

WP6502

Operations Manual
Version 1.3 (OS 65D)



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-March '81 01-

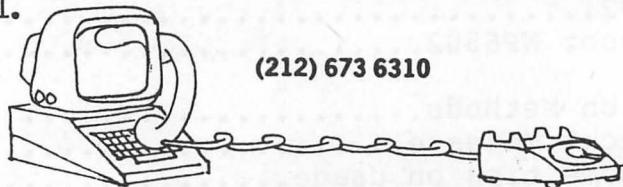
WP6502 V1.3
OPERATIONS MANUAL (OS 65 D)



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PLEASE NOTE

This is an operations manual. It is not a training manual. This operations manual is intended for reference and to augment the training course. The experienced WP6502 V1.2 user MAY be able use this manual as a guide towards V1.3 expertise. For those not at all familiar with WP6502, we very seriously recommend the Training Manual.



(212) 673 6310

NOTICE OF LIMITED WARRANTY

There is no warranty either expressed or implied for this product. It has been extensively tested and is believed to be reasonably free of errors. Dwo Quong Fok Lok Sow does not however guarantee this product in any fashion. Dwo Quong Fok Lok Sow does guarantee that the product will load and run in an Ohio Scientific computer in the factory-standard configuration.

Should problems arise and should these problems be communicated to Dwo Quong Fok Lok Sow in writing, we shall make reasonable efforts to assist. In any case, Dwo Quong Fok Lok Sow, the authors of WP6502, any distributor of WP6502, and the seller of WP6502 shall not be held liable for any incidental commercial damages suffered from the use of this product.

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WP6502 Version 1.2 vs. 1.3

There are a great many differences in the two versions of 1.2 and 1.3. Basically, everything you could do in 1.2 you can do with 1.3 and in nearly the same way. Version 1.3 can do much more though with its new and built-in features. For the V1.2 user, study of this operations manual will point out the new features. The most important re-learning required is as follows:

The ESC key: With V1.2, the RETURN key was used to terminate input or to select a default such as in the "Print?" conversation. With V1.3 in the type mode, the Return key functions exactly as the Line Feed key; that is, a line feed character is embedded into the text at that point. Input is terminated with the ESC key. This is true for all input into WP6502: the "From" and "To" in Global and Line Edit, input into the File Clerk portion, etc. ESC will nearly always get you back to menu (eventually) from no matter what point. The major exceptions to this statement is the test program.

The #M command. The #M command no longer exists. It has been replaced with the #L (left margin) command and has a slightly different meaning. #M used to mean "set my left margin to the default margin" (the one set-up in the Code Changing program or in the Print conversation) plus whatever value specified as a part of the #M command. The #L command means "set my margin to the value specified". (The default margin is always zero.)

This means that you will have to edit V1.2 text to get it to print the same with V1.3. Firstly global-edit all #m's to #M's. Next change all #M's to #L's. Now change the value following the #L's to the current value PLUS what you formerly used as a default margin. Such as: If you used 10 as a default margin, all #L10's would be changed to #L20.

The #C command: This now means "turn centering off or on". The character-by-number command (the former #C) is now #N.

V1.2 Files We have changed the End of Text marker from the commercial "at" sign (@) to the underline character (\$5F). This means that the '@' mark at the end of your text should be deleted. Users of polled/video systems can make the '@' sign by pressing Shift-Zero.

-March '81 03-

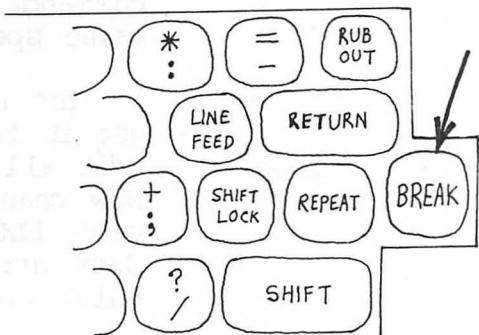
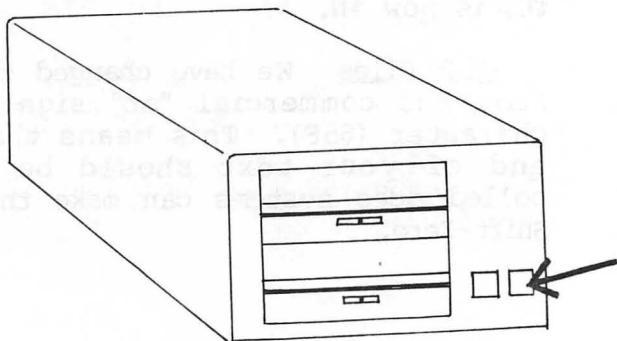
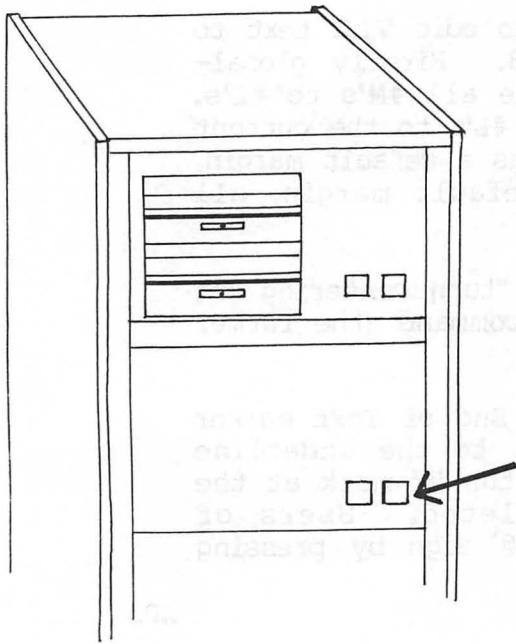
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Booting-up WP6502:

The curious computer expression "boot-up" refers to the process of getting the computer to load enough "smarts" off the disk to get it to do something intelligent. It is hauling in its intelligence by its own boot straps, thus the inexcusable expression: "boot-up". (We would have liked to avoid the expression but it seems so entrenched in computer talk that it is impossible to avoid.)

1. Turn on the computer, disk drives, and everything else (in that order). We highly recommend that you purchase some sort of terminal strip which allows you to turn everything off or on at the same time. Turning things off or on in the wrong sequence or not at the same time can cause damage.
2. Press the BREAK or RESET button. This will produce a "H/D/M" or some similar message on the screen. If you are in doubt as to the correct button, press BREAK on the keyboard first. If this does nothing, look to your computer. Your computer will have one or more square, white buttons. Press each one until the H/D/M message appears. You may wish to label this button.
3. Make sure the Shift-Lock or Caps key is locked down!



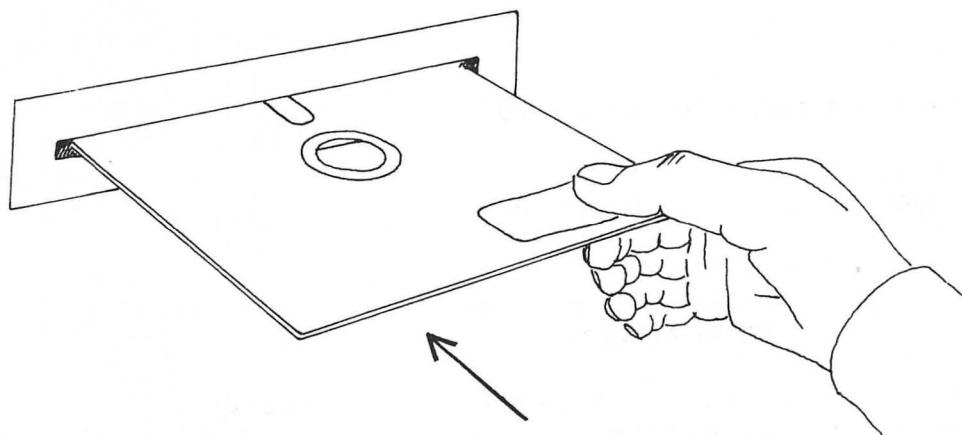
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4. Insert the WP6502 disk into drive "A" (usually the top one) with the label up and the arrow on the disk label pointing towards the drive. Insert into the drive until some resistance is felt. Press a little further until a "click" is heard or felt and until the disk doesn't pop out when it is released. Close the disk door.

5. Press "D" (upper case). The disk will make a few clicking sounds followed by "Hi!" appearing on the screen followed by "Clear?"

6. The "Clear?" question refers to whether you wish the work-space (the computer's memory) cleared. Answer "Y". See the next section to see why you may not wish to Clear.



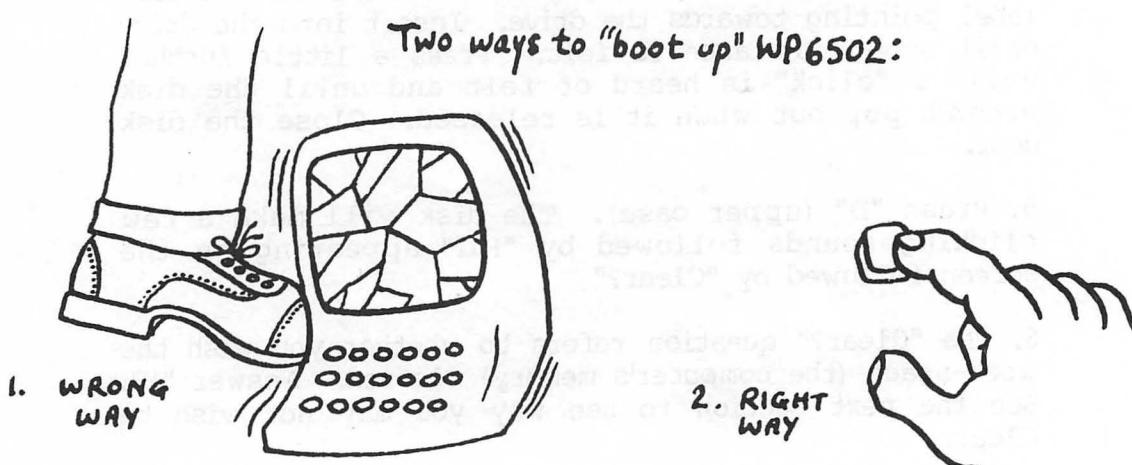
Restarting WP6502:

If you should hit the Break or Reset button by accident (or on purpose) or if a power problem causes WP6502 to behave erratically, you will want to restart WP6502. To do this, simply boot-up WP6502 again and say "N" to the "Clear?" question. This will restore operations with the previous text in memory intact.

