

PRODUCT : TURBO PASCAL
VERSION : 3.0xx
OS : PC-DOS
DATE : April 22, 1986

NUMBER : 190

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TITLE : TANDY 2000 PATCH

The IBM-PC implementation of Turbo Pascal version 3.0 uses a memory-mapped editor. This is much faster than earlier versions of Turbo that used the IBM-PC BIOS. Several patches are required for the Tandy 2000 to use the editor in the IBM-PC implementation of Turbo Pascal 3.0.

The screen memory of the Tandy 2000 is organized in much the same manner as the IBM-PC. The provided patch results in a copy of the TURBO.COM file with the following properties:

1. Normal text in the editor is displayed in NORMAL intensity.
2. A marked block of text is displayed in INVERSE video.
3. The "NEW FILE" and "NO FILES" messages BLINK.

The video attribute which is used to control the highlighting of selected blocks of text also controls the attribute of the "NEW FILE" and "NO FILES" messages. Since in one case the attribute is written directly to video RAM, and in the other it is passed to an MS-DOS output routine, the resulting attributes are different.

Have the following information ready before attempting the required patches:

1. Screen memory address

The location of screen memory depends on the amount of RAM installed in the Tandy.2000. The following table gives the video address for each increment of 128K RAM installed:

RAM	Screen RAM address (hex)
-----	-----
128K	1EC0
256K	3EC0
384K	5EC0
512K	7EC0
640K	9EC0
768K	BEC0

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2. Patch location in the TURBO file

The patch location in the file depends upon which version of Turbo Pascal is being modified. As of this writing, six distinct versions exist:

versions 3.00x	versions 3.01x
regular	regular
8087	8087
BCD	BCD

Note: The version letter (x) is not significant since it does not affect patch locations.

The following table gives the patch address for each of the above versions:

TURBO PASCAL version number	Patch address (hexadecimal)
TURBO.COM 3.00x	3FC0
TURBO-87.COM 3.00x	3A89
TURBOBCD.COM 3.00x	3EE1
TURBO.COM 3.01x	4088
TURBO-87.COM 3.01x	3B51
TURBOBCD.COM 3.01x	3FA9

Modifying the TURBO PASCAL file

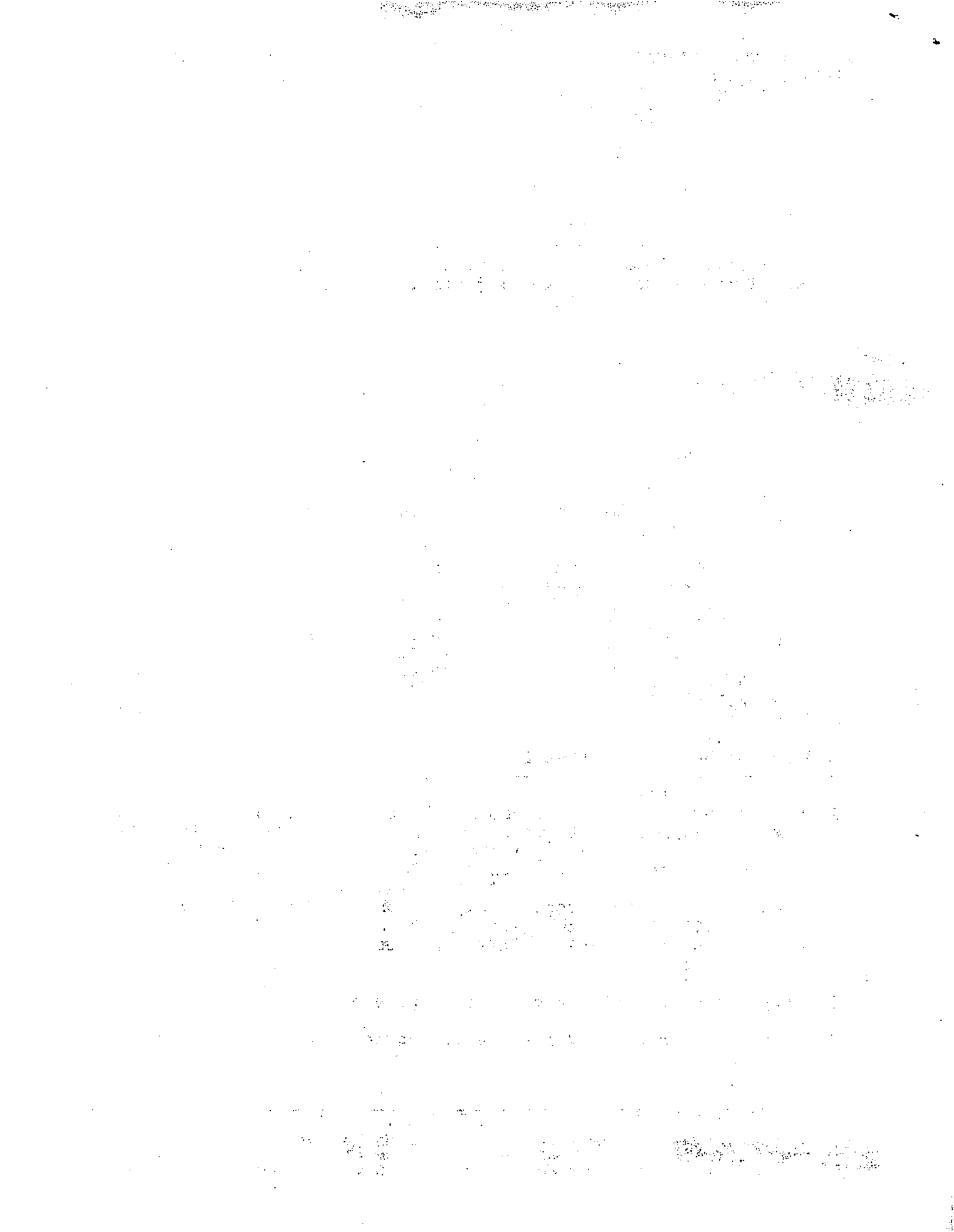
1. Use TINST to install Turbo Pascal for the screen type "b/w display 80x25." If you are patching the 8087 and/or BCD versions, you must install each file separately by temporarily renaming it to TURBO.COM before running TINST.
2. Now use the DEBUG program supplied on the Tandy DOS diskette to install the patch (user input is in UPPERCASE; system output in lowercase). "XXXX" represents the address of the video segment
3. pppp represents the patch address previously listed.
4. ssss represents the screen memory address previously listed.



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Use the DOS utility, DEBUG, to apply the following patch to a copy of your .COM file. Copy DEBUG.COM into the directory (or onto the diskette) where your working copy of .COM is located. At the DOS prompt, type the following information exactly as it appears. (Conclude each line by pressing <Enter>.)

- Note:
1. DEBUG is not sensitive to upper and lower case. All addresses are listed in upper case for ease of readability.
 2. While in DEBUG, the prompt will appear as a dash (-).
 3. If you do not receive the appropriate response, press "q", then <Enter>, to quit. Check your version numbers and, if correct, try again.

YOU TYPE

THIS APPEARS

debug TURBO.COM	-
aPPPP<Return>	xxxx:pppp
mov DX,SSSS<Return>	xxxx:pppp+3
mov byte PTR [0000],0A<Return>	xxxx:pppp+8
mov byte PTR [0002],8A<RETURN>	xxxx:pppp+B
<Return>	-
w<Return>	writing xxxx bytes
q<Return>	DOS prompt

NOTE: If additional memory is added at a later time, it will be necessary to repeat the DEBUG portion of the patch in order to account for the new location of the screen.



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