEPS: DB OEH
DB ' WARNING: You are editing the same file as you are printing. ',OEH
DB ' WordStar will not allow you to save the edited version      ',OEH
DB ' until the print has completed or has been abandoned.       ',OEH,OEH,0

```

```

TOOLEP: DB OEH,' ALLOW PRINT TO FINISH BEFORE EDITING A FILE. ',OEH
        DB ' YOUR SYSTEM DOES NOT HAVE ENOUGH MEMORY TO        ',OEH
        DB ' PERMIT SIMULTANEOUS EDITING AND PRINTING.         ',OEH,0

```

```

TXFFPF: DB OEH,' CAN'T EDIT A FILE WHILE MERGE-PRINTING --      ',OEH
        DB ' FINISH OR ABANDON MERGE-PRINT BEFORE EDITING      ',OEH,OEH,0

```

```

; TEXTS FOR END EDIT AND SAVE COMMANDS (^KS, ^KD, ^KX)
FINPTX: DB OEH,TAB+80H,TAB+80H,' FINISHING PRINT BEFORE EXIT      '
        DB OEH,TAB+80H,TAB+80H,' (type ^U to cancel exit command) ...',0

; DISPLAYED AT SAVE COMMAND IF FILE BEING EDITED IS ALSO BEING PRINTED
TXFIPS:
        DB OEH,TAB+80H,' FINISHING PRINT OF SAME FILE BEFORE SAVING '
        DB OEH,TAB+80H,' (Type ^U to cancel Save command) ...      ',0

; DISPLAYED AT SAVE COMMAND IF .BAK FILE OF FILE BEING EDITED IS BEING PRINTED
TXFIPB:
        DB OEH,TAB+80H,' FINISHING PRINT OF .BAK FILE BEFORE SAVING '
        DB OEH,TAB+80H,' (Type ^U to cancel Save command) ...      ',0

; TEXTS FOR ABANDON COMMAND (^KQ)
ABUNTX: DB OEH,13H,' ABANDONING UNCHANGED ',0
ABCHTX: DB OEH,13H,' ABANDON EDITED VERSION OF ',0

; FILE NAME ENTRY ERROR MESSAGES - USED IN MANY OVERLAYS

; "INVALID FILE NAME: XXXXX" MESSAGE FOR ALL FILE NAME INPUT QUESTIONS
        ;15H->" FILE ". 1AH->THE FILE NAME (CALLER SETS NFFCB)
TXBFN:  DB TAB+80H,TAB+80H,' INVALID ',15H,' NAME: ',0 ;(INPUT TXT SHOWN HERE)
TXBFN2: DB ' ',0EH,0          ;END OF "INVALID FILE NAME" MESSAGE
; "FILE XXXXX NOT FOUND"
        ;15H->" FILE ". 1AH->THE FILE NAME (OPNSUB SETS NFFCB)
TXNF:   DB TAB+80H,TAB+80H,' ',15H,' ',1AH,' NOT FOUND ',0EH,0

```

; ***** PRINT COMMAND MESSAGES AND QUESTION TEXTS *****

;13H=STANDARD INDENT

;16H PRINTS "MERGE-" IF MERGE PRINT

STPRM1: DB 0EH,13H,' Now ',16H,'printing file ',0 ;PROGRAM PRINTS FILENAME HERE
STPPRM: DB 0EH,0EH,13H,' "Y" TO ABANDON PRINT, "N" TO RESUME, ^U TO HOLD: ',0

ORG (\$+7FH) AND OFF80H ;NEXT SECTOR BEGINNING

; CRLF," NAME OF FILE TO PRINT" OR " NAME OF FILE TO MERGE-PRINT"
;14H EXPANDS TO "NAME OF FILE TO "
;16H PRINTS "MERGE-" IF FINAL IS NZ

TXNAFP: DB 0EH,13H,14H,16H,'PRINT? ',0 ;13H IN TEXT INVOKES STD INDENT
POPHED: DB 13H,' For default press RETURN for each question:',0EH,0
SPQTX: DB 13H,13H,' START AT PAGE NUMBER (RETURN for beginning)? ',0
STPQTX: DB 13H,13H,' STOP AFTER PAGE NUMBER (RETURN for end)? ',0
NCOPTX: DB 13H,13H,' NUMBER OF COPIES (RETURN for 1)? ',0 ;(MERGE PRINT ONLY)
DFOQTX: DB 13H,13H,' DISK ',15H,' OUTPUT (Y/N): ',0 ;15H => "FILE"
TXNAFO: DB 13H,13H,' OUTPUT ',15H,' NAME? ',0 ;15H => "FILE"
U TX: DB 13H,13H,' USE FORM FEEDS (Y/N): ',0
S TX: DB 13H,13H,' SUPPRESS PAGE FORMATTING (Y/N): ',0
PBPQTX: DB 13H,13H,' PAUSE FOR PAPER CHANGE BETWEEN PAGES (Y/N): ',0
RPTXT: DB 13H,' Ready printer, press RETURN: ',0

PAGE

; DISPLAYED AFTER INITIATION OF PRINT OF SAME FILE AS BEING EDITED:
; NO BLANK LINES B4/AFTER: MUST FIT SCREEN WITH PRINT OPTIONS QUESTIONS.

TXWPES:
DB ' WARNING: You are printing the same file as you are editing. ',0EH
DB ' The last saved version will be printed, not reflecting un- ',0EH
DB ' saved changes. Furthermore, WordStar will not allow you to ',0EH
DB ' save the file being edited while the print is in progress. ',0EH,0

TOOLPE: DB 0EH,' END EDIT (^KD) BEFORE STARTING PRINT. ',0EH
DB ' YOUR SYSTEM DOES NOT HAVE ENOUGH MEMORY TO ',0EH
DB ' PERMIT SIMULTANEOUS EDITING AND PRINTING. ',0EH,0

TOOLFP: DB 0EH,' TOO LITTLE MEMORY FOR MERGE-PRINT ',0EH,0EH,0 ;SHD NOT HAPPEN
PAGE

; I DISPLAYED (UNDER MAIN EDITING MENU, VIA ONCMMSG) WHEN PRINT WITH DISK
;FILE OUTPUT HAS GOTTEN DISK FULL ERROR AND INVOKED A PRINT PAUSE TO
;PREVENT INFINITE REPETITION OF ERROR.
; "PRINT PAUSE" ALSO APPEARS IN STATUS LINE.

PPDFIX: DB 0EH
DB ' *** PRINT OUTPUT DISK IS FULL. PRINT PAUSED. *** ',0EH,0EH,0

```
; ERROR MESSAGE TEXTS, DISK PORTIONS, REFERENCED IN WMERR.MAC
```

```
; NOTES:  "*** ERROR En: " IS DISPLAYED BEFORE MOST OF THESE MESSAGES.
;         " *** HIT ESC KEY " IS DISPLAYED AFTER MOST ERROR MESSAGES.
```

```
;
ETPMNS: DB 'THAT PLACE MARKER NOT SET',0
ETBENM: DB 'BLOCK BEGINNING NOT MARKED ',0EH
        DB '          (OR MARKER IS UNDISPLAYED)',0
ETBENM: DB 'BLOCK END NOT MARKED          ',0EH
        DB '          (OR MARKER IS UNDISPLAYED)',0
ETEB4B: DB 'BLOCK END MARKER BEFORE BEGINNING MARKER',0
ETBTOO: DB 'BLOCK TOO LONG - ',0EH
        DB '          MOVE OR DELETE IN TWO SMALLER BLOCKS',0
ETFXIS:
        DB 'THAT FILE EXISTS ON DESTINATION DISK. ',0EH
        DB '          DELETE EXISTING FILE FIRST, ',0EH
        DB '          OR USE A DIFFERENT DISKETTE.',0
ETDFUL: DB 'DISK FULL',0
ETCOPY: DB 'INVALID COPY LENGTH',0
ETADDR: DB 'ADDRESS IN "HOLE" (TSTADR)',0
ETMFUL: DB 'MEMORY FULL (MAK256)',0
ETMSHT: DB 'MEMORY SHORTAGE (MKSP)',0
ETPTFR: DB 'POINTER > 64K FROM CURSOR (PPTOAD)',0
ETNEM:  DB 'NOT ENOUGH MEMORY ',0EH
        DB ' OR YOUR OPERATING SYSTEM IS NOT          ',0EH
        DB ' RELOCATED TO MAKE ALL RAM AVAILABLE ',0
ETDIRF: DB 'DISKETTE DIRECTORY FULL ',0
ETCLS:  DB 'CLOSE FAILURE - ',0EH
        DB '          SYSTEM FAILURE, OR YOU CHANGED DISKETTES ',0
ETREN:  DB 'RENAME FAILURE - ',0EH
        DB '          SYSTEM FAILURE, OR YOU CHANGED DISKETTES ',0
ETBSS:  DB 'INVALID SCREEN HEIGHT OR WIDTH ',0
ERERR:  DB '10H, MESSAGE ',10H,0          ;"ERROR MESSAGE ERROR"