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Two ways to "boot up" WP6502:



When You First Boot WP6502

When you first boot your WP6502 disk, you are asked:

Printer Type:

- 1-Diablo or NEC Parallel
- 2-All others.

See the discussion on printers (following) to see how to respond to this question. Once you have responded to this question, your disk will never again ask you this question on Boot-up. If you had responded "2" (All others) and later you wish to use a Diablo Parallel printer, you get back to this question as follows:

- 1-Boot a standard 65D disk.
- 2-Type UNLOCK
- 3-Insert the WP6502 disk.
- 4-Type RUN"BEXEC*

Once you have responded to this question, respond "Y" to the "Clear?" question then type "C" to select the File Clerk. Press "C" to then select the Copier then select "2" (Smart Disk). See page 27 on making a smart disk. Having made a smart disk, store your master in a safe place.

Printers: (Justification Methods)

Insofar as possible, WP6502 supports all ASCII printers and, in a growing number of cases, takes advantage of their special features. There are generally four classes of printers as follows.

TTY Logic: This type of printer is typified by the fact that it does nothing at all special. Typical printers of this class are virtually all dot matrix printers, teletypes, converted Selectrics, etc. TTY printers are capable of only unit spacing (all characters are the same width) and capable of moving the print head only in one-full-character increments. Justification on TTY printers is accomplished by adding extra spaces in the line. Underlining and bold print, if possible at all, is possible only by sending printer commands through the #Nxx command.

Micro-Spacing Printers: These are printers that print each character the same width but can move the print head in small (1/60 or 1/120 inches) increments. This includes nearly all Daisy-Wheel or Thimble printers (Diablo, Qume, NEC etc.) Micro-spacing justification is accomplished by "stretching out" each space, the results being of a much higher quality than TTY justification. Generally, micro-spacing printers are capable of underlining and boldfacing through the standard WP6502 commands. (#U & #H)

WITH SOME PRINTERS....

You can adjust the PITCH
(Characters per inch)

TEXT
TEXT
TEXT
TEXT



and the LINE SPACING
(Lines per inch)

TEXT
TEXT
TEXT
TEXT



..07

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OPERATIONS MANUAL.....

Printers (continued)

Proportional Spacing Printers (Parallel-Diablo Interface):

Proportional spacing means that not all characters are printed at the same width. This manual is printed proportionally spaced on a NEC 5500D. Notice the difference in character widths: lWlWlWl. While many word processing printers offer true proportional spacing, this capability is practical only on those printers which have a Diablo-Parallel interface. On word processing printers with serial or Centronics parallel interfaces, proportional spacing requires that printing be slowed by a factor of 8 or higher. This seems unacceptable to most users. (Given a sufficient demand, we may provide this capability.) There are two types of proportional spacing justification possible: the good kind and the bad kind. The bad kind is where the words are proportionally spaced but the justification is accomplished via micro-spacing. This does not take full advantage of the printer. The "good kind" (the kind WP6502 has, and nearly all other word processors do not) is where the spacing of each character, including the spaces, is varied to achieve justification. Underlining and boldfacing is available through standard WP6502 commands. (#U & #H)

Other Proportional Spacing: This class of printer allows proportional spacing, underlining, etc. through built-in features. Examples are the Diablo 630 (with optional features), Centronics 737, IDS 460 and 560, Qume Sprint 5 (Parallel), etc. While WP6502 can support this class of printer, you may not see all of these printers on the parameter changing program printer menu. (see page 39). If you have a printer which you believe falls into this class and which WP6502 does not support, please send a photocopy of your printer control codes and we may decide to support this printer or be able to tell you that we support it already (it may "look like" some other printer).

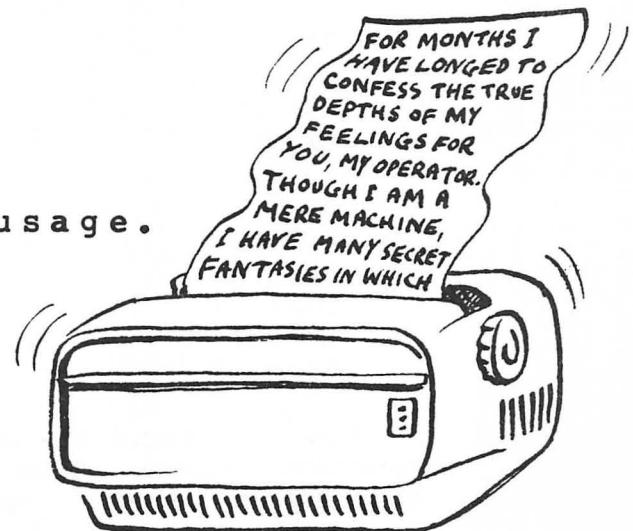
Printer
Check?

This error message pertains to word processing printers only. It means that you are out of paper or ribbon, the print wheel has come loose, etc. If you are actually printing, you may correct the fault then hit any key (except ESC) to resume printing.



Printers: Some tips on usage.

Some printers behave in unexpected ways. We have noted various little problems that some people have had and would like to share some of the solutions with you. This is by no means an exhaustive list but may save you having to phone or write us.



IF YOUR PRINTER BEHAVES STRANGELY...

Bi-Directional Printing: Many printers capable of bi-directional printing will not allow proportional or micro-spacing justification (or underlining or bold face printing) in the bi-directional mode. Should your printer behave strangely when you are trying to print using any of the special features, try turning off the features. If this fixes the problem, this means that you cannot right-justify text using the proportional or micro-spacing justification while also using bi-directional printing. There are two solutions. Turn bi-directional printing off (via printer switch settings), or indicate that you do not have a proportional or micro-spacing printer. This will allow TTY-type justification and no underlining or boldfacing.

Word Processing Printer Behaving Strangely: Some printers (TEC, C.Itoh) have a switch setting for the pitch of the print wheel. Should you be using a 10 pitch wheel and this setting is set to 12 and/or you have specified another value with the #Wnn command that does not agree with the switch setting, your printer can go crazy.

Sending Commands to the Printer: Some printers (notably Centronics) insist that some printer commands be sent only when the print head is "homed" (at the far left margin). To accomplish this (say to switch to expanded printing), press the tab key to get the print head to the far left when the text is printed, then enter the appropriate codes via the #Nxx command and/or by pressing the appropriate keys. If the command is of two or more characters in length (ESC,P for instance), do not leave blanks between characters.

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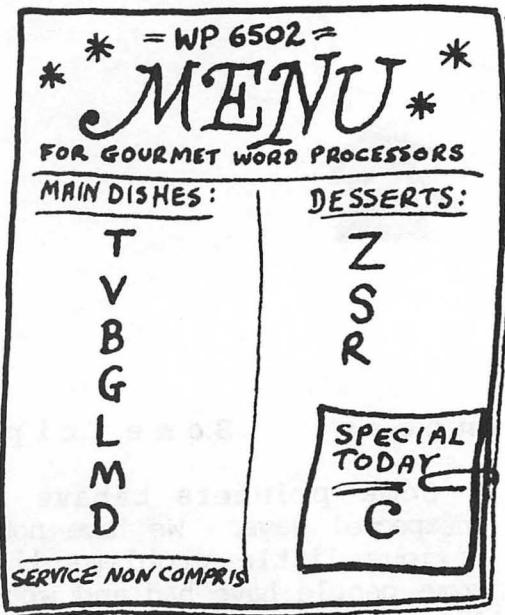
OPERATIONS MANUAL.....

MAIN MENU:

---WP6502

V1.3

Type
View
Blk View
G/Edit
L/Edit
Move
Delete
Zap
Send
Receive
Clerk. ?



Menu selections are made by typing the first letter of the selection desired. This selection can be upper or lower case. Entering an "illegal" letter will simply cause a "fresh" display of the Main Menu.

T----Enter into the General Typing mode. (see Page 12)

V----Selects the View mode. (see Page 13) Text may be viewed or displayed on the screen or on a printer.

B----Block View mode. Allows you to view text blocks which are presently in memory. You are asked "From Block 01?" Enter "Y" or press the Space Bar to start viewing from the first block. Entering any two digit number will cause blocks to be displayed starting from that block number. Entering a "ESC" at any point will cause the Block View to be suspended ("Escape"), returning you to the Main Menu. Any other key will result in the next, if any, block being displayed. If you choose to print the blocks, the blocks will be printed one at a time (waiting for you to press a key to start the next block). The blocks will be shown as they will actually appear when printed excepting blocks which call other blocks: the #Bxx command will appear as 'Bxx'. Pagination is provided while printing blocks.

