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**                              **
**       ULTRA  TELEPATCH       **
**     Telewriter64 Enhancer    **
**          version 3.0         **
**                              **
**       By Bob van der Poel    **
**                              **
**         copyright 1986       **
**                              **
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REQUIRES A 64K RADIO SHACK COLOR COMPUTER WITH DISK OPERATING SYSTEM, DISK DRIVE AND TELEWRITER-64 DISK VERSION

IMPORTANT

PLEASE BACKUP YOUR ORIGINAL DISKETTE BEFORE YOU CONTINUE. THEN PUT THE ORIGINAL IN A SAFE PLACE. NEVER WRITE TO THE ORIGINAL.

THIS SOFTWARE IS OFFERED FOR SALE ON AN "AS IS" BASIS. NO GUARANTEES ARE MADE OR IMPLIED.

INTRODUCTION

Thank you for purchasing ULTRA TELEPATCH. We hope it will help you in making the best word processor for the Color Computer even more useful. If you have a friend that uses TELEWRITER-64 (TW64), please show this program to him. If he likes it, ask him to buy his own copy. Continued customer support will enable the author to develop more utilities for this program and correct any bugs that may pop up. Continued sales also help to feed the family. Please do your part to stop software piracy . . . it hurts everyone.

TW64 is one of the best word processors available for the Color Computer -- unfortunately it was written to run in 16, 32 and 64K systems as well as disk and cassette systems. If you have a 64K system, you have enough memory to add a number of extra features to TW64 -- features the author either didn't think about or didn't have room for in the original program.

Please do not write to the diskette that came with this package. Use it only to create a new system disk, then put it away in a safe place in case you need it to make a new system disk in the future. If the disk does not have a write protect tab on it, you may wish to place one on it to ensure its safety.

MAKING A NEW SYSTEM DISK

To make a new system disk, first format a new diskette. Now get out your original TW64 diskette and the ULTRA TELEPATCH diskette. Now put the ULTRA TELEPATCH diskette in drive 0 and type RUN "PATCHER" <ENTER>.

Now follow the prompts the program will give you. During the linking process you will be asked if you wish the cassette I/O prompts and the cassette I/O functions themselves to be cancelled. The first querry is in response to a number of users who find the Save, load, etc. prompts on the main menu confusing. If you are one of those, then answer <Y> to the question. The next just takes this a step

further. If you answer <Y> to the second querry none of the cassette I/O functions ill be available to you. Again, the choice is yours.

When the process is complete, you will have a new system disk with the following programs on it: T/BAS, ULTRA TW/64, TSPOOL/BAS and TPRINT/BAS. The program T/BAS is the new boot program replacing U/BAS; ULTRA TW/64 is the machine language module containing the disk drivers, the original TW64 code and all the patches made by ULTRA TELEPATCH; TSPOOL/BAS and TPRINT/BAS are discussed later in this manual. To run your new version of TW64, just type: **RUN "T" <ENTER>**

All the programs on this disk may be copied to other disks with using normal copy procedures. Note that in order to run TW64 you only need the files T/BAS and ULTRA TW/64 on your disk -- and as soon as the program is running, this disk may be removed from your disk drive. The old programs S.XXX and S.ASC, etc. are no longer required.

** NEW EDITOR FEATURES **

Many new features have been incorporated into the editor. Some are new commands, others simply correct minor bugs or irritations. All will be discussed below.

1. True move: A true move is one of the most needed features in TW64 -- a feature you now have! To move a block of text, mark it with a begin and end marker n the same manner as you would for a copy. Now move the cursor to the destination and press the combination <CLEAR> <T> (You can remember this as "Transfer"). The text will now be moved, the original will be deleted and the screen will reformat.

You may notice some garbage appearing on the screen during the move -- this is normal since the screen area is being used as a buffer. The move is restricted to 6400 characters. If you attempt to move a larger block an error message will appear telling you how much too large the block is.

2. Visible carriage returns: Often it is useful to have the carriage returns visible on the screen. This is particularly true when you are setting up tables, etc. or if you wish to see if there are any extra blanks at the end of lines.

If you wish to see the carriage returns, press the combination <CLEAR> <I> (remember this as "invisible/visible toggle"). A special marker will appear for every carriage return. To make them invisible again, press <CLEAR> <I> again.