IF ZEBOOB
ETZCLB: DB 'LOCATION ZERO CLOBBED ',0
ENDIF
IF BOOBEY
ETPHOL: DB 'INVALID CALL TO "PTHOLE"',0
ETMMER: DB 'MEMORY MANAGEMENT ERROR ',0
ETADD2: DB 'ADDRESS OUT OF BUFFER (TSTADR) ',0
ENDIF

TXEBAK: DB 0EH
        DB ' Can''t edit a file of type .BAK or .$$$ ',0EH
        DB ' -- rEname or cOpY before editing          ',0EH,0
```

RLAY-RELATED ERROR MESSAGE TEXTS

1.12

```

ETBOVN: DB 'BAD OVLY #',0          ;BAD OVERLAY NUMBER (INTERNAL ERROR)

ETBOVF:                            ;EOF WHILE READING OVERLAY FILE
ETBOV1:                            ;BAD OVERLAY (MAGIC # AT BEGINNING)
ETBOV2:                            ;BADLY TERMINATED OVLY (MAGIC # AT END)
ETOV2L:                            ;OVERLAY TOO LONG FOR BUFFER
ETBONO:                            ;OVERLAY # IN OVERLAY WRONG
      DB 'BAD OVERLAY FILE, OR ',0EH ;ALL OF ABOVE ARE THIS MESSAGE
ETBOVL:                            ;OVERLAY LINKED FOR WRONG VERSION OF WS
ETBOVV:                            ;BAD VERSION # IN OVERLAY
      DB ' WRONG VERSION OVERLAY FILE ',0 ;BOTH OF ABOVE ARE THIS MESSAGE

ETONF1:                            ;OVERLAY FILE #1 NOT FOUND
      DB 'Overlay file ',19H,' Not Found',0 ;NAME PRINTS IN PLACE OF 19H
ETONF2:                            ;OVERLAY FILE #2 NOT FOUND
      DB ' FILE ',19H,' NOT FOUND ' ,0EH
      DB TAB+80H,' (The seperately sold file ',19H,' ',0EH
      DB TAB+80H,' is required for use of Merge-print.) ',0

;      DB ' File MERGPRIN.OVR Not Found ' for alignment
;      DB TAB+80H,' (The seperately sold file MERGPRIN.OVR for alignment

```

; RUN EXTERNAL PROGRAM ERROR MESSAGE TEXTS AND OTHER MESSAGES

```

;FOLLOWING SHOULD NOT OCCUR SINCE PRE-CHECKED IN XPROG:
ETPNF: DB 'NOT FOUND',0 ;NOT FOUND IN XPRUN OVERLAY
ETPNUL: DB 'PROGRAM IS AN EMPTY FILE!?',0 ;NULL FILE (XPRUN)
ETPTBG: DB 'PROGRAM TOO BIG FOR ',0EH
        DB ' MEMORY AVAILABLE UNDER WordStar',0 ;XPRUN
TXPBXD: DB 0EH,' LET PRINT COMPLETE BEFORE RUNNING A PROGRAM ',0EH,0EH,0 ;XPROG
;FOLLOWING SHOULD NOT BE ABLE TO OCCUR AT PRESENT:
TXNEMX: DB 0EH,' NOT ENOUGH MEMORY TO USE "RUN PROGRAM" COMMAND ',0EH,0EH,0 ;XPROG
TXWSNF: DB 0EH
        DB ' File ',19H,' Not Found -- ',0EH
        DB ' Can't Run a program unless ',19H,' is available. ',0EH,0EH,0

```

PAGE

; TEXTS FOR COPY AND RENAME COMMANDS - NOFILE OVERLAY

```

;
        FILE D:NNNNNNNN.TYP ALREADY EXISTS
TXREN3: DB TAB+80H,TAB+80H,' FILE ',1AH,' ALREADY EXISTS ',0 ;1AH=FILENAME
;
        FILE D:NNNNNNNN.TYP NOT ON SAME DRIVE
TXREN4: DB TAB+80H,TAB+80H,' FILE ',1AH,' NOT ON SAME DRIVE ',0 ;1AH=FILENAME
TOOLCO: DB 0EH,13H,' TOO LITTLE MEMORY TO COPY WHILE ' ;(DOES NOT OCCUR)
        DB 0EH,13H,' EDITING OR MERGE-PRINTING ',0EH,0EH,0
;
        FILE D:NNNNNNNN.TYP EXISTS -- OVERWRITE? (Y/N): Y
TXCOP2: DB TAB+80H,' FILE ',1AH,' EXISTS -- OVERWRITE? (Y/N): ',0 ;1AH=FILENAME
;
        FILE D:NNNNNNNN.TYP IN USE BY WordStar
IUSETX: DB TAB+80H,TAB+80H,' FILE ',1AH,' IN USE BY WordStar ',0 ;1AH=FILENAME

```

```
;
; XTS USED IN MERGE-PRINT
```

```
; "MENU" DISPLAYED DURING MERGE-PRINT EXECUTION (FPRUN.MAC)
```

```
TXFPMU:
DB 0EH
DB TAB+80H, '          ', 0EH
DB TAB+80H, ' P=', 17H      , ' ', 0EH ; 17H PRINTS "STOP PRINT", HILITED
DB TAB+80H, '          ', 0A0H, 0 ; CURSOR DISPLAYS HERE
```

```
; DISPLAYED BEFORE SCREEN IS CLEARED B4 RETURN TO NOFILE MENU
```

```
FXTXT:
DB 0EH, 0EH, 13H, ' Press space bar after reading screen: ', 0
```

```
; INVALID DOT COMMAND ERROR MESSAGE (FPDOT.MAC).
```

```
; THE ERRONIOUS COMMAND IS DISPLAYED ON THE NEXT LINE.
```

```
BADOTX:
DB ' *** Invalid Dot Command Ignored: ', 0
PAGE
```

```
MESSAGES USED RE CHANGING DISKETTES FOR .FI COMMAND (S1SUB.MAC)
```

```
; *** File D:NNNNNNNN.TYP Not Found
```

```
FNFTX1: DB ' *** File ', 0 ; FILE NAME PRINTED BETWEEN FNFTX1 AND FNFTX2.
FNFTX2: DB ' Not Found ', 0
```

```
; *** But found, and will use, D:NNNNNNNN.TYP
```

```
TX1: DB ' *** But found, and will use, ', 0
TX2: DB ' ', 0
```

```
; *** Cannot change disk in drive D:, request ignored
```

```
CNCTX1: DB ' *** Cannot change disk in drive ', 0
CNCTX2: DB ', request ignored ', 0
```

```
; Insert diskette with file D:NNNNNNNN.TYP then press RETURN:
```

```
DCHTX1: DB 'Insert diskette with file ', 0
DCHTX2: DB ' then press RETURN: ', 0
```

```
; MESSAGES USED BY .RV (READ VARIABLES) DOT COMMAND
```

```
TXNODF: DB ' *** No .DF before .RV: ', 0
TXWLOD: DB ' *** WARNING: Overlong data value truncated ', 0
TXWBVN: DB ' *** Invalid variable name in .RV command ignored ', 0
TXWDEX: DB ' *** WARNING: Data exhausted, null value(s) used ', 0
```

;PRINT DIRECTIVES DESCRIPTION - DISPLAYED BY ^JD COMMAND

DOTTX: ;NB TEXT CONTAINS TABS AND IS ALIGNED ON TAB STOP.

