PROBE/GS

USERS MANUAL

VERSION 1.3
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CHAPTER: 1

INTRODUCTION

PROBE/GS, the PROfessional Block Editor, was designed exclusively for the Apple II/GS computer running PRODOS 16.

Written in native 65816 machine code, and utilizing PRODOS 16, it releases the full power of your Apple II/GS.

This block editor was written due to need, not greed. You will find that it has an easy-to-use structure and a command set that reflects the operation you wish to perform. (ie. To read a block, you would press the 'R' key.)

WHY A BLOCK EDITOR?

Although the Apple II/GS can use a variety of input/output devices, the device that will be used the most is the 3.5" disk drive. This drive uses 3.5" diskettes (surprise!) as opposed to the more familiar 5¼" diskettes. Along with the new drive and disk size comes the need for a utility to examine, or PROBE, the information stored on that disk. PROBE/GS is that utility!

I hope you will enjoy using PROBE/GS as much as I enjoyed writing it.
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SYSTEM REQUIREMENTS

PROBE/GS runs on the Apple II/GS computer with the following:

- 256K RAM (or more)
- One 3.5" diskette drive (or more)
- Version 2.0 ROM chips (or higher)
- Imagewriter II printer connected to the II/GS serial port (optional)
GETTING STARTED

To start the program, insert the PROBE/GS disk into 3.5" drive 1 and turn on the machine. When the program is finished loading, remove the program disk and insert the disk you wish to examine in drive 1.

NOTE: THIS PROGRAM ALLOWS YOU TO ALTER DATA ON THE DISK. IF DONE IMPROPERLY YOU COULD RENDER THE DISK UNUSABLE! ALWAYS PROBE A COPY, NEVER THE ORIGINAL DISK. KPW SOFTWARE IS IN NO WAY RESPONSIBLE TO DAMAGE CAUSED BY PROBE/GS.

Press 'RETURN' when the disk you wish to probe is in drive 1 and you will be taken to the Hex Display Screen.

NOTE: When you wish to probe a different disk use the 'V'olume command from the Hex Display Screen and follow the prompts. NEVER SWITCH DISKS WITHOUT USING THE 'V'OUME COMMAND UNLESS THE PROGRAM INSTRUCTS YOU TO DO SO.
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HEX DISPLAY SCREEN

This screen shows the hexadecimal values for all 512 bytes of the current block. The current volume name and block number are displayed at the top of the screen. This is the screen you will be returned to after any other command has been processed.

The Hex Display Screen has offsets into the block running over the top and left side of the screen. Use these offsets to cross-reference to the actual values you wish to see.

The menu of commands available to you are displayed at the bottom of the screen. Use the 'H'elp option to show additional information about the various PROBE/GS commands.

A feature not shown on the menu bar is the use of the <- and -> arrow keys. By pressing these keys when you are in the Hex Display Screen will read the previous or next block respectively.

All of the other options available to you at this point appear on the menu bar.

If you wish to send the contents of this screen to the printer press the 'P' key.
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ASCII DISPLAY SCREEN

Pressing the 'A' key at the Hex Display Screen will take you to the Ascii Display Screen.

This screen shows the Ascii representation of the current block in memory. As with the Hex Display Screen, offsets into the block run along the top and left side of the screen.

Some values are not printable Ascii characters. These values have been replaced with a '-' symbol to designate that the character is unprintable but a value does exist for that offset. The value for a '-' character still prints as a '-'. On this screen there is no way to tell the difference between an actual '-' and a '-' that prints in place of an unprintable value.

If you wish to send the contents of this screen to the printer press the 'P' key.

When you wish to exit this screen and return to the Hex Display Screen press either the 'SPACE' bar or the 'ESC' key.
CHECK DISK FUNCTION

Pressing 'C' from the Hex Display Screen takes you to the Check Disk function. This function allows you to check a disk for bad blocks.

When prompted, insert the disk you wish to check in Drive 1 and press 'RETURN'. Press 'ESC' to abort the Disk Check function.

When a bad block is found, the block number is displayed and you are given a choice of stopping or continuing the check.

When the disk check is completed you are prompted to insert the disk you wish to continue probing. Press 'RETURN' after any disk switching is completed.

NOTE: You may wish to check a disk that you are not currently probing. To do so, switch the disks when prompted. This is a case where you do not have to use the 'V'olume command when switching disks.
Pressing 'D' from the Hex Display Screen takes you to the disassembler. In this mode you are shown assembly language mnemonics for the values in the current block.

The screen shows the offset into the block on the left edge of the screen. Next to this offset is the hexadecimal values and finally the assembly language mnemonic for those values.

There are several keys that allow you to move through the disassembly of the block. These keys are:

- \( T \) = Takes you to the Top of the block (offset=0).
- \( P \) = Prints the current screen to the printer.
- \( + \) = Increment the offset at the top of the screen by 1.
- \( - \) = Decrement the offset at the top of the screen by 1.
- 'ESC' = Return to the Hex Display Screen.
- 'any other key' = Advance the disassembly to the next instruction.