Note that a <CLEAR> <A> is automatically done every time you do a <CLEAR> <I>.

3. Key beep: Touch typists often like to have a audible reminder that a key has been pressed. To turn on a key beep, press <CLEAR> <L> (we're running out of keys, but does "loud" make sense?). Now every time a key is pressed and accepted into the key buffer, a short beep will be heard on the T.V. speaker. To turn the beep off, press <CLEAR> <L> again.

4. Key repeat: All the keys (with the exception of any <CLEAR> <KEY> combination) will now repeat if they are held down for more than about a half a econd. Both the delay and repeat rate are adjustable in the T/BAS program.

5. Type ahead: To cause the problem of keystrokes sometimes being lost when TW64 is refreshing the screen a typeahead feature has been added. Any keys pressed while the computer is busy doing something else will be saved in a buffer. Then, when it's time to check the keyboard again the key in buffer will be used. The buffer will hold up to 16 keystrokes. If you're a real fast typist and manage to

fill the buffer, a beep will sound indicating a missed key.

6. Justify: The original version turns justify off after a file has been printed -- a nuisance if you are printing a number of files and you forget to turn it on each time. This new version doesn't turn it off (unless you have an uneven number of 'control ;'s in your text).

7. Reset: The original version did not allow 64K users to press RESET if everything else went wrong. Reset protection has been added to your new version. If you press RESET now, you'll return to the editor.

8. Disk I/O: When you access the disk menu in the original version of TW64, the disk often does quite a bit of grinding back and forth before it finds the directory. This is because the last track number was not saved. This oversight has been corrected.

But even better, in this new version, the disk driver is stored in memory. Now, when you select the <D> option, the disk menu will be instantly displayed.

9. Lowercase: You will notice that every time you enter the editor, lowercase will be on. When you enter the disk menu, lowercase will be off. This feature can be defeated in "T.BAS". The <SHIFT> <0> combination still works in the normal manner.

10. Disk 1.1: The initialization routine checks for Disk Basic 1.1 and configures the program if required.

11. Basic 1.2: Users with Color Basic 1.2 will notice improved key response if you have an older version of TW64.

12. Eps/oki/lf fonts: Due to an oversight the Epson font buffer was not properly cleared, causing strange things to happen at times if you set the Eps/oki/lf flag to on, but did not specify a font. This oversight has been corrected.

13. Fast cursor movement: The combination of <SHIFT> and an arrow key has been speeded up -- otherwise it would be the same as holding down an arrow key. This speed is modifiable in T/BAS.

14. Overstrike mode: The original version of TW64 gave you only insert mode -- that is, whenever you typed a character it was inserted into the text buffer at the cursor position and everything beyond this point was pushed up to make room for the character. You can now change your text with overstrike. To turn on overstrike, do a <CLEAR> <0>. Now the data at the cursor will be changed -- except in two special cases. If you attempt to change (overstrike) a carriage return or the end of text marker, the current mode will default to insert. This means that if you are in overstrike mode and want to add text to the end of file all you need to do is type away. If you make a mistake, just backup and type over it. If you want to insert text in the middle of a document, just start typing at a carriage return.

To exit overstrike mode to insert mode, just do another <CLEAR> <0>.

You will notice that the cursor changes when you toggle between the two modes -- this is so you know the mode you're in.

15. Word Delete: The original TW64 has a character delete, but most writers think in words, not characters. So why not a word delete? Well, look no further -- you've got it now. To delete a word, position the cursor at the blank in front of the word and press <CLEAR> <Y> (I remember this as Yank). Characters will now be deleted until a <space> or <carriage return> is encountered.

6. Insert space: The combination <CLEAR> <SPACEBAR> will now insert a space at the cursor. Although the feature was added mainly for use in overstrike, it also works in insert mode.

17. Braces: The brace characters '{' and '}' can now be generated from the keyboard with the combinations <CLEAR> <H> and <CLEAR> <J>. Sorry, I don't have an easy to remember word for these, but <H> and <J> were the only keys left for control combinations.

18. Find and Global replace: The new keyboard driver works for these commands as well, and this enables searches and replacements on control characters as well as normal text characters. To generate a control (eg. underline or D1, etc.) just use the key combination you would in the main editor -- an exception are the keys for '[' and ']' which are <shift> <@> and <shift> <clear> in the editor and <shift> <downarrow> and <shift> <left arrow> in the find and global sequences. The control sequences will appear as graphics blocks, but they will be displayed correctly on the editor screen. A bit of experimentation will clear up any confusion.