```

DB '          ***** Print Directives *****          ',OEH
DB ' PRINT CONTROL CHARACTERS may be entered anywhere in a line ',OEH
DB '   to invoke underlining, boldface, subscripts, pauses, etc. ',OEH
DB '   They are entered by typing ^P and a letter. A directory ',OEH
DB '   of most print controls is given on the ^P PREFIX MENU; ',OEH
DB '   see manual for more. ',OEH
DB ' DOT COMMANDS are special lines beginning with a period and ',OEH
DB '   a two-letter code. They control page breaks, headings, ',OEH
DB '   page numbering, page layout, etc. Dot commands are ',OEH
DB '   typed in like other text. ',OEH
DB ' Space bar for DOT COMMAND SUMMARY, ^U to return to editing: ',18H

DB '          ***** Dot Commands *****          ',OEH
DB ' PUT EACH DOT COMMAND ON SEPARATE LINE, WITH . IN COL 1 ',OEH
DB ' .PA new Page ',OEH
DB ' .CP n new page if less than n lines left on this page ',OEH
DB ' .OP Omit Page numbers when printing, starting this page ',OEH
DB ' .PN print Page Numbers, starting this page (default) ',OEH
DB ' .PN n set Page Number to n, print page numbers ',OEH
DB ' .PC n Page number Column (default 33 (30 if 64-col screen)) ',OEH
DB ' .PO n Page Offset: extra indent when printed (default 8) ',OEH
DB ' .. text comment, not printed ',OEH
DB '                                     press space bar for next frame: ',18H

DB ' .HE text HEading used until next .HE (default blank) ',OEH
DB ' .FO text FOoting (replaces page number) (blank) ',OEH
DB ' .PL n Paper Length: total number of lines (default 66) ',OEH
DB ' .MT n Margin at Top: # lines, top paper to text (3) ',OEH
DB ' .MB n Margin at Bottom: # lines, end text to end paper (8) ',OEH
DB ' # lines text on page is PL - MT - MB (defaults to 55) ',OEH
DB ' .HM n Heading Margin: blank lines between head and text (2) ',OEH
DB ' .FM n Footing Margin: blank lines, text to footing (2) ',OEH
DB ' FOR PAGE BREAKS TO DISPLAY AS THEY WILL PRINT, USE ',OEH
DB ' .PL,.MT,.MB, AND .LH (next frame) AT FILE BEGINNING ONLY. ',OEH
DB ' Depress space bar for next frame: ',18H

```

Print directives...

```

DB ' THE FOLLOWING WORK ONLY WITH INCREMENTAL PRINTERS: ',OEH
DB ' .LH n Line Height in 48ths of an inch (default 8) ',OEH
DB ' .CW n Character Width in 120ths of an inch, for standard or ',OEH
DB ' alternate pitch, whichever is in use (see ^P menu). ',OEH
DB ' (default 12 for standard, 10 for alternate) ',OEH
DB ' .SR n Subscript / Superscript Roll in 48ths of an inch (3) ',OEH
DB ' .UJ OFF/ON "MicroJustification" off/on (default ON) ',OEH
DB ' Use insure that printed column alignment exactly ',OEH
DB ' matches screen, e.g. for tabular material: ',OEH
DB ' Put .UJ OFF before table, put .UJ ON after table. ',OEH
DB ' Space for next frame, ^U to return to editing: ',18H

DB ' SPECIAL CHARACTERS in HEADINGS (.HE) and FOOTINGS (.FO): ',OEH
DB ' # prints as current page number ',OEH
DB ' \ do not interpret next character as a special character ',OEH
DB ' ^K do not print following spaces if on even-numbered page ',OEH
DB ' PAGE NUMBER POSITIONING: If a footing text is specified (.FO ',OEH
DB ' dot command), the default bottom center page number is not ',OEH
DB ' printed. Use a # in heading or footing to position page ',OEH
DB ' number where desired. ^K followed by spaces followed by # ',OEH
DB ' may be used to produce alternating left/right page numbers. ',OEH
DB ' Space for next frame, ^U to return to editing: ',18H

DB ' ***** Merge-Print Dot Commands ***** ',OEH
DB ' .DF filename specify Data File for .RV ',OEH
DB ' .RV name,name,name,... Read Variable values from data file ',OEH
DB ' .AV "prompt",name Ask operator for Variable value ',OEH
DB ' &name& anywhere in doc't prints as variable value. ',OEH
DB ' variable names are letter then 0-39 letters, digits, -'s. ',OEH
DB ' .FI filename Insert document File ',OEH
DB ' .DM message Display Message ',OEH
DB ' See manual for details and additional commands. Merge-Print ',OEH
DB ' is an optional feature, operational only if MERGPRIN.OVR is ',OEH
DB ' on your diskette. Press any key to return to editing: ',18H,0

```

STATX:

```

DB ' ***** STATUS LINE (top line of screen) ***** ',OEH
DB ' ^JS at left end of line is command now executing ',OEH
DB ' A:NAME.TYP is name of file you are now editing ',OEH
DB ' PAGE n is page number of cursor (disregards .PN's) ',OEH
DB ' LINE n is printout line on page of cursor position ',OEH
DB ' COL n is printout column on line of cursor position ',OEH
DB ' INSERT ON shows if character insertion is on (^V command) ',OEH
DB ' MAR REL shows if margins are released (^OX command) ',OEH
DB ' decimal shows during decimal tabbing ',OEH
DB ' LINE SPACING n shows if line spacing is not 1 (^OS command) ',OEH
DB ' PRINT PAUSE shows if printer is stopped (^KP to resume) ',OEH
DB ' when WAIT appears, stop typing. Press space bar: ',18H

```

```

DB ' If page break display is OFF (^OP command) or edit ',OEH
DB ' was started with N command, then Status Line shows ',OEH
DB ' FC=nnnn FL=nnnn in place of PAGE n LINE n. ',OEH
DB ' ',OEH
DB ' FC=nnnn cursor position in characters (bytes) from ',OEH
DB ' beginning of file ',OEH
DB ' FL=nnnn cursor position in file lines from beginning ',OEH
DB ' of file, including dot command lines ',OEH
DB ' ',OEH
DB ' space bar: ',18H,0

```

FLAGTX:

```

DB ' ***** FLAG CHARACTERS (rightmost column of screen) ***** ',OEH
DB ' < line ends in "hard" carriage return, entered by user ',OEH
DB ' space this line break arose from word wrap or paragraph ',OEH
DB ' reform, and may moved on subsequent reform ',OEH
DB ' + this line of document continues on next screen line ',OEH
DB ' - next line will overprint this line ',OEH
DB ' ? unrecognized or incomplete dot command ',OEH
DB ' M Merge-Print (optional feature) dot command ',OEH
DB ' P page break ',OEH
DB ' : this screen line is before beginning of document ',OEH
DB ' . after end of document press space bar: ',18H,0

```

IX:

```

DB '   COMMANDS TO --                ARE --                ',OEH
DB ' move cursor                    on main and ^Q menus    ',OEH
DB ' scroll file up or down          on main menu; also find (^QF) ',OEH
DB ' delete text                    on main and ^Q menus; also ^KY ',OEH
DB ' move or copy text              on ^K menu          ',OEH
DB ' end edit / save file           ^KD; see ^K menu     ',OEH
DB ' print (while editing)          ^KP                ',OEH
DB ' set tabs and margins           on ^O menu         ',OEH
DB ' reformat text                  ^B; ^JB gives info ',OEH
DB ' find a string; replace         ^QF; ^QA; ^L repeats last ',OEH
DB '                                press space bar for "entering text": ',18H

