ATASCII Screen Editor

Mr. Paint

User Guide

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Version 1.08 (2025.02.10)
Revision A

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Overview

Mr. Paint is a simple **ATASCII** text screen editor. It is designed
to allow the creation of single screens (40 columns by 24 rows). It
is not designed for the creation of **ATASCII** movies. In other
words, it does not record or save cursor movements or other active
screen manipulation keystrokes. It is suitable for creating text
screens with **ATASCII** or ASCII content.

Mr. Paint was born out of frustration with existing offerings. Mr.
Paint was developed using the C language and compiled with CC65.
The user interface highly utilizes my A8CLibrary (Atari 8 Bit C
Library) TUI (Text User Interface) routines.

Mr. Paint's core features:

- **ATASCII** Save
  - **ATASCII** saves utilize carriage returns at the end of each line,
    with or without trimmed lines, and with or without a preceding
    clear character.

- Sized Save
  - Sized saves save the screen content up to the end of screen
    marker which can be set by the user, but otherwise follows the
    ATASCII save.

- Raw Save
  - Raw saves save the entire screen without a clear character,
    carriage returns (newlines), or trimmed lines.

- Disk Directory
  - The disk directory function provides a means to see the files on
    attached disks. It has the ability to specify file masks to
    refine file searches.

- Print Screen
  - Print allows the screen editor contents to be output to a printer
    that supports **ATASCII** printing.

- Advanced User Interface
  - The user interface follows typical modern day interface standards
    making usage easy to understand. Mr. Paint also goes to great
    lengths to prevent the accidental destruction of an edited screen
    through confirmation prompts where appropriate. In addition, any
    time there a user entry field is presented, a small "Nav" bar will
    appear on the bottom of the window indicating which keys are
    active for that input control.

- Simple Operation
  - Mr. Paint was designed without a lot of fluff, to do one thing,
    using modern interface elements, and minimal keystroke
    combinations to remember, making it easy to use.

Revisions

Date	Version	Description
2025.01.25	1.00	Initial release.
2025.02.07	1.03	–Fixed screen corruption when escaping file load. –Fixed keyclick disabled at exit. –Added XL/XE machine check at start.
2025.02.08	1.04	–Fixed keyclick status showing opposite on status and preferences dialog from that of actual setting.
2025.02.08	1.05	–Added row and column fill.
2025.02.09	1.06	–Restrict Control Shift character entry to prevent invalid character entry.
2025.02.09	1.07	–Added ability to draw special characters for ATASCII art images: up, down, left, right, clear, tab, delete, and escape. –Remapped some key combinations to accommodate special character drawing such that keys make sense.
2025.02.10	1.08	–Added center row. –Optimized build for smaller executable.

Conventions Used in Manual

‑‑Keys to be pressed are referenced with bold and all uppercase, such as **RETURN.**

System Requirements

- Atari XL or XE computer with at least 64K of memory. Additional memory beyond 64K will not be utilized.
- Disk drive. At least one is needed. The number of drives supported depends on the DOS.
- Drive density support depends on the DOS.
- Optional **ATASCII** printer. An **ATASCII** printer is defined as being one that can natively print **ATASCII** characters such as the emulated **ATASCII** printers in Atari800MacX and FujiNet.

DOS Compatibility

Mr. Paint has been tested with a large number of DOS's. Compatibility notes can be found in the table below:

| DOS	Version	Compatible	Notes
Atari DOS	1.0	No	
Atari DOS	2.0s	Yes	
Atari DOS	2.0d	Yes	
Atari DOS	2.5	Yes	
Atari DOS	4.0	Yes	
Happy DOS	II+/D	Yes	
MyDOS	4.53	Yes	
OSS DOSXL	2.20	Yes	Crash on exit when executed from Menu shell.
OSS DOSXL	2.30p	Yes	Crash on exit when executed from Menu shell.
SmartDOS	6.1d	Yes	Crash on exit regardless of ResiDUP setting.
SpartaDOS	3.2g	Yes	
SpartaDOS X	4.49	Yes	Requires 128K+ RAM.
SuperDOS	2.0	Yes	
XDOS	2.51	Yes	

Running Mr. Paint

Installation

Mr. Paint is installed by copying the executable file to a bootable DOS diskette. No additional files are necessary.

You can optionally copy the sample save files (*.ATA) if desired.

Non XL/XE Hardware

Mr. Paint will check to see if XL/XE hardware is present at start. If not found, the splash screen will display a message indicating the failed requirement, and cause an exit once the splash screen is dismissed.
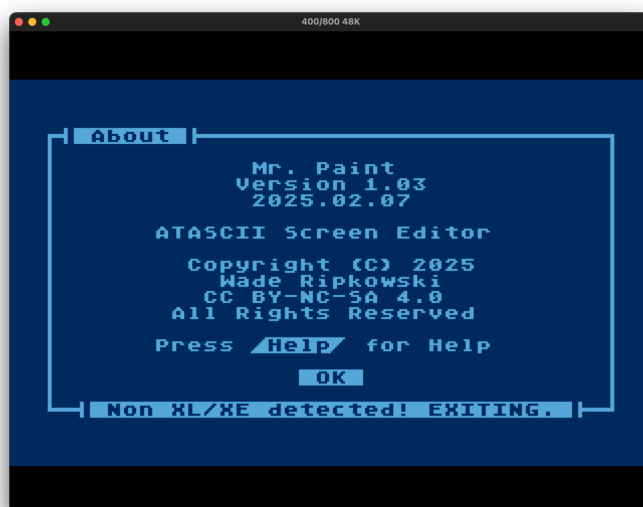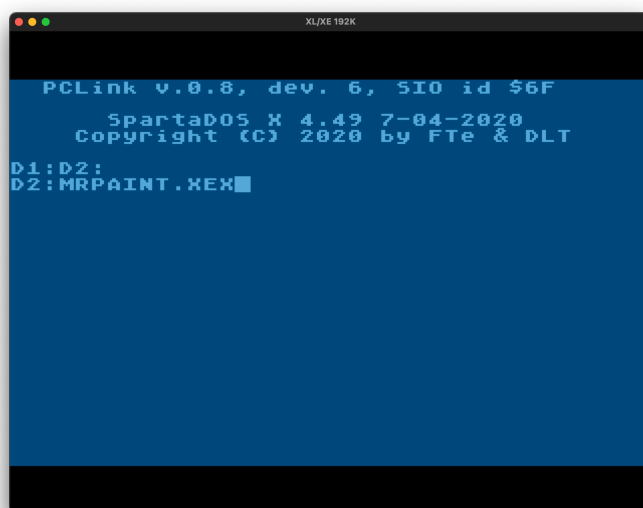
Launch