You can search for and replace carriage returns by using the <CLEAR> <ENTER> combination. This will generate an inverse up-arrow on your screen. Plain old <ENTER> still signals the end of the search/replace data inputs.

The wild card character has been changed from an 'up arrow' to the character generated with a <shift> <@> (an orange graphics block). This was necessitated by the addition of the brace characters (it's a long story).

19. Queuing files: A minor change has been made to the routine which parses the file name after a <CONTROL> Q so that the period (.) may be used as a delimiter as well as a slash (/). This means that both FILE/ONE or FILE.ONE may be used as a filename.

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** BOOT PROGRAM FEATURES **
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An entirely new boot program -- T/BAS -- has been written for the new version of TW64. This program replaces the U/BAS program that came with your original version. In addition to loading the main program much faster, it also allows the user to modify many defaults.

Starting with line 1000 are a number of POKEs that set various default parameters. To modify them, change the value after the comma using BASIC's edit routines and resave the modified program to your system disk.

The following list shows the line as it appears in the program. It also comments on changing its value:

1050 POKE&HFECD,&HF0 'colorset: A value of &HF0 will give the black on green text screen, a value of &HF8 will give the standard TW64, black on white screen. All other values are illegal and will cause unexpected results.

1060 POKE&HB3,0 'number (msb)
1070 POKE&HB4,0 'number (lsb): These two pokes set the page numbering in the format menu. To calculate a different start value, use the following formula where "x" is the new value:

```
msb = INT ( x / 256 )
lsb = x - INT ( x / 256 ) * 256
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1080 POKE&HD5,1 'spacing: The line spacing in the format menu can be any value

between 1 and 255.

1090 POKE&HDC,0 'queue: Any non-zero value will turn on the "Queue" option in the format menu.

1100 POKE&H5A,0 'epson: This will set the "Eps/oki/lf" option in the format menu.

1110 POKE&H3FA,0 'justify: Justify can be defaulted to "on" by storing any non-zero value here.

1120 POKE&H3EE,0 'one page: A non-zero value will cause the "One page" option to be set.

1130 POKE&H102,0 'where: This sets the tab value for page numbering.

1140 POKE&HFD,50 'characters: The number of characters per line can be set with this poke. Note that a value of zero will override any alignment -- handy for editing programs.

1150 POKE&HC6,5 'upper margin: The upper margin value in the format menu.

1160 POKE&HF3,5 'bottom margin: The lower margin value in the format menu.

1170 POKE&HFF,10 'left margin: The value for margin in the format menu.

1180 POKE&HD2,66 'lines/page: The number of lines per page in the format menu.

1190 POKE&H96,87 'baud rate: The printer baud rate. The following values can be used:

value	baud rate	
180	300	
87	600	standard rate
41	1200	
18	2400	
7	4800	actually 4700
1	9600	actually 9400

1200 POKE&HFED4,1 'default I/O: Any value other than 1 will cause the ASCII disk menu to appear when you select the disk menu.

1210 POKE&HFECB,0 'klick off: A value of 255 (&HFF) will cause the klick to be on when you first enter the editor. It can then be turned off with the <CLEAR> <L> command. Any value other than 0 or 255 will defeat the <CLEAR> <L> command and key klick will be permanently on.

1220 POKE&HFED0,4 'repeat rate: The rate at which keys repeat. The lower the value, the quicker the repeat. Values range from 1 (quickest repeat) to 255 (slowest).

1230 POKE&HFECF,18 'repeat delay: The time delay before keys begin to repeat. Values range from 1 (shortest delay) to 255 (longest).

1240 POKE&HFECE,4 'shift rpt dly: The speed at which the <SHIFT> arrow key combinations repeat. The standard TW64 value is 10. Values range from 1 (fastest

movement) to 255 (slowest).

1250 POKE&HFED3,2 '#of drives: This sets the number of drives available in your system. Permissible values are 1 to 4. The supplied program is configured for a two drive system.

1260 POKE&HFED2,1 'case toggle: This POKE flags the automatic case toggling feature. If any non-zero value is used, lowercase will be enabled when you enter the editor from either the disk menu or on start-up. If zero is used, you will have to do an explicit <SHIFT> <0> to change to lowercase when entering the editor. This may be of use if you are using TW64 for editing a BASIC program or other mostly uppercase files.

The <SHIFT> <0> case toggle will still toggle lowercase on/off, no matter what the value POKEd is.

1270 POKE&HFED1,0 'verify: If you occasionally have disk I/O problems, you may wish to use VERIFY ON with disk writes (see your DOS manual). If this option is set to any non-zero value VERIFY will be on for disk I/O; leaving it at zero will leave VERIFY OFF.

1280 POKE&H3F9,0 'default drive: This POKE sets up the default drive for disk I/O. If you set it for a value greater than the number of drives set in line 1270 the value of 0 will be used.

1290 POKE&HFECC,0 'insert mode: The mode (overstrike or insert) can be selected by this POKE. If you would like to start-up in overstrike mode, set the value to 255 &HFF). Note that any value other than 255 or 0 will put you into the overstrike mode permanently.

1300 A=3 'stepping rate: This is the value used to set the track stepping rate for your disk drives. The following table shows the permissible values:

value	stepping rate
3	30 ms.
2	20 ms.
1	12 ms.
0	6 ms.

If you have standard Radio Shack disk drives, you should be able to use a 20ms. rate. If you get I/O errors, change it to 3 for the standard 30 ms. rate. If you have other after market drives you may be able to use an even faster rate. Note that if you have more than one drive, they will all operate at the new speed.

On the ULTRA TELEPATCH disk you will also find these files: 64COL/BAS, 2COL DIR/BAS and TODISK/BAS.

These modules can be added to the T/BAS program to give some additional features, if you wish. To add the code, first load T/BAS from your working diskette. Now add the programs you wish with the MERGE command. (eg. to add 64COL/BAS just type MERGE "64COL" <ENTER>). After all the modules you wish to add ave been added, save the modified T/BAS program to the WORKING diskette with SAVE "T" <ENTER>.

The programs add the following features:

64COL - forces TW64 to boot up in the 64 column mode — great if you are using a monitor. Note, you should also change the characters/line option to 63 if you use this.

2COL DIR - this gives a directory (with Files or Print Dir) in a 2 column format without the size and attributes listed. The advantage is that you get twice as many files on a screen.

TODISK - this will force TW64 to go immediately to the disk menu when starting up. This is handy for those who always load an initialization file.

The line numbers between 3001 and 4999 are for your additions to the boot program. You may wish to initialize your printer with a 'PRINT #-2, control sequence' or defeat the RESET protection with POKE 113,0 or whatever.

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** DISK DRIVER FEATURES **