The use of the '+' and '-' keys has been added to allow the increment or decrement of 1 byte from the value of the offset at the top of the screen. This feature is included because there is an assembly language mnemonic for all 256 possible values in a byte, and the correct starting point for a disassembly may not be at the top of the screen at all times.

NOTE: Remember that not all data on a disk is meant to be disassembled. If what you are disassembling does not seem to make sense, and you have tried adjusting the offset with the '+' and '-' keys, then you are probably looking at data tables or just "disk garbage" such as directory files etc.
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EDITING A BLOCK

Pressing the 'E' key from the Hex Display Screen will place an inverse block over the value at offset 0. This inverse block, or cursor, can be moved around the screen by using the arrow keys.

When over a value you wish to change, press the 'H' key. This will change the inverse block cursor to a blinking underline cursor. At this point you can enter hexadecimal values that will take the place of the old values. When you are finished entering values press the 'ESC' key. This will change the cursor back to the inverse block and you can continue to move about the screen with the arrow keys.

When finished altering the values, press the 'ESC' key once more and the inverse block will disappear and you will once again be allowed to enter menu bar options.

NOTE: Changing values on the screen does not change the values on the disk. If you wish to save the changes you made, use the 'W'rite block command to write the modified block back onto the disk.
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READING A BLOCK

Pressing the 'R' key from the Hex Display Screen gives you a prompt to enter the block number you wish to read.

Pressing the 'ESC' key at the 'Enter the block number to read' prompt will abort the operation.

Enter the hexadecimal value of the block you wish to read (0 - 6FE) and press 'RETURN'. This will replace the block currently in memory with the block that you told the program to read.

When the read is completed you are returned to the Hex Display Screen.

NOTE: Remember that you can read the previous or next block into memory, at the Hex Display Screen, by using the <- and -> arrow keys.
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WRITING A BLOCK

Pressing the 'W' key from the Hex Display Screen gives you a prompt that asks if you want to write the current block to the 'S'ame or a 'D'ifferent block.

If you press 'ESC' the action is aborted and you are returned to the Hex Display Screen. The block is NOT written to the disk.

If you press the 'S' key the block is written back onto the disk at the same location that it was read in from.

If you press the 'D' key you are prompted to enter the block number that you wish to write the block in memory to. Enter the hexadecimal block number (0 - 6FE) you wish to write the block to, and press 'RETURN'.

When the operation is complete you are returned to the Hex Display Screen.
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SEARCHING A DISK

Pressing the 'S' key at the Hex Display Screen will take you to the Search Disk Function. This function allows you to search a disk for a sequence of Ascii or Hexadecimal characters.

You are first asked what you want to search for. Possible responses are 'A' for Ascii characters, or 'H' for Hexadecimal values.

If you do not wish to search for anything, press the 'ESC' key and you will be returned to the Hex Display Screen.

If you entered 'A', you will be asked to enter the Ascii characters you wish to search for. If you entered 'H', you will be asked to enter the string of hexadecimal values you wish to search for.

The 'DELETE' key will backspace one value. The 'ESC' key will take you back to the Hex Display Screen. The 'RETURN' key will start the search, and any other key will be accepted as part of the search string.

When you are finished entering the search criteria and have pressed the 'RETURN' key, the screen will clear and will start searching for the entered values. The block number that the program is currently searching is displayed.

If you wish to cancel the search, press the 'ESC' key and you will be returned to the Hex Display Screen.

When a match is found, you will be shown the block number and offset that the search string was found. You may 'C'ontinue the search, or 'S'top the search. Press 'C' or 'S' to indicate your choice.

When the search function is complete you will be returned to the Hex Display Screen.
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VOLUME FUNCTION

Pressing 'V' from the Hex Display Screen gives you a prompt to enter the new disk you wish to probe and press 'RETURN'.

If you do not wish to probe a different disk, press the 'ESC' key.

If you do wish to probe a different disk, eject the current disk and insert the new disk in Drive I. When finished switching disks, press the 'RETURN' key.

NOTE: YOU MUST USE THIS FUNCTION WHENEVER YOU WISH TO PROBE A DIFFERENT DISK. NEVER SWITCH DISKS WITHOUT USING THE 'V'OLUME FUNCTION UNLESS THE PROGRAM INSTRUCTS YOU TO DO SO.
HELP FUNCTION

By pressing 'H' or '?' keys from the Hex Display Screen you will be taken to the Help Display Screen.

This screen summarizes the functions available to you from the Hex Display Screen, and shows the keys you need to press to perform those functions.

Pressing any key will return you to the Hex Display Screen.
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QUIT FUNCTION

Pressing the 'Q' key from the Hex Display Screen will allow you to quit PROBE/GS. You are asked if you really want to quit. If you respond with 'Y', the program forces a PRODOS 16 Quit call.

Use this function only when you wish to exit PROBE/GS.
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AUTHOR CORRESPONDENCE

As a registered purchaser of PROBE/GS you are entitled to correspond with Kyle Wadsten, the author of the program.

You are encouraged to send us your problems, questions, or comments about what you would like to see in future releases of PROBE/GS. In this way, KPW Software can keep up-to-date with the users needs in this ever changing world of computer software.

Thank you for your support.

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