DB '                                ***** ENTERING TEXT ***** ',OEH
DB ' To enter text at cursor position, just type the text.          ',OEH
DB ' Use RETURN key for paragraph end or other fixed line break;    ',OEH
DB '     let word wrap form lines within paragraph.                  ',OEH
DB ' Type ^V to turn insertion off (to overwrite) or back on.      ',OEH
DB ' ^N may be used to create blank lines ahead of cursor,          ',OEH
DB '     as before inserting a paragraph.                            ',OEH
DB ' Use ^B to realign margins after corrections.                    ',OEH
DB ' ^JM shows info on margins, tabs, table entry, outline entry.  ',OEH
DB '                                press space bar after reading: ',18H,0

```

MOVIX:

```

DB '                                ***** TO MOVE A BLOCK OF TEXT ***** ',OEH
DB ' 1. Put cursor on first character, type ^KB to mark start.      ',OEH
DB ' 2. Put cursor after last character, type ^KK to mark end      ',OEH
DB '     (for end line, use start next line to include RETURN).    ',OEH
DB ' 3. Put cursor at destination, type ^KV to move the text,      ',OEH
DB '     or ^KC to make a duplicate copy.                            ',OEH
DB ' To undisplay markers afterwards, use ^KH.                      ',OEH
DB ' ^KB and ^KK may be entered in either order, with or without ',OEH
DB '     other intervening commands.                                ',OEH
DB ' All above commands are on ^K menu.     press space bar: ',18H,0

```

REFORX:

```

DB '          ***** PARAGRAPH REFORM (^B) *****          ',OEH
DB ' To realign margins of a paragraph after corrections, place ',OEH
DB ' cursor at beginning of paragraph and type ^B.          ',OEH
DB ' To change margins of paragraph already entered, set margins ',OEH
DB ' (^OL, ^OR), place cursor at paragraph beginning, type ^B. ',OEH
DB ' To change between justified and ragged right, or change line ',OEH
DB ' spacing, set desired justification (^OJ) & line spacing ',OEH
DB ' (^OS), place cursor at paragraph beginning, and type ^B. ',OEH
DB ' To obtain WordStar's help in hyphenating long words, place ',OEH
DB ' cursor at beginning of paragraph and type ^B.          ',OEH
DB ' press space bar for more: ',18H

```

```

DB ' ^B reforms lines to end of paragraph as indicated by "hard" ',OEH
DB ' carriage return (< in rightmost column).          ',OEH
DB ' Thus, it is important not to use RETURN between lines ',OEH
DB ' within a paragraph when entering text.          ',OEH
DB ' ^B may be used to form hanging indents, change margins in ',OEH
DB ' mid-paragraph, etc. The exact rule is:          ',OEH
DB ' " ^B starts on the cursor line, at the left margin col- ',OEH
DB ' umn, or at the cursor position, whichever is farther ',OEH
DB ' left, and proceeds to the next "hard" carriage return". ',OEH
DB ' press space bar: ',18H

```

```

DB '          ***** Hyphen-Help *****          ',OEH
DB ' ^B will occasionally stop before the end of the paragraph ',OEH
DB ' and ask you whether you wish a word hyphenated.          ',OEH
DB ' Following the instructions that appear on the screen, move ',OEH
DB ' the cursor if desired to adjust the hyphen position, ',OEH
DB ' then press "-" to hyphenate, or ^B to not hyphenate. ',OEH
DB ' To turn off "hyphen-help", type ^OH.          ',OEH
DB ' press space bar: ',18H,0

```

```

IX:
DB '          ***** MARGINS *****                                ',OEH
DB ' To set left margin: Type ^OL. WordStar will asks for column. ',OEH
DB '     Type desired column number 1-240 and press RETURN.        ',OEH
DB '     Or, to use column of cursor in file, just press ESCAPE.   ',OEH
DB ' To set right margin: type ^OR, proceed as above.              ',OEH
DB ' To set both margins to match text in a line already entered: ',OEH
DB '     place cursor in that line, type ^OF.                       ',OEH
DB ' To temporarily set left margin to next tab stop: type ^OG.    ',OEH
DB ' Margins apply to text subsequently entered. To remarginate    ',OEH
DB '     text already entered: set margins and use ^B.              ',OEH
DB '     press space bar after reading: ',18H

DB '          ***** LINE SPACING AND JUSTIFICATION *****        ',OEH
DB '                                                                ',OEH
DB ' To set line spacing: type ^OS. WordStar will ask for line    ',OEH
DB '     spacing. Enter a digit 1 thru 9.                            ',OEH
DB ' To turn justification off (for ragged right format),          ',OEH
DB '     or to turn justification back on: type ^OJ.                 ',OEH
DB ' Line spacing and justification settings apply to text          ',OEH
DB '     subsequently entered; they may be applied to previously    ',OEH
DB '     entered text with the paragraph reform command (^B).       ',OEH
DB '     press space bar for "Tab Stops": ',18H

DB '          ***** TAB STOPS *****                                ',OEH
DB '                                                                ',OEH
DB ' To set a tab: type ^OI. WordStar will ask for column number. ',OEH
DB '     Type column number and press RETURN. Or, to use cursor    ',OEH
DB '     column, press the ESCAPE key. To set a decimal tab stop, ',OEH
DB '     type "#" before typing column number or pressing ESCAPE.  ',OEH
DB ' To clear a tab stop or all tab stops: type ^ON.                ',OEH
DB ' To tab: type ^I, or press TAB key if present. Tabbing         ',OEH
DB '     inserts spaces to next tab stop if insertion (^V) is on.   ',OEH
DB '     Tabbing advances cursor over text if insertion is off.    ',OEH
DB '     press space bar: ',18H

```

;MARGX...

```
DB '   ENTERING A COLUMNAR TABLE -- We Suggest:           ',OEH
DB '                                                         ',OEH
DB ' Set a tab stop for each column of table.               ',OEH
DB ' Clear all other tab stops.                              ',OEH
DB ' If not at end file, turn on insertion (^V),            ',OEH
DB '   or use ^N to make blank lines.                        ',OEH
DB ' Tab (^I) after entering each table item. After last column ',OEH
DB '   on a line, tabbing will move to first item on next line. ',OEH
DB '                                                         space bar: ',18H

DB '   OUTLINE FORMAT TEXT ENTRY -- We Suggest:             ',OEH
DB ' Set tab stops at desired indentations.                  ',OEH
DB ' Set right margin as desired.                            ',OEH
DB ' For each item:                                          ',OEH
DB '   Type ^OG's as required for item number indentation. ',OEH
DB '   Type item number.                                     ',OEH
DB '   Type ^OG.                                             ',OEH
DB '   Type text of item, without using RETURN.             ',OEH
DB '   At end of item, press RETURN. Left margin resets.    ',OEH
DB '   Press RETURN again if blank line desired.             ',OEH
DB '                                                         press space bar: ',18H,0
```

RULTX:

```

DB '          ***** RULER LINE *****          ',0EH
DB '          ',0EH
DB ' L-----|-----|-----|-----|-----|-----|-----|-----R          ',0EH
DB '          ',0EH
DB ' L Left margin (set with ^OL)          ',0EH
DB ' R Right margin (set with ^OR)          ',0EH
DB ' | regular tab stop (set with ^OI, clear with ^ON)          ',0EH
DB ' # decimal tab stop (set with ^OI, clear with ^ON)          ',0EH
DB ' - other positions between margins          ',0EH
DB '          ',0EH
DB '          press space bar after reading: ',18H,0

```

PLACTX: ;Markers <n> in following text have hi bit on for highlighting.