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An entirely new disk driver has been written to handle disk I/O. Unlike the original version of TW64 (as well as earlier versions of ULTRA TELEPATCH) this program is not on the disk. It is kept in memory at all times where it's only a keystroke away -- all this without a loss in text buffer space. In addition this program speeds up ASCII reads and saves, and many other features have been incorporated.

1. ASCII or BINARY: To switch between ASCII and BINARY just press <I>. The program remembers the last state it was in and will start up in the last format the next time you go to the disk menu from the editor.

2. Name extensions: The ASCII driver uses the extension "TXT", the BINARY driver the extension "BIN" for I/O, including KILL and RENAME. Note that if you enter a name without a drive number or extension, the default drive number and extension will be added to the input name and displayed. Note also that the "." may be used instead of the "/" when entering extensions (in fact this is the format used by the default names).

3. Uppercase toggle: When the disk menu is entered, lowercase is turned off and, when you return to the editor, it is turned on. Of course the <SHIFT> <O> combination still works in the normal manner. If you do not wish this feature, see the comment above in "Boot program features" under "Defaults."

4. Default filenames: After all successful reads, saves, appends, and partial saves the filename used will be saved. This name will appear to the left of the "FILES" line in both the disk and editor menus. If you wish to use this filename to read or write a future file, just press <ENTER> in response to the filename prompt. The default filename will be displayed beside the command selected, along with a "y/n." If you wish to use the name displayed, press "Y." Any other key will abort the command.

Sometimes you may wish to change the default filename, without doing a read or save. This may happen if you append a file to a file already in memory, but you still wish to use the original filename as a default. For this reason the "@" option has been included. To use it, press <@> in the main menu. You will now see a cursor positioned above the default filename. You can now enter a new default filename. It is possible to enter an illegal filename at this point: For example, if you enter MYFILENAME, and you are in the ASCII menu with a drive default of 1, the program will convert this name to MYFILENAME.TXT:1, an illegal name. It will then save the first 14 characters in the default filename buffer (MYFILENAME.TXT). If you used this illegal name as a default in response to a save or read prompt, an FN error would result -- not a problem, but something you should be aware of.

5. Sure?: A "SURE y/n" will be displayed if you select the "Kill" option, or if you select the "Read" option when any other data is already in memory. To continue, press <Y>. Any other key will abort the command. This response requires an uppercase <Y> -- some head-scratching might occur if you disabled the lowercase toggle in T/BAS and were not aware of this requirement.

6. Returning to Editor: You will be returned to the editor after any successful reads (not appends) or if you use the "Editor" option. After appends you will return to the I/O menu -- very handy if you have a number of files to append.

7. Error messages: After any error, the BASIC error message will be displayed. For there meanings, refer to your disk operating manual. The only exceptions to this are the following three error messages:

DRIVE# TOO HIGH - This message will be displayed if the drive selected for a disk operation (any disk operation) is higher than the maximum value set in line 20.

FILE TOO BIG BY xxx - This message will be displayed if you attempt to read or append a binary file larger than available memory.

BUFFER FULL--ENTIRE FILE NOT READ - This message will be displayed if when reading an ASCII file, there is still data in the file after the text buffer has been filled.

After any error, press any key to return to the disk I/O menu.

8. RUN "*/BAS": The disk I/O module cannot be modified by the user, but it is still possible to utilize some programs by other third party software vendors who capitalize on the BASIC buffer available in TW64. When the <*> key is pressed the program will attempt to load and run a program in drive 0 saved as "*/BAS". This can be any BASIC program (eg. TSPOOL or perhaps a menu program of your own offering a number of choices). Note that this option is not shown on the menu, but it's there.

If you wish to use TSPOOL (explained later) in this manner just use RENAME to change the name of the program to "*/BAS".

Some cautions: First, any program used in this manner should have a line near it's start with the line POKE &HFF40,0 -- this is required to turn off the disk drive motors. Second, to get back to the disk I/O menu you'll have to include a line with EXEC &H80EB. Third, don't use any USR calls. These have been reserved by the disk driver and the definition of your own will cause problems (ie. a crash when you try to return to TW64). Lastly, be very careful of what commands you use in the program. In order to add all the features available in this new program a number of areas in the EXTENDED BASIC ROMs have been used for program storage. In particular, do not use the RENUMber, EDIT, GET, PUT, LINE, PLAY, CIRCLE and DOS commands -- a crash is guaranteed. Also, other commands may behave strangely, so if it doesn't work, don't use it again.

9. BASIC: If you exit the disk module to BASIC, you can return to the disk module in three ways: First, if you have not loaded in any machine language files or done any EXECs, just type EXEC; or second, if the disk program is still in memory, type RUN; or third, type EXEC &H80EB.

If you exit the disk I/O menu to BASIC be careful of what you do. In particular, note the cautions in '8', above.

10. Other commands: The other commands available in the standard drivers are all still available and work as described in you original documentation. The only two changes you will notice are first, the "Files"/"Print dir" option. If you have only one drive, you will not be asked for a drive number. If you have 2 or more,

you will be asked in the normal manner. Second, a sure? prompt has been added to the "Kill" option.

11. A note about ASCII files: TW64 ASCII files have a special format when it comes to control characters. When creating an ASCII file, TW64 saves control characters as an CHR$(94) (an up arrow) followed by a character between CHR$(95) - CHR$(107). This may create a problem if you are reading in files created by another program besides TW64, since the ASCII read routine checks for CHR$(94) and assumes that the character following it is a control character. To eliminate the possibility of garbage appearing on the screen, the routine used by the disk I/O module also checks to see that the second character is less that CHR$(108); if it isn't then it is assumed to be an illegal control code and it, as well as the CHR$(94), are ignored. The point of all this is: you may have created an ASCII file containing CHR$(94)'s (for example, BASIC programs use this character to represent exponentiation), then you will lose data when you read in the file. The solution to this is to use a short BASIC program to convert the CHR$(94) to another, seldom used, character. Then, when you are finished, use the another program to convert the file back if necessary.