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Menu Selections (continued)

- G----Enter into Global Edit mode. (see Page 17)
The Global Edit consists of "change everything like this to look like that." Thus you can change all occurrences of "Jones" to be "Smith", "center" to "centre", etc. You will be shown each change before it is made so you can agree or not agree to the change taking place.
- L----Enter into the Line Edit mode. (see Page 18)
This mode allows you edit text starting at a given point in the text. All embedded commands will be shown exactly as typed. Insertion, deletion and replacement is possible.
- M----Move a section of text. (see Page 23). A section of text is moved and, optionally, deleted from its old position.
- D----Delete a chunk of text. As an alternative to the Delete facilities available in the Line Edit Mode, this allows text to be deleted between specified starting and ending points.
- Z----"Zap" or clear the text area of all text.
Erase everything. You will be asked if you are sure that this is what you want.
- S----Send text to another word processor (see Page 20). The entire text area is sent to the other system along with a calculated check digit.
- R----Receive text from another word processor (see Page 20). The character received after the end-of-text mark (character \$5F) is considered as a modulo 255 check digit which is compared with the received text. An error is reported if detected.
- C----Call the File Clerk (see Page 24). Text may be saved or loaded on the disk drives. Most other file maintenance chores can be done without altering the text in memory.

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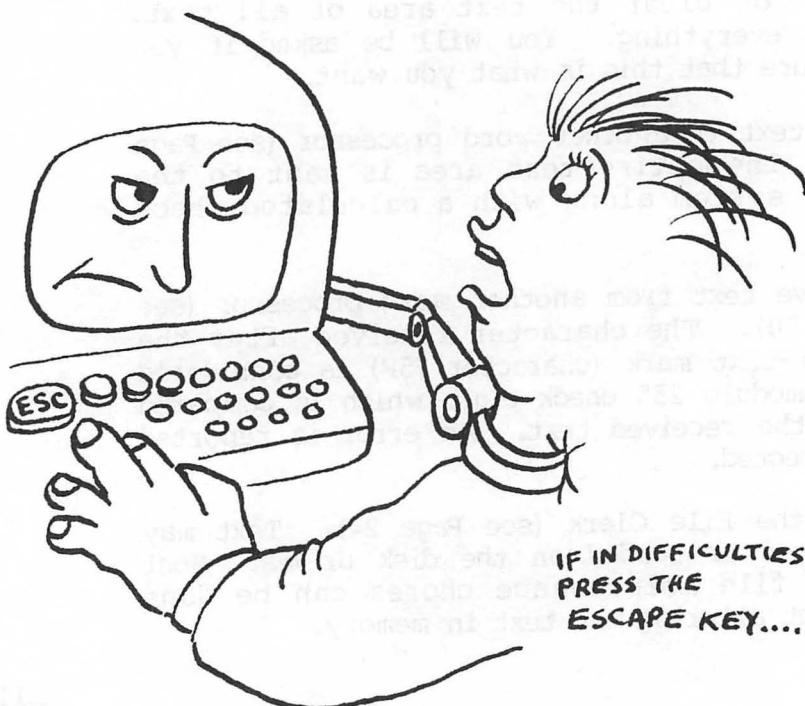
FROM: What section do you wish?

You will find that WP6502 quite often wishes to know what section of text you are talking about. Some examples are where do you want to start viewing, where shall Line Edit start, what block of text is to be moved, etc.

Just type in one or more characters (39 or less) to identify the desired chunk of text. DO NOT select the "number part" of an embedded command (like the '70' in #L70) if you are specifying a starting point for a 'View From'. This will only delete a character and reissue the Main Menu. If you want to say "just start at the start"; just press the space-bar. Assuming that you have input one or more characters to define the starting place, WP6502 wants to be sure that it has the correct place. Read on:

Y, N or ESC?

When you see this on your screen, WP6502 wants to know if "yes" this is what I want, "no" this is not what I want, or "Escape"; let's do something else. Note that anything other than "Y" or "ESC" is deemed to be a "no".



WP6502 V1.3 (OS65D) UPDATE -- TAB Key redefined.
Remove Pages 12 & 13, Replace with this sheet.....

Type Mode:

You are in the "type" mode whenever WP6502 prompts you with "Type" on the screen. "Type" or "Type Insert" or "Type Block xx" are all examples of being in the Type Mode. You are also in the Type Mode when you are asked for your "From" or "To" specifications in the Global Edit, Line Edit, View, or Move Modes. This means then that whenever you are being asked to input some text, WP6502 responds to the following rules. This does not always include responses to menus or questions which prompt you with the '?' symbol.

RETURN----This will put a line feed character into your text which will force a carriage return/line feed to occur at that point when the text is printed. Also performs a carriage return, line feed on the screen.

LINE FEED---Exactly the same as RETURN.

RUB OUT----Backspaces, erasing character last input. This may be the DELETE, or BACK SPACE key on some terminals or could be the underline character.

TAB-----Causes the "Tab" character to be inserted into the text. The first such tab character will result in a tab to column zero when the text is viewed. The second and subsequent tab characters (no spaces in-between!) will add 10 to this initial amount. Thus to tab to column 30, one could use a #T30 command or four depressions of the TAB key. On keyboards without a TAB key, this command will usually be made by CTRL-T.

\-----This causes the Start Text Block marker to be inserted into the text. In general typing, the screen display will show what block number this will be. On terminals without the "\ key on the keyboard, this will be produced with CTRL-B.

'Shift-\'---This causes the End of Text Blocks marker to be inserted into the text and causes a reversion to the normal type mode. ("Type" is displayed). On terminals without the "Shift-\\" key, this will ususally be CTRL-X.

ESC-----Escape from the Type mode. Go back to wherever you came from.

WP6502 V1.3 (OS65D) UPDATE -- TAB Key redefined.
Remove Pages 12 & 13, Replace with this sheet.....

View Mode:

Entry into the View mode is only from the Main Menu. Once you specify where to start (Page 11), you will enter into a conversation with WP6502 as to whether or not you wish the text to be printed. If you do not wish the text to be printed (responding anything other than "Y" to the PR? question), the text will be displayed only on the screen; one screen-full at a time.

"No Print" Viewing ----- WP6502 will display your text on the screen as it will appear on the paper. Select 'V' from the menu and press the space bar twice. Text will appear on the screen as it will on the paper providing that the screen margin and the printer margin are set the same (see INSTALL; page 39) and that any right margin set by the #Rnn command does not exceed your screen width.

When one screen-full has been displayed, an "Edit ?" prompt will be shown on the bottom-left portion of the screen. Responding "Y" (yes), "L" (Line Edit), or "E" (Edit) will allow Line Editing starting with the screen-full on the screen at that time. Pressing any other key will cause the next screen-full of text to be displayed.

Selecting "Edit" while Viewing ----- Line editing will proceed normally when you have selected "Edit" at the end of a screen or paper page. (see Page 18) When you have completed your edit, the current screen or page-full of text will again be displayed, showing the effects of the edit just performed. Please Note: Text which contains Blocks can sometimes produce unexpected results in this Edit-from-View mode. Please see Page 18.

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Scanning

You will see the mysterious word "Scanning" on the screen after you have said where you wish to start viewing text. This is to let you know that WP6502 has not died; it is merely searching from the start of the text down to where you have said you want to start. In this search, it is setting your margins, justification commands, underlining commands, page numbers, etc. that are appropriate for your specified starting point. As soon as the screen "jumps", just press the space bar to start viewing or printing.



ESC: getting away from it all.

Pressing the ESC key from almost any point of WP6502 proceedings will get you back to the Main Menu. ESC means either get me back to where I came from or get me back to the Main Menu. ESC is also used to terminate input or to say "that's all there is".

The exception is getting out of printing while the printing is actually taking place. In this case, you use CTRL-C; see Page 17.

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Printing Text.

Selecting "View" from the Main Menu by saying "Y" to the Pr ? question, WP6502 will then wish to know how you would like this text printed. Assuming that default values have been set up (see Code Changing Page 39), and assuming that this is a standard bit of text, then all you have to do is say "Y" for "yes" or "Space" to all the questions. Your text will be printed using these standard values.

If you wish something non-standard though, such as to hold on the top of each page so that you can feed a letter head to the printer, then you will have to over-ride the default values. This is as follows:

Printer08? Possible print devices are as follows. If you are in doubt about your printer number, save your text, make sure your printer is turned on and ready, and try each Printer Number between 1 and 8. If the system simply "freezes", re-boot and try the next number. If nothing at all works, your printer is likely not really ready: not selected, not turned on, out of paper, out of ribbon, etc.

1-Standard RS-232 Port on C1, C2, C4 or C8

3-RS-232 Port on some modified 470's

4-Centronics Parallel for 65D

5-Centronics Parallel for 65U and NEC 5500
(Diablo Parallel) Port for 65D

6-NEC 5500 (Diablo Parallel) for 65U

8-555 or 550 board device(s); 16 possible ports.

Dear John:

Though it is hard for me to tell you this, I feel you should know that I have #B24 with #B08, and so this is good bye!

Yours #K

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Printing text (continued)

Port01?--This refers to one of the 16 possible ports on the 550 board or one of four possible on the 555. (You will not see this question if Printer 08 is not selected as the printer).

Page Prefix-Via WP6502----This is where you set the characters printed before the page number such as on the top of this page. You may enter ESC to suppress the prefix. Space-Bar will select the prefix previously entered. Typing any characters (up to 10) will set those characters as the prefix. If fewer than 10 characters are desired, pressing ESC will truncate the entry at that point. If you make a typographical error when entering this prefix, the error cannot be corrected excepting by pressing the ESC key twice and starting all over.