```

DB '          ***** PLACE MARKERS *****          ',0EH
DB '          ',0EH
DB ' Up to 10 place markers, identified by numbers (n) 0-9,          ',0EH
DB ' may be set in a file while the file is being edited.          ',0EH
DB ' To set place marker n at the cursor position: type ^Kn.          ',0EH
DB ' ', '<'+80H, 'n'+80H, '>'+80H
DB ' DB ' will display to indicate the marker position.          ',0EH
DB ' To return the cursor to place marker n: type ^Qn any          ',0EH
DB ' time during the same edit.          ',0EH
DB ' To remove the ', '<'+80H, 'n'+80H, '>'+80H
DB ' DB ' from the display: type ^Kn when the          ',0EH
DB ' cursor is already at the marker position.          ',0EH
DB '          press space bar: ',18H

```

```

DB '          ***** OTHER MARKER & RELATED COMMANDS *****          ',0EH
DB '          ',0EH
DB ' The block beginning marker, ', '<'+80H, 'B'+80H, '>'+80H
DB ' DB ', and the block end marker,          ',0EH
DB ' ', '<'+80H, 'K'+80H, '>'+80H
DB ' DB ', are set and moved to in a similar manner; the          ',0EH
DB ' text between these markers can be moved (^KV), copied          ',0EH
DB ' (^KC), deleted (^KY), or written to a file (^KW).          ',0EH
DB '          ',0EH
DB ' ^QP moves cursor to its position before preceding command.          ',0EH
DB '          ',0EH
DB ' ^QV moves cursor to start of last find/replace, or to          ',0EH
DB ' source of text for last block move or copy.          ',0EH
DB '          press space bar: ',18H,0

```

;SPARE - FOR UNDEFINED OR UNUSED TEXTS

SPARE: DB ' IF THIS DISPLAYS YOU ARE USING WRONG VERSION OF WSMSGs.OVR ',0EH,0

END

```
TITLE WSMSG2.MAC - EMBEDDED MESSAGES 07/29/80
```

```
FOR WordStar 2.0 and 2.1 JULY, 1980
```

```
*****  
* WSMSG2.MAC - CONTAINS THE MESSAGES THAT ARE EMBEDDED WITHIN WORDSTAR *  
*  
* THESE TEXTS ARE INCORPORATED INTO WordStar BY RUNNING *  
* THE SPECIAL PROGRAM RETEXT. MAKE CERTAIN YOU HAVE *  
* WSMSG2.COM, WSU.COM, WSOVLY1.OVR, AND (OPTIONAL) *  
* MERGPRIN.OVR ON CURRENT DRIVE BEFORE RUNNING RETEXT. *  
* WSMSG2.COM IS NOT USED EXCEPT BY RETEXT. *  
*****
```

```
; ASSEMBLY OPTIONS OF INTEREST TO THE USER
```

```
TBASE EQU 100H ;WHERE PROGRAMS LOAD FOR NORMAL CP/M  
; (CP/M IS A TRADEMARK OF DIGITAL RESEARCH.)  
; CHANGE TBASE AS REQUIRED FOR TRS-80, ETC: SHOULD BE  
; CORRECT VALUE FOR SYSTEM ASSEMBLED AND LOADED ON.  
; NEED NOT MATCH SYSTEM WHERE WordStar IS RUN.
```

```
; ASCII CHARACTERS
```

```
CR EQU 0DH  
LF EQU 0AH  
TAB EQU 09H  
FF EQU 0CH
```

```
ASEG ;SAY ABSOLUTE ASSEMBLY  
ORG TBASE ;START AT 100 HEX OR AS EQU'D
```

```
PAGE 65 ;SETS ASSEMBLY LISTING PAGE LENGTH
```

```

*****
* TEXTS - OVERLAY # 0 (PART OF WSU.COM)
*
*****

```

```

; EMBEDDED TEXTS FOR "ROOT"

```

```

; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 236 HEX

```

```

    DW ETEXTS-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING

```

```

; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP

```

```

;CIO

```

```

    DW FOMSG-$
    DW MC16F-$
    DW MC16D-$
    DW MC17A-$
    DW MC17B-$
    DW MC17C-$
    DW M5OFF-$
    DW M5ON-$
    DW CRTXT-$
    DW MC10T-$
    DW MC11T-$
    DW MC12T-$
    DW MC13T-$
    DW MC14T-$
    DW MC15T-$

```

```

;INITA

```

```

    DW SOND-$      ;SIGN-ON INDENT
    DW TOLME-$
    DW NDTMS-$

```

```

;STAL1 (STATUS LINE)

```

```

    DW XTDSWT-$
    DW XTSLPP-$
    DW XTFINL-$
    DW XTSNPF-$
    DW XTSLNF-$
    DW XTDIRO-$
    DW XTDIR1-$
    DW XTDIR2-$
    DW XTDIR3-$

```

```

;WMERR

```

```

    DW XTHESC-$
    DW XTINTE-$
    DW XTER-$
    DW XTIER-$
    DW XTFER-$
    DW XTCOSP-$      ;COLON-SPACE TEXT USED IN WMERR.MAC
    DW XTSPA-$      ;SPACE TEXT USED IN WMERR.MAC
    DW ANUL-$       ;USED IN WMERR, WMV2D

```

```

; POINTER AREA CONTINUES ON NEXT PAGE

```

```

;CLOOP.MAC
  DW XTERA3-$

  DW 0          ;SPARE POINTER
  DW 0          ;SPARE POINTER

;
; ***** CHARACTERS FOR "YES" AND "NO", FOR GENERAL USE *****
;
; MUST BE HERE (AT END OF POINTERS) FOR USER CHANGE VIA RETEXT PROGRAM,
; AND ABSOLUTE (NO POINTER) REFERENCE BY WORDSTAR.
;
; B4 TESTING AGAINST THESE, INPUT CHAR IS MADE UPPER CASE, NON-CONTROL.
;
YESCHR: DB 'Y'
NOCHR:  DB 'N' ;NOCHR MUST BE AT .YESCHR+1: ALL REFERENCES RELATIVE TO YESCHR.

;
; ** TEXT PRINTED IN PLACE OF DISK TEXTS WHEN WSMSG.S.OVR NOT FOUND (CIO.MAC) **
;
FOMSG:  DB ' eeee ',0 ;USED FROM CIO.MAC.

;
; ***** TEXTS USED IN CIO.MAC IN EXPANDING IMBEDDED CNTROL CHARACTERS *****
;
; 2 TEXTS FOR 05H CODE
M5OFF:  DB ' on (' , 'O'+80H, 'F'+80H, 'F'+80H, ' ) ',0 ;"OFF" hilghted
M5ON:   DB ' off (' , 'O'+80H, 'N'+80H, ' ) ',0 ;"ON" hilited

CRT1T:  DB CR,LF,0
MC11T:  DB ' INTERNAL ' ;FALL THRU TO PRINT "ERROR"
MC10T:  DB 'ERROR',0
MC12T:  DB 'FATAL',0
MC13T:  DB OAOH,OAOH,OAOH,0 ;AO=SPACE + 80H: INVERT VIDEO (ANOTHER TIME)
MC14T:  DB ' NAME OF ',15H,' TO ',0 ;RECURSIVE "FILE"
MC15T:  DB 'FILE',0

; 2 TEXTS FOR 16H CODE
MC16F:  DB 'MERGE-' ;PRINTED FOR 16H IF FINAL PRINT.
; NB ANOTHER "MERGE-" TEXT AT TXFINL.
MC16D:  DB 0 ;PRINTED FOR 16H IF DRAFT PRINT: NULL TEXT.