Another point that you should be aware of is that all characters less that CHR$(32) (SPACE) and greater that CHR$(122) (z) (except for '(' and ')') are ignored by the ASCII read routine.

NOTE: The above discussion applies to the original version of TW64 as well as your new patched version. Also, there is no problem with files created by TW64 itself, this problem only presents itself with files created by other programs (and then only occasionally).

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** TSPOOL **
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Included in this version at no extra cost is the program "TSPOOL." This utility will permit you to print a file to a disk file rather than to the printer. This will enable you to use TW64's formatting capabilities to produce text files that you can print out at a later time.

To use "TSPOOL" simply go to the disk I/O menu and press <B>. You are now in BASIC. Now load and run "TSPOOL." Or, you can RENAME TSPOOL/BAS to */BAS and auto-run it from the disk menu (see '8' in the disk driver comments above).

You will see a menu similar to the format menu. Set the margins, etc. and when you are ready to print the file, press <P>. You will be prompted for a disk file name. Enter the name in the regular manner, press enter, and the file will be opened, the text will be "printed" to it. You will now be prompted for another filename. If you enter a filename at this point, another file (only BINARY files allowed) will be loaded and printed to the still open file. Pressing <ENTER> will close the file and the menu will reappear. You now have a file that can be read from BASIC with LINE INPUT commands.

To exit TSPOOL press <E>. You will now see a mini-menu giving you three options:

1. Return to BASIC -- this will just end the program.
2. Cold start to BASIC -- this will reset the computer, etc. Make sure that you have saved your text file if you select this option.
3. Return to Disk I/O -- this option will execute the disk I/O program.

The only limitations with TSPOOL is that it does not permit queued files either with embedded "Q" commands or with cassette queuing. Otherwise everything works in the normal manner. One other complication occurs when you try to read a spooled file. If you use INPUT commands, you will lose all your commas since BASIC will interpret commas and carriage returns as line ends. On the other hand, if you use LINEINPUT then the lines will be read properly, but if you have used any

printer control codes (any ASCII character less than 32 or greater than 127) they will not be included in the resulting string. This is a constraint of BASIC, not TSPOOL. To overcome the difficulty you would have to read the file byte by byte with a machine language subroutine. Note that this is only a problem if you include printer directives, it is not a problem with straight text files.

One further point: TSPOOL automatically turns off the ESPON parameter. If you use auto underlining, it may not work with TSPOOLed files.

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** TPRINT **
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A number of people have inquired about the value of the TSPOOL utility, and others have asked how TW64 can be used to print multiple copies of a file. To answer both, the program TPRINT has been included with ULTRA TELEPATCH.

TPRINT will read a disk file created by TSPOOL and print it out to the printer. The initial prompts request the number of copies and the name of the file: answer them and watch the copies print out, complete with all the control codes.

A few cautions: First, the disk containing the file must be left in the drive at all times. Second, TPRINT does not set the paper to the top of the page between copies. Either put a <CONTROL><N> at the end of the file to be spooled, or insert a line to do a form feed in PRINT (eg. 125 PRINT #-2, CHR$(12);).

For the ambitious few who have to change everything, the source code for TPRINT has been included with the program in a series of REMark lines. Change it if you want, but remember: if you do, you're on your own!

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** STRANGE DOSes **
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ULTRA TELEPATCH expects to find a DOS version number at memory location $C142. If this value is not $30, RS-DOS 1.1 is assumed. If your modified RS-DOS 1.0 has changed the copyright message you will have to add the following to T.BAS:
2500 POKE &HC142, &H30

Please note also that in order to add the features in this package memory locations unused by RS-DOS (from $D8D0 to $DC00) have been used. If your new DOS also uses this area, conflicts will arise. The DOS code in 1.1 has also been overwritten; don't use the DOS command if you enter BASIC from the disk menu!.

If you are not using RS-DOS and then you'll have to make some other modifications. If you load DOS in from a disk, then delete the lines which copy the ROMs into RAM in both PATCHER/BAS and T/BAS. In PATCHER it is line 60 A=USR1(0); in T it is line 30 A=USR(8).

Other DOSes may have an 'undo' command. In most cases you'll also have to delete the above lines too.

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** TELEWRITER-64 CHARACTER SET EDITOR **
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This program is not included with in this package, but some comments about do belong here, so . . . The program TELEWRITER-64 CHARACTER SET EDITOR (TWCSED) is another program by the author of this package. It will permit the user to customize the character set used by TW64 to his own preferences. If you wish to use TWCSED you should modify an unpatched version of TW-64. Save the modified program on a temporary disk and when the PATCHER program prompts for a disk with a unmodified copy of TW-64, use the modifed version.

TWCSED is available from CMD Micro, 10447-124 St. Edmonton, Alberta for $14.95.

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** Questions and Comments **
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If you have any comments or suggestions for future enhancements, or if you'd like to be put on a mailing list so you can be advised of future enhancements please drop us a note at the address below.

Got a question? We'll do our best to give you an answer, but we'll also have to insist on you doing two things. First, all querries must be accompanied by a proof of purchase (a photocopy of your original receipt is best). Second, you must enclose one dollar (cash is fine, but money orders and personal checks will be accepted) to cover postage, etc. Sorry, but any questions not conforming to these guidelines can not be answered. And no phone calls please -- if you're in a hurry for an answer you may request us to call you back. We'll call collect of course.

****
** THE FINE PRINT **
****

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The file 'README' has been included on the master disk. It is in TW64 format and has notes and updates.

Command Reference

EDITOR COMMANDS

One key commands:

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ENTER       = Terminate line (Carriage return)
BREAK       = Delete character at cursor
Up Arrow    = cursor up 1 line at left margin
Down Arrow  = cursor down 1 line at left margin
Right Arrow = cursor right one character
Left Arrow  = cursor left one character
```