Print#'s--Pressing 'Y' will cause your text to be printed showing the embedded commands. The commands will be printed but not acted upon.

Li66 ?---This refers to the number of lines per page. 66 is the standard for most printers on 8 1/2 by 11 paper. 88 is the norm for standard paper and 8 lines per inch printing. Should you have non-standard size paper (legal size or perhaps labels) you will wish to change this.

#C?-----How many copies?

P#?-----What will be the starting page number? Entering a zero suppresses page numbering. Enter any number (up to '99') for the first page of your text. If you are doing a "View From", the number represents the first page number of the text in memory; not necessarily the first page actually printed.

AP?-----Do you want "AP" (Associated Press) style? This is the style used in press releases, theses and for some business letters. 'AP' means that each page starts with a new paragraph or text which is preceded by a line feed character or top-of-form command. No paragraph is ever "broken" at the end of the page (unless absolutely necessary). Enter "Y" and you've got it. Anything else is a "no".

AP gets 'turned off' as soon a a #Bxx command is 'seen'. If AP is selected and WP6502 encounters a chunk of text that runs for more than a page before the next #P or line feed character, the effect will be as if AP was not selected.

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Printing text (continued)

Ho?—Want to "hold" the printer at the start of each new page? You would use this option to single-sheet feed your printer with letter head or other special forms. You would also use Hold to cause the printer to stop when it gets a #Wxx (change pitch) command so that you can change print wheels in mid-print.. Enter "Y" and you have it.

Stopping the print-out. (CTRL-C)

Every now and then, you will start printing and see that you want to change something. You forgot to correct something, printing on the wrong form, etc. Just hold CTRL-C (at the same time). The printing will be stopped and the paper advances to the top of the next form. "Abort" will appear on both the screen and on the paper.

Global Edit:

This allows you to change all occurrences of one set of characters to a different set of characters. This is useful for changing a consistently misspelled word, a character name, etc.

WP6502 will ask you "From". You will type in the set of characters you wish changed EXACTLY as they appear in your text. See FROM, Page 11.

WP6502 will then want to know "To"; what do you want to change the characters "To". This can be from zero characters (deletion) to up to 255 characters. The changes will be shown to you before the change is actually made. If WP6502 cannot find an exact match for your "From" string, it will simply reissue the Main Menu.

A few characters before the change will be shown to you followed by a square bracket to mark the start of the proposed change. The proposed change follows then there appears another square bracket to mark the end of the change. Then comes some more text just for continuity. You are now prompted with "Y, N or ESC ?". Enter "Y" to say "yes, make this change". A "ESC" means forget this whole thing; show me the Main Menu again. Anything else means "no, don't make the change".

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Line Edit:

Line edit allows you to edit your text line-by-line, showing you the text exactly as it was originally typed. Selecting "L" from the Main Menu; WP6502 will want to know "From": from where do you wish to start? See Page 11. Once you have selected your starting point, the following applies:

Space-----moves the cursor to the right. Moving the cursor to the end of the line will automatically display the next line.

RUBOUT-----As in general typing, this moves the cursor to the left. Different from general typing though is that RUBOUT (or DELETE or BACK SPACE) does not rub-out text, it merely positions the cursor one position to the left of its present position. Going to the extreme left margin will result in the previous line being displayed.

R----Selects the "replace" mode; "Replace" is displayed on the screen. The next character input will replace the character over the cursor and the cursor will be advanced. Hitting ESC will return you to the Line Edit mode.

LINE FEED-----Display the next line of text (if any).

^-----Display the previous line of text (if any). If the "^" symbol is not on your keyboard (usually over the 6), you will likely use CTRL-LINE FEED to achieve this effect.

D----Deletes the character over the cursor.

DW---Delete "word". Deletes all characters up to and including the next blank.

DS---Delete "sentence". Deletes all characters from the current cursor position up to the next non-blank character following a period, question mark or exclamation mark.

DP---Delete "paragraph". Deletes from the current cursor position up to but not including the next '#P' command.

Line Edit Commands (continued)

I----Allows text insertion at the point after the cursor position. "Insert" will appear on the screen as well as a number of characters "free". The insert may be as long as the "free" space. Pressing ESC will end the insert and return to Line Edit where you left.

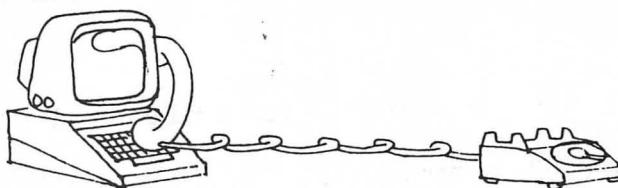
T----Start typing again. This has the same effect as selecting "Type" from the Main Menu. Typing will begin at the end of the text in memory.

L----Restart Line Edit. This is exactly as if you had selected Line Edit from the Menu. This option merely preserves the user's continuity when doing a series of Line Edits (ie: no need to see the Main Menu over and over again). It can also be useful in the Edit-from-View situation where you find that a text block is preventing you from editing the text you wish to access.



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OPERATIONS MANUAL.....



Send/Receive

Transmitting your text to another machine.

Want to send your text to another machine? WP6502 provides facilities, selectable from the Main Menu, to accomplish this. Ideally this communication will take place between two WP6502 machines. However the facilities provided may allow communication with a "foreign" system.

WP6502 communications are asynchronous, half-duplex and may be accomplished via modem or RS-232 linkages. Some definition of terms is in order:

Synchronous/Asynchronous: This refers to whether the communication method allows simultaneous send and receive (synchronous) or allows only send or receive (asynchronous).

Full/Half Duplex: This refers to whether the receiving machine sends back the same character to the originator or whether it does not. If each character is sent back or "echoed" as it is received, this is "full duplex". If the character is not echoed, we have your basic half-duplex.

Modem: This stands for modulator/demodulator. A modem allows your signal to pass over telephone lines as an audio signal. It gets converted to audio at one end (modulated), sent down the wire, and then translated back to a standard signal at the other end (demodulated). You will notice that many modems have "answer originate" switches on them. This can be confusing as "answer" does not really mean that you can only answer! In modem communications, one side must be on "originate" and the other on "answer". It does not matter which is which; all that matters is that each side of the conversation be on different settings.

RS-232: This refers to a direct hook-up between computers not using telephone lines. There is a limit as to how far you can go without signal amplifiers. However OSI's standard RS-232 circuitry on the CA-10 or 555 or 550 board is said to be able to comfortably handle one-quarter of a mile. This is the ideal way to communicate as it can be much faster than communication over telephone lines.

Send/Receive Communications Protocol:

WP6502 communications can be with or without "handshaking" protocol. This is selected in the Install program (see Page 39). If handshaking is used, it is highly recommended that some sort of hardware clear-to-send or data-carrier-detect be implemented on the communication hardware.

Communication with protocol or handshaking

1. The sender brings the text that is to be sent into the computer's memory, selects "Send" from the Main Menu, then sets the proper printer or output device corresponding to the communications line or modem.
2. The sender then indicates to the receiver that some text is ready on the line.
3. The receiver selects "Receive" off the Main Menu and selects the relevant input line.
4. Whatever is in the receiver's memory at the time is sent to the sender as a text string and as a signal that communications have been established. This text is not saved by the sending machine. Following the text string, the receiving machine also sends out the end of file mark (\$5F) and one more character. Only after this is accomplished does the sender start sending its text.
5. The sending machine now sends the text in its memory to the receiving machine. The text is sent in "core-image" or just as it appears in line-edit mode. No carriage returns or line feeds are embedded in the text. After the last character is sent, the end of file mark is sent (Character \$5F) followed by a modulo 255 check digit. The sending machine returns to the Main Menu.
6. Upon receiving the end of file mark and the check digit, the receiving machine calculates a check digit and compares it with the one received. If an error is detected, "ERR" appears on the screen. If all is well, the Main Menu pops up again. The text may be saved at this point.

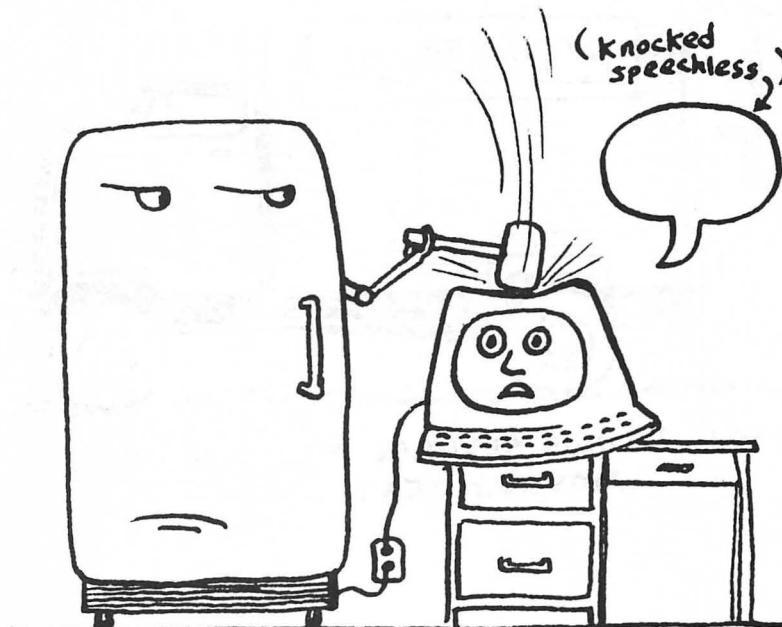
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OPERATIONS MANUAL.....

Communications without protocol or handshaking.