; THREE TEXTS FOR 17H. ALL SAME LENGTH: 15 COLS.
MC17A:  DB 'Print a file ',0

MC17B:  ;DB ' STOP PRINT ' WITH 80H ADDED TO EACH CHARACTER TO
; REVERSE HIGHLIGHTING SO IT STANDS OUT
DB ' '+80H, 'S'+80H, 'T'+80H, 'O'+80H, 'P'+80H, ' '+80H
DB 'P'+80H, 'R'+80H, 'I'+80H, 'N'+80H, 'T'+80H, ' '+80H, ' ',0

MC17C:  ;DB 'CONTINUE PRINT',0 WITH 80H ADDED TO EACH CHAR FOR HILITING
DB 'C'+80H, 'O'+80H, 'N'+80H, 'T'+80H, 'I'+80H, 'N'+80H, 'U'+80H
DB 'E'+80H, ' '+80H, 'P'+80H, 'R'+80H, 'I'+80H, 'N'+80H, 'T'+80H,0

```

```
;
; ***** TEXTS FOR INITA.MAC (INITALIZE) *****
;
```

```
; TEXT USED TO INDENT BEFORE TERMINAL TYPE ETC IN SIGNON
SOND:  DB 13H,13H,13H,13H,0 ;13H=3 SPACES. 12 SPACES TOTAL.
```

```
; TEXT DISPLAYED IF THERE IS NOT EVEN ENOUGH MEMORY TO INITIALIZE ENOUGH
; TO USE WS'S NORMAL ERROR MECHANISM AND DISK TEXTS. THIS IS A SHORTENED FORM
; OF "ETNEM" MESSAGE (WSMSG.S.MAC) FOR WMERR.MAC.
; NOTE THAT ERROR NUMBER SHOULD MATCH "ENEM" PARAMETER IN WMERR AND INIT,
; AND FORMAT OF MESSAGE SHOULD MATCH FORMATTING PRODUCED BY WMERR.MAC.
```

```
TOLME:  DB CR,LF,'*** FATAL ERR F25: NOT ENUF MEMORY',CR,LF,'$',0
; $ AT END TERMINATES OUTPUT FOR CP/M "PRINT STRING" CALL.
```

```
; TEXT DISPLAYED AT STARTUP OR AT EACH NO-FILE COMMAND
; WHEN DISK TEXT FILE NOT FOUND. DO NOT PUT ON DISK !!!!
```

```
NDTMS:  DB OEH
;DB ' File WSMSG.S.OVR not found. ' FOR SPACING
DB ' File ',19H,' not found. Menus & ',OEH
DB ' messages will display as @@@@ only. ',OEH,0
```

```
;
; ***** TEXTS FOR STAL1.MAC (STATUS LINE) *****
;
```

```
; CAUTION: NUMBER OF BLANKS AT BEGINNING, END OF FOLLOWING TEXTS VERY CAREFULLY
; DETERMINED FOR DESIRED STATUS LINE APPEARANCE IN BOTH FULL-LINE AND
; LOTS-OF-SPACE CASES. INTERACT WITH "TAB STOPS" USED BEFORE EACH
; MESSAGE. CHANGE ONLY AFTER VERY CAREFUL CONSIDERATION AND TESTING
; AND ONLY AFTER STUDYING PERTINENT CODE IN STAL1.MAC AND STAL2.MAC.
```

```
XTDSWT: DB 0A0H,' WAIT ',OEH,0 ;0A0H= UNVERSE VIDEO SPACE, OEH=ERASE TO EOL
```

```
; FOLLOWING MESSAGES ARE DISPLAYED VIA SPECIAL CODE (STORCH SUBR) IN STALIN
; THAT HIGHLIGHTS NON-BLANKS, DISPLAYS CONTROLS AS ^-LETTER, DISPLAYS A \ AS
; HIGHLIGHTED BLANK. SEE CHANGE CAUTION ABOVE.
```

```
XDSLPP: DB ' PRINT\PAUSED ',0 ;\ = I.V. SPACE
XFINL:  DB 'merge-',0 ; ALSO SEE MOC16F ABOVE
XTSNPF: DB 'printing\ ',0
XTSLNF: DB ' \editing\no\file\ ',0
```

```

;
; ***** TEXTS FOR WMV1A.MAC (FILE DIRECTORY DISPLAY) *****
;
; 80H IS ADDED TO MOST BYTES FOR NON-INVERSE VIDEO DISPLAY: CANCELS (VIA XOR)
; THE INVERSE VIDEO INVOKED IN "STORCH" SUBR IN STALIN.MAC.

XTDIRO:  DB 'p'+80H,'a'+80H,'r'+80H,'t'+80H,'i'+80H,'a'+80H,'l'+80H,' ',0
XTDIR1:  DB 'D'+80H,'I'+80H,'R'+80H,'E'+80H,'C'+80H,'T'+80H,'O'+80H,'R'+80H,'Y'+80H
          DB ' ','o'+80H,'f'+80H,' ','d'+80H,'i'+80H,'s'+80H,'k'+80H,' ',0
XTDIR2:  DB ' ','^'+80H,'Z'+80H,'='+80H,'s'+80H,'c'+80H,'r'+80H,'o'+80H
          DB 'l'+80H,'l'+80H,' ','u'+80H,'p'+80H,0
XTDIR3:  DB ' ','^'+80H,'W'+80H,'='+80H,'s'+80H,'c'+80H,'r'+80H,'o'+80H
          DB 'l'+80H,'l'+80H,' ','d'+80H,'o'+80H,'w'+80H,'n'+80H,0
;
; ***** TEXTS FOR WMERR.MAC (ERROR ROUTINES) *****
;
; " HIT ERROR RELEASE KEY" DISPLAYED AFTER MOST ERRORS:

XTHESC:  DB '*** Press ESCAPE Key ',0           ;DO NOT MAKE LONGER
          ; " INTERRUPTED " MESSAGE (^U).

XTINTE:  DB OEH,'*** INTERRUPTED',0

; EDITING ERROR BY NUMBER HEADER TEXT (VERNA SUBR IN WMERR, ERROR # IN A)

XTER:    DB OEH,'*** ',10H,' E' ;ERR # PRINTS AFTER 'E'. OEH: ERASE EOL,CR,LF
ANUL:    DB 0

; HEADER TEXT FOR INTERNAL ERROR BY NUMBER (IERR SUBR IN WMERR, ERROR # IN A)

XTIER:   DB OEH,'***',11H,' I',0 ;OEH: ERASE EOL,CR,LF. 11H: " INTERNAL ERROR"

; HEADER TEXT FOR FATAL ERROR (FER SUBR IN WMERR, ERROR NUMBER IN A)

XTFER:   DB OEH,'*** ',12H,' ',10H,' F',0 ;12H = "FATAL", 10H = "ERROR"

XTCOSP:  DB ': ' ;COLON-SPACE TEXT. PUT IN OTHER MSGS IF POSSIBLE.
XTSPA:   DB ' ',0 ;SPACE TEXT. PUT IN OTHER MSGS IF POSSIBLE.

;
; ***** TEXT FOR CLOOP.MAC (COMMAND LOOP / SCREEN DISPLAY) *****
;
;
XTERA3:  DB OEH,OEH,OEH,0 ;ERASE 3 LINES WHERE QUESTION SPEC CHARS MENU WILL GO

ETEXTS:  ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```

;*****
; TEXTS - OVERLAY # 1 (PART OF WSOVLY1.OVR)
;*****
;
; EMBEDDED TEXTS FOR EDITOR MAIN OVERLAY
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 6A HEX
;
    DW ETEXTA-$          ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
    DW XTSLPA-$
    DW XTSLLI-$
    DW XTSLFC-$
    DW XTSLFL-$
    DW XTSLCO-$
    DW XTSLMR-$
    DW XTSLIS-$
    DW XTDECT-$
    DW 0                  ;UNUSED (SPARE) POINTER
    DW XTSLLS-$
;
; EMBEDDED TEXTS FOR STAL2.MAC - STATUS LINE
;
; FOLLOWING MESSAGES ARE DISPLAYED VIA SPECIAL CODE (STORCH SUBR) IN
; STAL1.MAC THAT HIGHLIGHTS NON-BLANKS, DISPLAYS CONTROLS AS ^-LETTER,
; DISPLAYS A \ AS HIGHLIGHTED BLANK.
XTSLPA: DB 'PAGE',0          ;\ IS BLANK THAT INVERSE VIDEOS
XTSLLI: DB 'LINE',0
XTSLFC: DB 'FC=',0
XTSLFL: DB 'FL=',0
XTSLCO: DB 'COL',0
XTSLMR: DB 'MAR\REL',0
XTSLIS: DB 'INSERT\ON',0    ;\ => SPACE WITH INVERSE VIDEO.
XTDECT: DB 'decimal',0
XTSLLS: DB 'LINE\SPACING',0 ;13 CHARS

ETEXTA:                      ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```