Commands preceded by CLEAR ("control") key:

```
A = Align text lines to fit 51 character line
B = Begin Text Block Marker
C = Copy block
D = Disable wordwrap
E = End Text Block marker
F = Find a search pattern
G = Global (Selective) Search and Replace
K = Kill line
M = Main menu (return to)
N = Next instance of search pattern
P = Page forward through text
Q = Search for special characters
R = Replace search pattern with replace pattern
S = Speed mode
U = Usual mode (exit Speed mode)
W = Wordwrap mode enable
X = Block delete
Z = Delete all Block markers (Begin & End)
- = Page backward through text

ENTER       = tab
BREAK       = delete character before cursor
Up Arrow    = cursor to top of text
Down  Arrow = cursor to bottom of text
Right Arrow = cursor to end of line
Left Arrow  = cursor to beginning of line

.   = embedded format code
/   = underline delimiter for MX-80 only
1-9 = user defineable control codes
```

MAIN MENU COMMANDS (one key)

```
C = Create new text file (destroys old)
E = Jump back to Editor (non-destructive)
S = Save all text in buffer to tape
Z = Save marked block of text to tape
R = Read in text file from tape
A = Append text file from tape to end of buffer
V = Verify (Skipf) Skip to end of file on tape
F = Jump to Print/Format menu
W = Word and line count for all or part of text
```