1. The sender indicates to the receiver that some text is to be sent.
2. The receiver selects "Receive" off the Main Menu and selects the proper input line.
3. Only after the second step is completed does the sender select "Send". Setting the proper output device, communication is completed as shown previously in steps 4 through 6.



Appliances may clobber your computer
if they share the same power outlet....

Moving or Copying Text:

Moving text amounts to identifying what is to be moved, saying where this is to be moved, and then saying if the "old" text is to be deleted (a "real" move) or is not to be deleted (a "copy" operation).

You will be asked: "Start from..." and then "End with...". These specifications are as the standard "From" rules (Page 11). You will be asked then "Delete" meaning, is the old text to be deleted or not? On completion, you are returned to the Main Menu.

If WP6502 can't find an exact match for the "start from", "end with" or "put after" specification, you will be returned to the Main Menu.



WP6502 ALLOWS SEVERAL METHODS FOR
MOVING TEXT

Deleting Portions of Text

In addition to the delete functions in the Line Edit mode (see Page 18), WP6502 allows you to delete specified portions of text. Selecting "Delete" from the menu, you will be asked the starting and ending points exactly in the same fashion as in Moving Text (see above). Once you have made your specification, the deletion occurs with no other prompts. In other words; be sure you do it correctly. Remember that ESC can abort the whole procedure.

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OPERATIONS MANUAL.....

Clerk: Performing disk operations:

Selecting Clerk from the Main Menu, you will be placed in the hands of the File Clerk. MOST of these operations will not erase whatever text there is in the computer's memory. When the text will be erased, File Clerk will ask permission first. Please Note: While File Clerk functions will work with all 65D files, DO NOT try to load and save non-word processing files with File Clerk. You will find that your non-word processing file will be all but unusable after you do so!

06 TracksDisk tracks required to save your text

002500 Words ...Approximate word count

018660 FreeAmount of the computer's memory unused

Drive ADisk drive selected

FILE CLERK

Directory

Save

Load

Rename

Erase

Copier

Install

Test?



The file
clerk is
always
ready to
serve you.

File Clerk Options:

D-----Print a directory or index of files on a given disk and show how many tracks are free.

Save-----Save the text in the computer's memory onto a disk. You will be asked which disk drive and the name (maximum six characters) which you wish to give to the file. If a file by that name already exists, File Clerk will ask if it is OK to replace the current contents of the disk file with the contents of the computer's memory. If the file does not exist on the disk in the selected disk drive (A/B/C/D), it will be created and the text will be saved. Disk files will be expanded or contracted as required. Should existing files have to be shuffled about to make room for this file, the disk will be automatically repacked. Should there be insufficient room on the disk, you will be informed. The copy of the text in the computer's memory is unaltered.

Load-----Load a disk file to the computer's memory. As "Save", you will be asked to select a disk drive and specify the file name. If text is already in the computer's memory, this new text will be merged with the existing text.

Rename----Allows renaming of a disk file. A check is made to make sure the new name is not a duplicate.

Erase----Removes a file name from the directory; effectively freeing up the space it previously occupied.

Copier----Selects the Copier program. This erases the text in the computer's memory. See the following section on the Copier.

Install--Allows the changing of WP6502 parameters. See page 39.

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OPERATIONS MANUAL.....

File Clerk Options (continued)

Test-----Exits to the testing program to test either the computer's memory or the floppy drives. This will erase the text in the computer's memory.

Disk Test: The disk drive test will test the indexing and reading of the floppy disk drives. It does not test the writing circuitry nor will it alter a disk in the selected drive. About five minutes of error-free testing should be sufficient. (ERR #6 means the disk drive door is open). Other errors could be the disk or the disk drive. Use a disk known to be good and known to contain data. See also the section on Disk Errors, page 28.

Memory Test: The memory test tests the computer's memory using random bit patterns. Should an error be discovered the test will stop. Testing continues for 255 passes with an asterisk put on the screen for each successful pass. Should an error occur, 'E' will be shown on the screen. If you are using a polled/video machine, the address in error will be displayed as well as the value that could not be written. For serial terminal systems, the address in error is found by pressing Reset, M, P0000, then (quickly) the space bar. The first four digits on the screen represent the address in error (lo/hi). Write this address down and repeat the test.

Should there be consistent messages, call your service man. Should the messages be sporadic; that is, not always referring to the same location; check your supply of current. Is the air conditioner, refrigerator, elevators, copying machine, postage meter, etc. causing your computer to have a headache?

Five successful minutes of memory testing is a good indicator. Bear in mind is this is one of several types of memory tests. Passing this memory test is a good indicator is not a guarantee of no memory problems.

ESC-----Return to the Main Menu.

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COPIER:

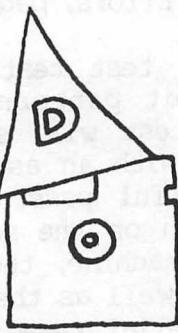
The copier will perform all file backup operations. Text in the computer's memory is destroyed. Exiting from the Copier (ESC) will restart WP6502.

You will be asked for the drive(s) on which the operations are to be performed. Note that copying can be from and to the same drive. That is; "from A to A, C to C etc.". While this will require you to change disks several times, it is a useful option if you have a drive acting up or if you have but one drive.

COPIER OPTIONS:

- 1 - Dumb Disk
- 2 - Smart Disk
- 3 - Copy System
- 4 - Copy Files
- 5 - Copy Everything

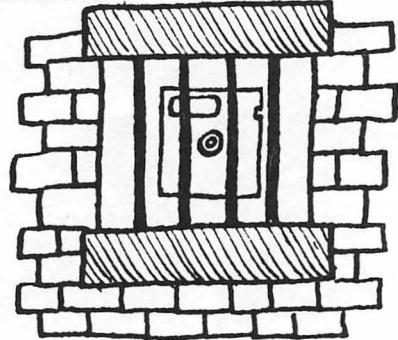
>Your Choice?



DUMB
DISK



SMART
DISK



BAD DISK!

1---(Dumb Disk) This creates a "data only" disk; that is, one that is completely empty except for a blank directory.

2---(Smart Disk) Copies the operating system, WP6502 and the WP6502 support programs onto a blank disk. This gives you a "smart" data disk: one that will be a fully operational WP6502 system disk with no data files defined.

3---(Copy System) Tracks containing the operating system and WP6502 support programs are initialized and copied. Used when your disk will not boot any longer.

4---(Copy Files) All non-WP6502 or data tracks and the directory are initialized and copied.

5---(Copy Everything) Self-explanatory. This is what you would use to back-up any 65D disk.

ESC--Go back to WP6502.

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Disk Errors:

Whenever you see "ERR #X" on the screen, (the terminal bell may ring as well) you have a disk error. Sometimes these messages are merely informative messages (you left the door open or the disk is write-protected). These informative messages will account for the bulk of your disk error messages.

Other, more serious, messages are explained below. We would again like to take the opportunity to say "always make a back-up copy of your disks." Should you have a disk which is beginning to show signs of being error-prone, copy whatever files you can one at a time; do not use Copier. Copier will only faithfully duplicate the disk. If it is garbage, the copy will be garbage.

Having copied the "good stuff" throw the error-prone disk away. Hours of your work is more valuable than the cost of a disk (is this being presumptuous?).

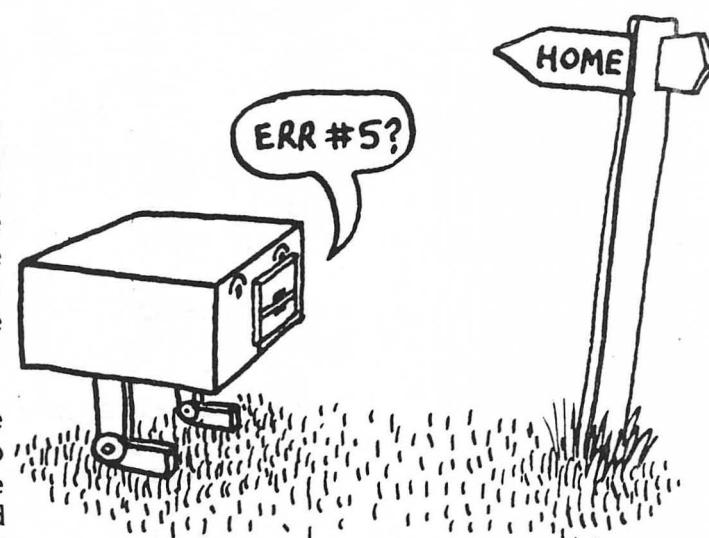
ERR. #4--You are attempting to write on a disk that is write-protected. If you have a five inch disk, there is a label stuck over the write-protect notch. If you have an 8 inch diskette, there is not a label over the notch. Before you remove the label, ask yourself: "Why is this disk write-protected?"

ERR. #5--The system is a little lost. Frequently this problem can be alleviated by selecting the same drive again when Clerk asks for the drive specification (whether or not that drive is already selected). This causes the drive to "home" itself which sometimes gets around an ERR #5.

ERR. #6--The disk drive door is open or the drive has been turned off.

ERR. #9--As ERR #5 but usually more serious. Try the solutions suggested for ERR. #5.

All Others and those that don't go away: You likely have permanent problems. The disk can be bad (even new ones can be bad), the disk drive has some problems, or your supply of current is too irregular. You may clean your disk head with one of the commercial disk head cleaning kits. If this does not help and the problem persists, see your service man.



If your disk drive
gets "lost"....

Care of Disks:

Simple really. All good disk care amounts to is keeping a disk clean, warm and away from powerful magnetic fields.