;*****
;# TEXTS - OVERLAY # 2 (PART OF WSOVLY1.OVR)
;#
;*****

```

```

; EMBEDDED TEXTS FOR NOFILE.MAC

```

```

; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 65 HEX

```

```

    DW ETEXTB-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING

```

```

; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP

```

```

    DW XTSPQU-$

```

```

    DW XTNAFD-$

```

```

    DW XTREN1-$

```

```

    DW XTREN2-$

```

```

    DW XTCPY1-$

```

```

    DW XTCPY2-$

```

```

XTSPQU: DB ' ',0      ;ERROR MESSAGE FOR INVALID DRIVE ENTERED

```

```

; DELETE FILE COMMAND (^K^J): " NAME OF FILE TO DELETE".

```

```

; 13H PRINTS 3 SPACES, 14H PRINTS "NAME OF FILE TO ",

```

```

XTNAFD: DB 0EH,13H,14H,'DELETE? ',0

```

```

; EMBEDDED TEXTS FOR RENAME COMMAND

```

```

; ; 13H PRINTS AS 3 SPACES, 14H AS "NAME OF FILE TO "

```

```

XTREN1: DB 0EH,13H,14H,'RENAME? ',0

```

```

; " NAME OF FILE TO RENAME? "

```

```

; " NEW NAME? " LEADING SPACE IS 2 TABS + 1 SPACE

```

```

XTREN2: DB TAB+80H,TAB+80H,0A0H,' NEW NAME? ',0

```

```

; EMBEDDED TEXTS FOR COPY COMMAND

```

```

XTCPY1: DB 0EH,13H,14H,'COPY FROM? ',0

```

```

XTCPY2: DB 13H,14H,'COPY TO ? ',0

```

```

ETEXTB: ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```

*****
;* TEXTS - OVERLAY # 3 (PART OF WSOVLY1.OVR)
;
;*****
;
; EMBEDDED TEXTS FOR ENSTAR.MAC
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 42 HEX
;
;     DW ETEXTC-$           ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
;     DW XTQYN-$
;     DW XTNAFE-$
;     DW XTSAV-$
;     DW XTFLSP-$
;     DW BKTXT2-$
;
; ABANDON EDIT COMMAND (^K^Q WHEN FILE HAS BEEN CHANGED)
; " ABANDON EDITED VERSION OF " IS IN WSMMSG.SMAC. SAYOUT SUBR PRINTS FILE NAME
;
; FINAL PART OF THE QUESTION " ABANDON EDITED VERSION OF XXXX.YYY ? (Y/N): ":
XTQYN: DB ' ? (Y/N): ',0
;
; EDIT FILE COMMANDS (N AND D)
; " NAME OF FILE TO EDIT? ".
XTNAFE: DB 0EH,13H,14H,'EDIT? ',0           ;TEXT FOR QUESTION
;0EH=>ERASE LINE,CR,LF; 13H=>INDENT; 14H=>"NAME OF FILE TO "
;
; FOR "SAYSAV" SUBR, INVOKED BY END EDIT COMMANDS (^KD, ^KX, ^KS):
XTSAV:  DB 0EH,13H,' SAVING ',0           ;TXFLSP AND FILE NAME TYPED AFTER THIS
;
; FOR "SAYOUT" SUBR: "FILE ".
; INVOKED BY END EDIT, ABANDON EDIT, ETC.
XTFLSP: DB 15H,' ',0           ;15H->"FILE"
;
; FOR RENAMING FILE AT END OF EDIT:
BKTXT2: DB 'BAK'
;
; ETEXTC:                ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```
*****
;* TEXTS - OVERLAY # 4 (PART OF WSOVLY1.OVR)
*****
;
; EMBEDDED TEXTS FOR ADBLK.MAC
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 42 HEX
;
;     DW ETEXTD-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
;     DW XTNAFR-$
;     DW XTNAFW-$
;
; ADDITIONAL FILE READ COMMAND (^K^R): " NAME OF FILE TO READ? "
;     13H PRINTS 3 SPACES, 14H PRINTS "NAME OF FILE TO ",
XTNAFR: DB 0EH,13H,14H,'READ? ',0
;
; ADDITIONAL FILE WRITE COMMAND (^K^W):
;     " NAME OF FILE TO WRITE MARKED TEXT ON? "
;     13H=> INDENT, 14H=>"NAME OF FILE TO "
XTNAFW: DB 0EH,13H,14H,'WRITE MARKED TEXT ON? ',0      ;TYPES TEXT FIRST
;
ETEXTD:      ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT
```

```
.....  
; TEXTS - OVERLAY # 5 (PART OF WSOVLY1.OVR) ;  
; ;  
; .....  
; ;  
; THERE ARE NO EMBEDDED TEXTS FOR ASKPRN.MAC ;  
; ;  
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD = 0 ;  
; ;  
; DW 0 ;  
; ;
```

```

*****
; * TEXTS - OVERLAY # 6 (PART OF WSOVLY1.OVR) *
; *
; *****
;
; EMBEDDED TEXTS FOR FINRP.MAC (FIND/REPLACE)
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 8A HEX
;
;     DW ETEXTF-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
;     DW XTFIND-$
;     DW XTREPL-$
;     DW XTOPTS-$
;     DW XTNFE-$
;     DW XTSASK-$
;     DW XTOPE1-$
;     DW XTOPE2-$
;
; FIND AND REPLACE PROMPTS:
;                                     ;13H = STANDARD INVERSE INVERSE INDENT: 3 SPACES
XTFIND: DB 0EH,13H,'FIND? ',0    ;.. UPDATE TDLIN, RESTORE CURSOR POSITION.
XTREPL: DB 13H,'REPLACE WITH? ',0
XTOPTS: DB 13H,'OPTIONS? (? FOR INFO) ',0
;
; "NOT FOUND" ERROR MESSAGE.
XTNFE:  DB 0EH,'*** NOT FOUND: "',0    ;PROGRAM TYPES FIND STRING AND " HERE.
;
; SUBSTITUTE-ASK TEXT, USED IN STATUS LINE:
XTSASK: DB 'REPLACE\ (Y/N): ',0    ;\= INVERSE VIDEO SPACE (SEE STALIN)
;
; ERROR MESSAGE FOR INVALID OPTION CHARACTER
XTOPE1: DB 13H,0                    ;13H=3 I.V. BLANKS
;     ; INVALID CHARACTER DISPLAYED HERE
XTOPE2: DB ' ???',0                ;REST OF INVALID OPTION MESSAGE
;
; ETEXTF:                            ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```

;*****
;* TEXTS - OVERLAY # 7 (PART OF WSOVLY1.OVR)
;*****
;
; EMBEDDED TEXTS FOR MARTB.MAC
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 112 HEX
;
    DW ETEXTG-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
    DW XTENLS-$
    DW XTLMC-$
    DW XTRMC-$
    DW XTSTAB-$
    DW XTCTAB-$
TABCON: DW TBCON-$
TCN2:   DW TCN2-$
TCN3:   DW TCN3-$
PROCON: DW PRCON-$
;
; SYMBOLS FOR SOME CONTROLS WHICH MAY BE IMBEDDED IN TEXTS:
CCAL    EQU    02H      ;"SUBR CALL" TO TEXT (REL ADDR PTR IN NEXT 2 BYTES)
;
; FOR "SET LINE SPACING" COMMAND (^O^S):
XTENLS: DB ' ENTER space OR NEW LINE SPACING (1-9): ',0
;
; PROMPT TEXTS FOR MARGIN AND TABS QUESTIONS:
;
; FOR "SET LEFT MARGIN" COMMAND (^O^L):
XTLMC:  DB ' LEFT'
PRCON:  DB ' MARGIN COLUMN NUMBER'
TCN2:   DB CCAL
        DW TCN3-$
        DB 'umn)? ',0
TCN3:   DB '(ESCAPE for cursor col',0
;
; FOR "SET RIGHT MARGIN" COMMAND (^O^R):
XTRMC:  DB ' RIGHT',CCAL
        DW PROCON-$
        DB 0

```