FORMAT MENU COMMANDS

```
S = Line Spacing
M = Left margin
C = Chars per Line
U = Upper (top of page) margin
L = Lines per page (usually 66)
B = Bottom margin
F = Font (MX-80 only) (see table below)
I = Baud (Imit) rate (see table below)
P = Print whole text buffer
Z = Print marked block of text buffer
R = Return to Main menu
D = Direct (ascii/control code) output to printer
T = Typewriter (keyboard chars direct to printer)
N = Number pages (0= no; val = start page number)
W = Wait at page bottom (1= wait, 0= don't wait)
Q = Chain print (Queue) files (val = # of files)
E = Epson (1= using MX-80, 0 = anything else)
```

EMBEDDED COMMANDS

```
^S      = Line Spacing
^M      = Left margin
^C      = Chars per Line
^U      = Upper margin
^B      = Bottom margin
^L      = Lines per page
^N      = New page ( optional val= start pg #)
^D      = Define direct code output
^H      = Define Header
^!      = Center Line
^=      = Center Line of different size font
^1"-^9" = Direct code special characters
^text   = Print flush left, ignore leading space
```

EPSON FONT TABLE

```
0 = clear special fonts (noreal font)
1 = ephasized (ESC E)
2 = double (ESC G)
3 = condensed (SI)
4 = enlarged (SO)
```

BAUD RATE TABLE

120	458
300	180
600	87
1200	41
2400	18
4800	6