A disk is simply a disk-shaped piece of plastic with a thin coat of powdered metal sprayed onto it. It is inserted into a jacket which is lined with what looks like facial tissue. (Tear a disk apart some time, preferably a bad one.)

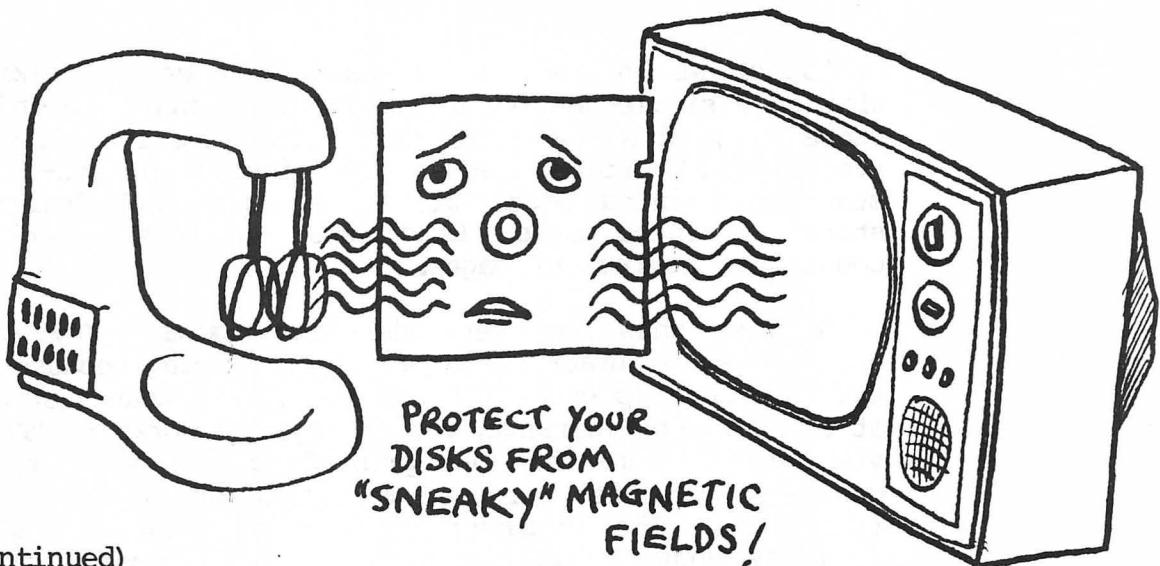
When you put a disk into the drive and slam the drive door; a cone-shaped metal spindle goes through the large middle hole and clamps it tight against a spinning metal plate. The result of all this is that your disk is now spinning inside the disk jacket. If you've just put a disk in your drive after dropping cigarette ashes all over the exposed part of the disk, these cigarette ashes are being evenly distributed all through the lining material. If you've left your disk lying out without its jacket and now it's dusty, this abrasive dust is now embedding itself into the lining.

The dirtier the environment you provide for your disks, the sooner you will have disk problems.

You may minimize the dirt problem by simply not having the disk door closed unless you are actually reading or writing (minimizing the "spin time"). Remember, that disk can only spin inside that jacket so many times before it gets simply worn out. That thin metallic coating is just that: thin.

Your disks should also be kept at room temperature. Of course this is not always possible. You may have to deliver disks to a meeting in Winnipeg for instance. No real problem; just make sure the disks get up to room temperature before you use them. By the way, in case you are a landlord: "room temperature" means somewhere between 60 and 80 degrees.

How long will your data last? Remember that your text is stored on the disk as little magnetic fields. Magnets can wear-out or get weaker just from sitting. If you have text which you wish to save for years; we recommend that you copy these disk about every six months. Save the copy. This will amount to your saving a "fresh" disk. Some will say this is not required as often as every six months. While we are not the definitive authority on the subject (see your disk manufacturer) we have found that "old" disks are often troublesome to read. Once "refreshed", the disk should be OK for another 6 months.



Disk Care (continued)

Magnets: Naturally you don't want to put magnets near your disks. Beware also of "sneaky magnets": those magnetic fields put out by some electric motors, loudspeakers and TV-type displays. Also beware of airport X-Rays. Show your disks to the attendant and explain what they are (if you can imply that they have something vital to do with national security, so much the better). Usually with little or no difficulty the attendants will pass the disks around the X-Ray.

Our last word on this subject is that we have broken every one of these rules at some time or another. Sometimes we are lucky, sometimes not. We don't want you to be afraid to handle a disk, but, we don't want you to play frizbee with it either.

Capacities:

How much will the disk and/or the computer's memory hold?

Asking "how many printed pages can I have in the computer's memory" is not as simple a question as it may sound. It depends on your spacing, your use of blocks, your page format and the way you achieve this format, how often you paragraph, what you use as your text width, etc. In general though, a cram-packed printed page would have 500 words while a double-spaced printed page could easily have half that. Using an average then of 400 words and the universal average of five characters plus one space per word, this amounts to 2400 characters per printed page.

This would mean then that a WP6502 system running under the 65D operating system with 48K would hold in excess of 15 printed pages. On the 65U operating system with 48K, you can hold about eight to nine printed pages. Less than 48K? See what the "free" count is just when you first start WP6502 and select Type. Divide this by 2400 to get an approximate number of printed pages.

Capacities On disk? We'll assume that we are talking about one side of a single-density disk. The five inch data-only disk could store 32 printed pages of text. The five inch "smart disk" can store but 21 printed pages. The eight inch data-only disk will store 95 printed pages while the eight inch "smart disk" will store 83 printed pages. Hard disks? Numbers of books is a better count than numbers of pages.

Now you know some very misleading figures. (The same sort that every other manufacturer quotes.) Misleading because the computer has to gobble up chunks of the disk rather than just one character at a time. For instance, the 65D system works in "Tracks." While you can put more than one printed page on a track, if your file contains just one character more than one track it will require two tracks! The remainder of the second track is wasted and this waste is unavoidable. On 65U systems operating with networking and timesharing, the standard "chunk" is in excess of 3000 characters. Use one more character than this basic chunk and, you guessed it, you now need two chunks.

So please use these figures as a general guide or as something to confuse word processor salesmen.

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PARA.

KEYBOARD ENTRY

SPACING OF LINES

| # TAB LINES LINES

| #....DOT TAB

LEFT MARGIN

RIGHT MARGIN #R

B LOCK TEXT INSERT

NUMBER OF CHARACTER

|← # JUSTIFY →|

→ # CENTER ←

UNDERLINE

W^{PRINT} PITCH OF NEW PITCH

HEAVY PRINT

X PROPORTIONAL LETTER SPACING

FOR
WORD-
PROCESSING
PRINTERS
ONLY

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OPERATIONS MANUAL.....



Embedded Commands:

Embedded commands are commands that you insert or embed in your text. When WP6502 is displaying your text in the View mode, these commands are acted on but not displayed. When in the edit modes, the commands are displayed but not acted on. These commands allow you to format your text in various ways. All commands may be entered in either upper or lower case.

#P----Start a new paragraph; leave one blank line (whether in single or multiple spacing) and then indent.

#K----Stop the printer for insertion of text from the keyboard. The printer will stop, the number of characters "free" will be displayed followed by "Type Insert". You may type any number of characters up to the "free" limit. You may rub-out mistakes and you may type in any embedded command you wish including the #Bxx command and further #K commands.

#Snn--Change to "nn" spacing. #S03 would be triple spacing for example.

#F--TOP OF FORM. EJECTS PAGE³³.

Embedded Commands (continued)

#Tnn--Tab to column "nn"; perform a carriage return, line feed if required. For example, the character following a #T33 command will be printed in column 33.

#Dnn--Same as #Tnn excepting you "dot" to the position requested instead of "spacing" to that position. The index of this manual illustrates the liberal use of the #D command.

#Lnn--Change left margin to position "nn". This does not take effect until WP6502 performs the next carriage return, line feed. This CR/LF can be forced through a Line Feed command, Paragraph command etc. or can come naturally through simply filling up the line.

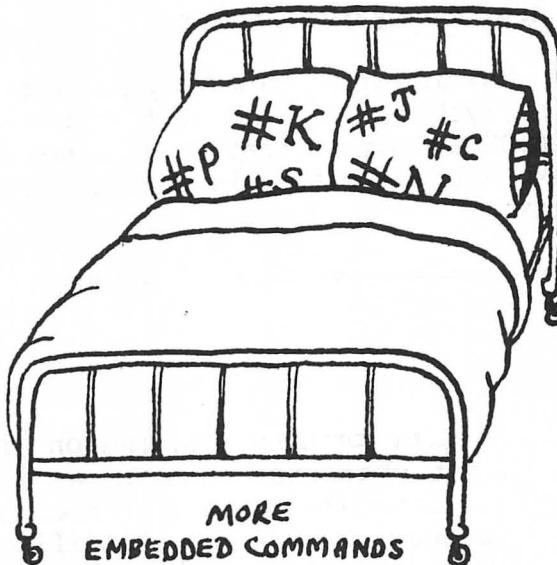
#Rnn--Set Right margin to position 'nn'. Becomes effective as soon as it is specified.

#Bnn--Insert text block "nn" at this point. The block must be in the computer's memory at the time. For a full discussion of blocks and how to use them, see page 36.

#Nnn--Print out character number "nn". See your printer and/or terminal manual. You will see that each character is assigned a certain numeric value. For example, character number 65 is really an "A". This command is used to send otherwise non-printable characters to the printer or terminal as printer or terminal commands, or, it can be used to print characters otherwise unprintable by WP6502. If you wanted to print a "#", for instance (the usual embedded command marker) you could do it by saying "#N35".