```
; FOR "SET TAB STOP" COMMAND (^O^I):  
; " SET TAB AT COLUMN (ESCAPE for cursor column)? "  
XTSTAB: DB ' For decimal tab stop enter "# and decimal point column ',0EH  
        DB ' SET',CCAL  
        DW TABCON-$  
        DB 'UMN',CCAL  
        DW TCON2-$  
        DB 0  
TBCON:  DB ' TAB AT COL',0
```

```
; FOR "CLEAR TAB STOP / CLEAR ALL TABS" COMMAND (^O^N):  
; " CLEAR TAB AT COL (ESCAPE for cursor col; A for all)? "  
XTCTAB: DB ' CLEAR',CCAL  
        DW TABCON-$  
        DB CCAL  
        DW TCON3-$  
        DB '; A for all)? ',0
```

```
ETEXTG:                ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT
```

```
; FOR "SET TAB STOP" COMMAND (^O^I):  
; " SET TAB AT COLUMN (ESCAPE for cursor column)? "  
XTSTAB: DB ' For decimal tab stop enter "# and decimal point column ',OEH  
        DB ' SET',CCAL  
        DW TABCON-$  
        DB 'UMN',CCAL  
        DW TCON2-$  
        DB 0  
TBCON:  DB ' TAB AT COL',0
```

```
; FOR "CLEAR TAB STOP / CLEAR ALL TABS" COMMAND (^O^N):  
; " CLEAR TAB AT COL (ESCAPE for cursor col; A for all)? "  
XTCTAB: DB ' CLEAR',CCAL  
        DW TABCON-$  
        DB CCAL  
        DW TCON3-$  
        DB '; A for all)? ',0
```

ETEXTG:

;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

*****
;* TEXTS - OVERLAY # 8 (PART OF WSOVLY1.OVR)
;*
*****
;
; EMBEDDED TEXTS FOR ITED.MAC
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 34 HEX
;
    DW ETEXTH-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING

; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
    DW GBTXT-$
    DW DLTXT-$
    DW BKTXT-$
    DW XTNF1-$

; NAME OF EDITOR WORK FILE FOR MOVING BACKWARDS ("GO-BACK" FILE OR "GOB")
GBTXT:  DB 'EDBACKUP'  ;MUST BE 8 CHARS; DOLTXT MUST FOLLOW.

; FILE TYPE FOR WORK FILES. MUST IMMEDIATELY FOLLOW GOBTXT.
DLTXT:  DB '$$$'      ;MUST BE 3 CHARS

; FILE TYPE FOR BACKUP FILE (WHAT INPUT FILE IS RENAMED TO)
BKTXT:  DB 'BAK'      ;MUST BE 3 CHARS. NB DUPLICATED IN ENSTAR.MAC.

; TEXT DISPLAYED UPON INITIATION OF EDIT (N OR D) IF FILE IS NEW.
XTNF1:  DB OEH,'NEW FILE',OEH,OEH,0

ETEXTH:                ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```
*****  
; * TEXTS - OVERLAY # 9 (PART OF WSOVLY1.OVR) *  
; * * * * *  
*****
```

```
;  
; THERE ARE NO EMBEDDED TEXTS FOR PTTY.MAC  
;  
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD = 0  
;  
; DW 0  
;
```

```
*****  
; * TEXTS - OVERLAY # 0A HEX (PART OF WSOVLY1.OVR) *  
; * * * * *  
*****
```

```
;  
; THERE ARE NO EMBEDDED TEXTS FOR PDAIS.MAC  
;  
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD = 0  
;  
; DW 0  
;
```

```
*****  
; * TEXTS - OVERLAY # OB HEX (PART OF WSOVLY1.OVR) *  
; * * * * *  
*****
```

```
; THERE ARE NO EMBEDDED TEXTS FOR POEM.MAC  
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD = 0  
; DW 0
```

```
*****  
; * TEXTS - OVERLAY # OC HEX (PART OF WSOVLY1.OVR) *  
; * * * * *  
*****
```

```
; THERE ARE NO EMBEDDED TEXTS FOR PDSK.MAC  
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD = 0  
; DW 0
```

```

;
;*****
; TEXTS - OVERLAY # OD HEX (PART OF MERGPRIN.OVR)
;*****
;
; EMBEDDED TEXTS FOR MERGE-PRINT OVERLAY
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD <= 1A HEX
;
;     DW ETEXTM-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
;     DW B4VXT-$
;     DW AFVXT-$
;
; EMBEDDED TEXTS USED IN FPDOT.MAC -- MERGE-PRINT DOT COMMANDS
;
; TEXT DISPLAYED BEFORE VARIABLE NAME WHEN ASKING FOR VARIABLE AND
; USER GAVE NO PROMPT IN .AV COMMAND.
B4VXT:  DB 0      ;NOTHING. COULD CHANGE TO "Enter ", ETC.
;
; TEXT DISPLAYED AFTER VARIABLE NAME WHEN ASKING FOR VARIABLE AND
; USER GAVE NO PROMPT IN .AV COMMAND.
AFVXT:  DB '? ',0
;
ETEXTM:      ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

```

*****
;* TEXTS - OVERLAY # OE HEX (PART OF WSOVLY1.OVR)
;
;*****
;
; EMBEDDED TEXTS FOR XPROG.MAC
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= OE7 HEX
;
;     DW ETEXTN-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING.
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
;     DW ER3RD-$
;     DW XTXPRO-$
;     DW XTWHAT-$
;     DW XTNF-$
;     DW XTPHEL-$
;
; ER3RD:  DB OFH,OFH,OEH,0          ;ERASES 3RD LINE DOWN (ERR MSG LINE)
;
; XTXPRO: DB OEH,13H,' COMMAND? ',0 ;BLANK LINE, PROMPT ON NEXT LINE
;
; XTWHAT: DB TAB+80H,' WHAT???' ',OEH,0
;
; XTNF:   DB TAB+80H,' ',19H,' NOT FOUND ',OEH,0
;
; HELP MESSAGE, LEVELS 2 AND 3 ONLY:
; XTPHEL: DB OEH
;         DB ' Enter name of program you wish to Run,          ',OEH
;         DB ' optionally followed by appropriate arguments.  ',OEH
;         DB ' Example (shows disk space):          STAT       ',OEH,0
;
; ETEXTN:          ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT
    
```

```

;*****
;* TEXTS - OVERLAY # OF HEX (PART OF WSOVLY1.OVR) *
;*
;*****
;
; EMBEDDED TEXTS FOR XPRUN.MAC
;
; THE VALUE ASSEMBLED INTO THE FOLLOWING DW SHOULD BE <= 1C1 HEX
;
    DW ETEXT0-$      ;LENGTH OF GROUP FOR RETEXT & USER CHECKING
;
; SELF-RELATIVE POINTERS TO TEXTS IN THIS GROUP
    DW HKTRW-$
    DW XTAGIN-$
    DW XTWSNF-$
    DW XTWSTB-$
    DW XTWSTS-$
    DW XTWSRV-$
    DW RCLF2-$
    DW RCLF-$
    DW CCMS-$
    DW CNRTW-$

HKTRW:  DB CR,LF,'Hit any key to return to WordStar: ',0
;
;          d:wordstar.com <- shows spacing
XTAGIN:  DB CR,LF,'Replace diskette with file ',1AH,' hit any key: ',0
XTWSNF:  DB ' *** file ',1AH,' still not found *** ',0
XTWSTB:  DB ' *** file ',1AH,' bad (too big ??!@&*) *** ',0
XTWSTS:  DB ' *** file ',1AH,' bad (too short) *** ',0
;
;          d:wordstar.com
XTWSRV:  DB ' *** ',1AH,' found is bad or incompatible version *** ',0
RCLF2:   DB CR,LF
RCLF:    DB CR,LF,0
CCMS:    DB '^C',CR,LF,0

CNRTW:   DB CR,LF,CR,LF
DB ' Cannot return to WordStar. ',CR,LF
DB ' Replace system disk (if removed), ',CR,LF
DB ' Hit any key to return to Operating System: ',0

ETEXT0:      ;MUST REMAIN AT END OF GROUP, AFTER ALL TEXT

```