#J----Start or stop justification at this point. A carriage return, line feed occurs.

#C----Start or stop centering. A carriage return, line feed occurs.



Embedded Commands (continued)

THE FOLLOWING EMBEDDED COMMANDS ARE MEANINGFUL
ONLY TO WORD PROCESSING PRINTERS.

#U--Start or stop underlining.

#Wnn--Change to pitch nn. This allows changing print wheels in mid-print (make sure "Hold" is selected), or allows setting the same print wheel at a different pitch for headings.

#H----Start "heavy" print. This is a bolder print caused by the characters being printed twice and slightly offset.

#X—Turn proportional spacing off or on (normally on). This is meaningful only to parallel word processing printers capable of proportional spacing.

<ERR? Appearing in your text.

When "<ERR?" appears while viewing your text (the terminal bell may ring too), everything stopping at that point, this means that you've given WP6502 a command that it does not understand. Press any key and you will be placed in the Line Edit mode near this point in your text.

Headers:

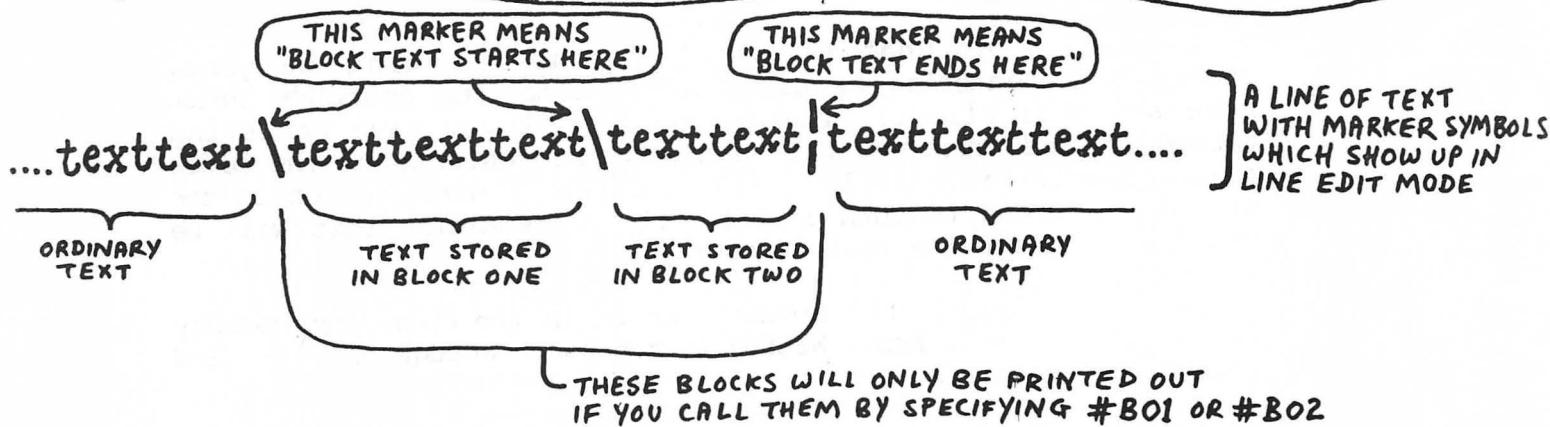
You can have a header printed starting on the second page of your text. The first character in your work space must be a "slash" (/). What follows the slash can text in any format and including any embedded commands. Justification, centering, boldface, #X, and underlining commands are "local" to the header. That is, they do not affect the remainder of the text. The end of the header is marked by another "slash". Slashes appearing elsewhere in your text do not have this special meaning.

Important to note is that the first line of the header may be printed on the first line unless you have a line feed in the header or unless you have used an embedded command (eg: #C) that produces a line feed. If you have selected page numbering to appear in the upper left and do not have a line feed in your header, your header may print over the page number. (We asked the Chief Programmer why this happens only "sometimes": didn't understand a word.)

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A few words of explanation on the subject of BLOCKS:



BLOCKS, a brief description

The block feature is one of the most powerful aspects of WP6502. While the concept is relatively simple, it is not a concept that is easily mastered. We will outline the general rules of blocks below, then we will briefly outline some of the ramifications of block usage. For a more thorough discussion of block usage, please see the training manual.

Typing blocks: You tell WP6502 that you wish to type a block by pressing the "backslash" key (\) while in type mode. Should you not see this key on your keyboard, CTRL-B or CTRL-b (at the same time) should do the trick. The following will appear on the screen to show that you are typing a block and tell you which it is:

Type Block 01

Type any text you wish. Blocks may be of any length and may contain any of the embedded commands, including a #Bxx command or a #K command.

When you have finished typing one block and wish to type another, simply press the \' key again. At this point you will be shown:

Type Block 02

When you have finished typing blocks, press Shift plus the Backslash key or CTRL-X to exit from the block typing mode. The screen will show

Type

to indicate that you are in the normal typing mode again.

It does not matter if you intermingle text with block text. While it is not a very organized way of doing things, you may type a few blocks (references for instance), then type text, type more blocks, more text, etc. All that is important is that you type Shift-Backslash or CTRL-X when you wish to return to the normal typing mode. If you do not, what you think is normal text will be taken by WP6502 as being an addition to a block.

Using Blocks: Wherever you wish a block to appear in your text, just "call it" using the "#Bxx" command. #B32 would call block 32 for instance.

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Blocks (continued)

The only "gotcha" to watch for is changing margins, underlining, centering or using other formatting commands which have a global effect. That is to say, if you have centering turned on and then you call a block, the contents of the block will be centered as well. Should you turn underlining on in the block and forget to turn it off, all the remaining text will be underlined up to the next #U command.

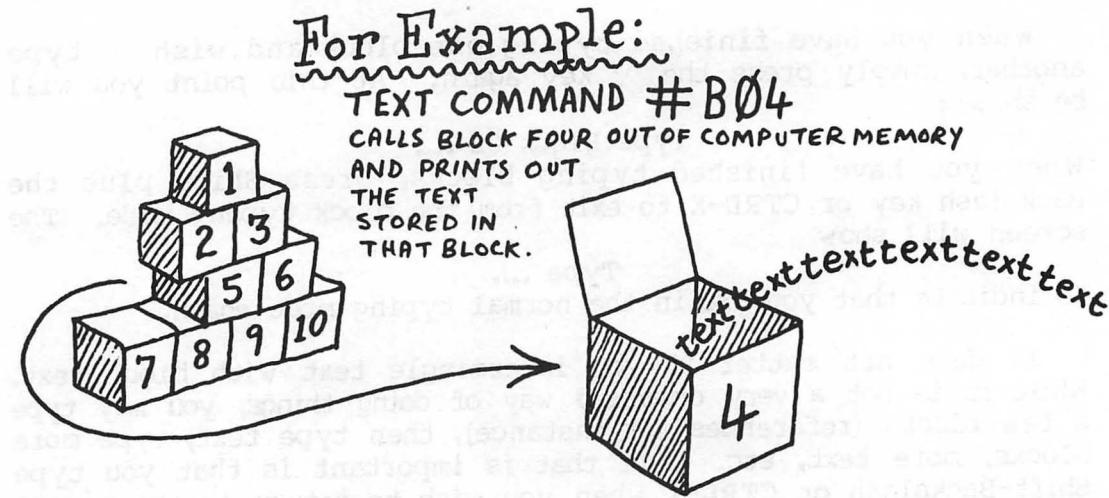
Remember too that the blocks must be in the computer's memory before you can use them. WP6502 is not smart enough (yet) to find your blocks on disk.

Editing Blocks: You can edit block text just as any other text. Nothing special is required excepting that you should be very careful that you do not delete the \ and/or the end of blocks marker (it looks like an extended colon). Should you delete these characters, you may end up merging one block with another, merging a block with normal text, or merging all your text with a block. While you are allowed to delete or even insert these characters, be careful.

While it is possible to edit blocks from the View Mode, it can get very confusing. It is therefore not recommended.

Viewing Blocks: Selecting "Blk View" from the menu, you can see your blocks individually and, optionally, print them. (see Page 9)

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OPERATIONS MANUAL.....

BLOCKS, some tips on usage.

With a little planning, blocks can greatly increase your productivity. Monitor your typing for a week or so, noting repetitive phrases, paragraphs, clauses, etc. Some naturals are:

Re: Your letter of May 3rd.

Please write if we can be of further assistance.

You will probably notice that there are certain phrases used in most general correspondence, some used for specific applications such as collection letters, and others used in various contracts and you will notice some phrases used in all correspondence (your return address and date for instance). If you notice fewer than 100 pieces of repetitive text in use in your typing, you can take care of them with a single block file. If you have more than 100, you will have to separate your blocks into categories.

Remember too that phrases like "In reference to your order of January 23rd" can be "blocked" too: the 'January 23rd' can be inserted with a #K command.

Having typed your blocks, now print them out using the "Blk View" feature from the Main Menu. Distribute copies around the office and instruct the personnel in their use. One of the more effective methods of getting persons more comfortable in using blocks is to have a form printed showing all the blocks and blanks to be filled in. Then all a user has to do is to check off the blocks to be used (indicating the order in which they are to be used) and indicating what is to be filled in.

Your general correspondence disk then could consist of your blocks and the following "text":

#B01 #K #B02

This is assuming that Block 01 is your return address which contains a #K command to retrieve the day's date. The person's name, address and the block commands (and any other text) are called up with the #K command. Then Block 02 is called to close the letter with, say, a "Yours very truly," a few line feeds and then a #K command for the sender's name.

Block files can also be used effectively for short runs of form letters or even for your personal correspondence. Set up recent incidents that have happened, your comments on current affairs, comments on the weather etc. as separate blocks. Then your personal correspondence will consist of merely deciding what to tell whom. You may want to tell Aunt Hilda about the nice person you met last week, but, you may not want to tell her what happened afterwards!

Install: Changing WP6502 Parameters.

While Install allows you a lot of power to configure WP6502 to a variety of printer-terminal configurations, it also gives you the power to really mess things up.

Make sure you know what you are doing!

While you can't really render your WP6502 totally unusable, you may have to restore everything to its original state to get everything working properly again. DO NOT run Install using your master disk. This will assure you of retaining a copy that works.

In case it isn't obvious, what we are trying to do is to discourage you as much as possible in using the Install facility. The major excuses for using Install are as follows:

To allow the use of a word processing printer. Also known as letter-quality, Daisy Wheel or Thimble printers. If you have one of these you must run Install to inform WP6502 of its capabilities. This, in almost all cases, will involve only finding your printer on the list of printers and entering the appropriate number.

To change default values to reflect practices in your office. For instance, WP6502 uses the "#" character as its embedded command marker. If you use the '#' marker frequently in correspondence, you may wish to change this to some other character which you do not frequently use (such as the { mark).

To change defaults for paragraph indents, top and bottom page numbers, and lines left at the top and bottom of the page to suit your current style.

To allow use of non-standard printers or terminals.

To change WP6502's forward-space code to agree with your terminal.

Install: How to use.

Following is a list of all possible questions which you may be asked. Depending on your printer and/or terminal, some questions will not be relevant and will, therefore, not be shown to you. Note that many of the defaults you set in Install can be overridden with embedded commands (print-wheel pitch for instance).

Pressing the space-bar will result in the default value being used (the one displayed).

Printer 01? Find your printer on the list and enter the corresponding two digit code.

Graphics 'ON' sequence: Check your printer manual to find the code sequence to turn on the graphics mode (the mode that allows incremental spacing of the print head, not the mode that allows special graphics characters to be printed). This sequence of characters must be no more than three characters. Enter the decimal value of each code (two digits). If fewer than three codes are used, enter zeros for the unused code(s).

Graphics 'OFF' sequence: as Graphics ON.

Lines Per Inch 06? Enter any value between 05 and 09. 6 or 8 is fairly standard with most type element manufacturers. Entering a value other than 06 or 08 will result in approximately that number of lines per inch.

Characters Per Inch 10? Enter the characters per inch or "pitch" value of your print wheel (usually shown on the wheel) or enter the value of the desired characters per inch. (Because you are using a 12 pitch wheel does not mean you have to use 12 as a value. You may wish to "squish" or "stretch" your text.)

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OPERATIONS MANUAL.....

Install (continued)

P.S. Print Wheel Translation? Enter 'Y' or 'N'. Entering 'Y' will result in a translated value. This is handy for accessing any special characters on the print wheel. (see page 43)

Want to change spacing table? Entering 'Y', you will be allowed to change the spacing value or the width of each character. This is used for non-standard fonts. Enter the two digit value corresponding to the width of each character as expressed in 1/120ths of an inch. That is to say; if a character is 10/120ths of an inch wide, enter a value of 10. This information is sometimes available from the printwheel suppliers.

It is important to note that the character shown on your screen is what your terminal thinks the character for that number is. It does not mean that this is the character your printer thinks corresponds to this number. For instance, your terminal might think that a 35 is a # while your printer may think that it is something else. If in doubt, consult your printer manual.

Send/Receive Handshaking Protocol? See page 20. Say 'Y' and your Send/Receive communications/will be with software handshaking.

Command Marker <#> Press Key? This character will be WP6502's embedded command marker.

Line Feed Character <&> Press Key? This is normally set to be the tilda character. When you press line feed in the general type mode, this character is inserted in your text. When the text is viewed to the screen or printer, a carriage return, line feed occurs.

Forward space character < > Press Key? Your terminal may go crazy when it sees this question. The default foward space character may be some other command for your terminal. Press the "right arrow" key (usually shift-rt. arrow).

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OPERATIONS MANUAL.....

Install (continued)

Terminal Line Feed 10? Some terminals have a feature to produce an automatic line-feed when a carriage return is received. If your terminal has this feature, turn it off (see your terminal manual). If you cannot defeat this feature, set this value to zero. Otherwise, leave it at 10.

Lines at top 02? This will be the number of lines skipped after the top line number is printed. (Should be at least 01.)

Lines at bottom 07? This is the number of lines left at the bottom of the page plus the number of lines left from the top of the next page and down to the page number. This is the value which determines where you should position your paper for the first line printed. (Should be no less than 04; 07 is recommended.)

Paragraph Indent 05? Set to whatever you normally use as the number of spaces a paragraph is indented.

Printer Linefeed 10? Change this value to 00 only if your printer has an automatic line feed feature (advances a line each time a carriage return is received) which cannot be turned off.

Printer Lines Per Page 66? 66 is the normal value for 6 lines per inch and 11 inch paper. Set to your normal paper length times the value you have set as the number of lines per inch.

Nulls 00? If your printer seems to be losing characters at the start of a line, you should set this to at least a three. Most printers are happy with a zero null count (this speeds printing too!). This determines the number of "null" or meaningless characters that are sent to a printer between the carriage return command and the line feed command. Allows for slow carriage returns.

Screen Lines 26? This would be normally set to 24 for a serial terminal or 28 for a polled/video system.

Screen Width 60? Set this to 4 or 5 fewer than your maximum screen width (in characters). For offices that normally set their margins to 10 and 70 and who are using serial terminals (which nominally have widths of 80), this would be set to 70 to correspond to a normal margin for printed text.

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OPERATIONS MANUAL

Install (continued)

(continued) Item

Want Bottom Page Number? Enter 'Y' or 'N'. A 'N' will suppress the "next page" page number. WP6502's normal page number is at the top with the bottom page number being an indication that there is another page. Seen throughout this manual.

Top Page Number (L/C/R)? Enter a 'L', 'R' or 'C' to say that the top page number will appear at the upper-left, centered, or upper-right. (The top page number will be suppressed in any case if Starting Page Number is specified to be '00' in the print conversation. see page 16).

How to Change the Printwheel Translation Table:

The translation table resides in sector 4 of track 8 and is 1 page long. The easiest way to change it is to use the OS65D Extended Monitor to load it into a convenient address and to make changes.

- 1>. Enter the OS65D Extended Monitor. This is done by booting a standard OS65D disk (containing the Assembler and Extended Monitor), typing "UNLOCK" then "EXIT" then "EM". Now insert the WP6502 disk in drive 'A' and call track 8, sector 4 to \$4220 (!CA 4220=08,4).
- 2>. The low byte of each address corresponds to the ASCII representation of the characters from hexadecimal \$20 to \$80. For any character which needs to be changed, place the printwheel value into the address corresponding to the ASCII character, for example: on the NEC OCR-B printwheel an ASCII \$23 (#) will print a British Pound sterling sign. A more acceptable character for North American users is the one printed as ASCII \$7F, so address \$4223 should be changed to \$7F (@4223 7F)
- 3>. Save the table to track 8, sector 4 for 1 page (!SA 08,4=4220/1).

Having made your changes, boot the WP6502 disk, select the File Clerk, select Install, then when Install asks if you wish Print Wheel Translation, say "Y". This will allow print wheel translation until it is suppressed using the Install program once again.

WP-6502

V1.3 (OS65D) Command Summary

Menu Options (Enter first character)

Type.....	Enter text from keyboard
View.....	Display text on screen or printer
Blk View.....	Display form letter blocks
G.Edit.....	Global Edit
L.Edit.....	Line Edit
Move.....	Move or copy text
Delete.....	Delete large block of text
Zap.....	Clear workspace
Send.....	Send text to another machine
Receive.....	Receive text from another machine
Clerk.....	Perform disk operations

General Typing

ESC.....	Return to menu
Line Feed.....	Insert Line Feed character
Return.....	Insert Line Feed character
Tab.....	(CTRL-T) Insert tab character
\.....	(CTRL-B) Start new text block
Shift \.....	(CTRL-X) End of text blocks
RUB.....	Destructive backspace
DEL.....	Destructive backspace
Left Arrow.....	Destructive backspace
Underline.....	Destructive backspace

Embedded Commands (upper or lower case)

#P.....	Paragraph
#K.....	Insert text from keyboard
#Snn.....	Change to 'nn' spacing
#Tnn.....	Tab to column 'nn'
#Dnn.....	Dotted tab to column 'nn'
#Lnn.....	Set left margin to column 'nn'
#Rnn.....	Set right margin to column 'nn'
#Bnn.....	Insert text block 'nn'
#Nnn.....	Print character number 'nn'
#J.....	Start/Stop justification
#C.....	Start/Stop centering
#U.....	Start/Stop underlining
#Wnn.....	Change character pitch to 'nn'
#H.....	Start/Stop "heavy" print
#X.....	Start/Stop proportional spacing

Line Edit (upper or lower case)

Space.....	Non-destructive forward space
RUB.....	Non-destructive back space
R.....	Replace text
Line Feed.....	Display next text line (CTRL-Line Feed) Show previous line
D.....	Delete character
DW.....	Delete word
DS.....	Delete sentence
DP.....	Delete paragraph
I.....	Insert text
T.....	Type (append new text)
L.....	Line Edit from new point

Global Edit

From.....	Change 'this'
To.....	To 'that'
Y.....	Yes, make this change
N.....	No, skip this change
ESC.....	Return to Main Menu