Command Line DOS

To start Mr. Paint from a command line DOS, enter the name of the executable and press **ENTER**. If the program is on a different disk than the currently selected one, ensure the disk number is specified. For example "D2:MRPAINT.XEX".

Note: In the case of SpartaDOS, it is best to use the "X" option such as "X MRPAINT.XEX".

Shell Based DOS

To start Mr. Paint from a shell based DOS, use the shells binary load function. Many times this is "L", but consult the DOS shell menu and/or manual to be sure. Then enter the drive specification, name, and press **ENTER**.

Things You Should Know

Mr. Paint tries not to interfere with your workflow. To that extent, after a splash screen at launch you are left in an empty editor screen. The splash screen gives you just enough instruction to get you started.
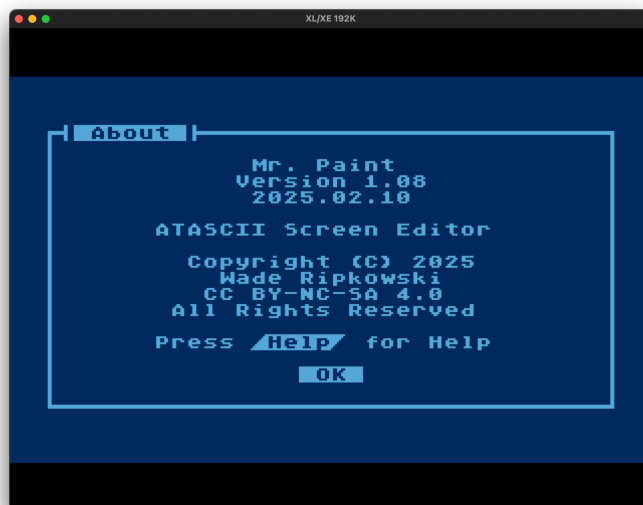
At an absolute minimum you need to know that pressing the **START** button invokes the main menu. Additionally helpful, pressing the **HELP** button will bring up a help screen describing the available key combinations and their function. This is also available from the main menu.

The splash screen also contains the program version and build date. Should you find yourself with multiple copies, this is an easy way to discern which is which.

The editor itself is a blank screen with a flashing cursor in the upper left corner, which is considered the home position:
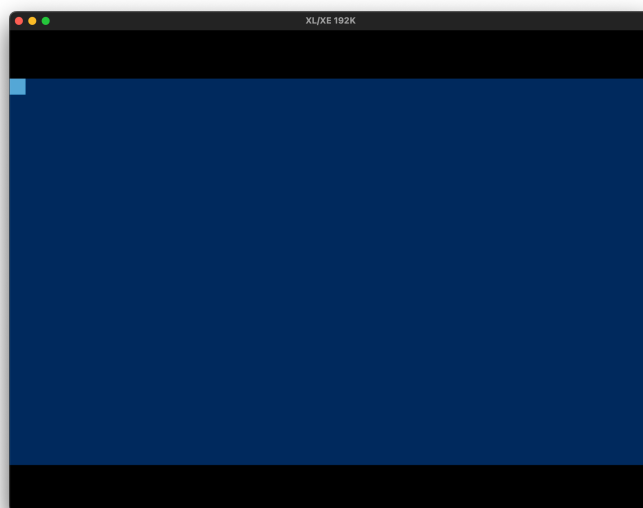
Editor

The editor is very simple. Most keystrokes will be familiar to the Atari user, with only a few exceptions. The editor works very much like the Atari Memo Pad, but with a flashing cursor. Simply move around the screen with the arrow keys, and type the character you want displayed.

The editor features the ability to turn cursor auto advancement on and off. With auto advance turned on, the cursor will always move 1 character to the right after a character key press. With auto advance turned off, the cursor will remain in place after a character keypress. In the off mode, it allows you to quickly experiment with different characters when drawing complex ATASCII screens, without having to constantly move back. This can be toggled in the Preferences dialog.

The editor also features a simulated key click noise. The click is very subtle but meant to provide some audible feedback if desired. Mr. Paint will set itself to match the current system setting when launched. This can be toggled in the Preferences dialog.

Keystroke Notes

While Mr. Paint was designed to NOT include characters that impact cursor movement when displayed, such as those used in the creation of ATASCII movies, provisions have been made to enter these special characters into a screen. This can be useful for the creation of ATASCII art screens, where the special characters are displayed, but not acted on.

The special characters should not be used when creating RAW format screens. You can, but it is not the intended function, and displaying them back may not be accurate depending on how you invoke the display of the saved RAW file.

The same can be said for the normal saved files. Including them may not produce the intended result depending on how the saved file is displayed. The special characters do NOT have ESCape characters before them in the saved file.

Essentially, if you use them, your on your own. You are squarely outside the intended scope of Mr. Paint. Know exactly what you are doing. For example don't add a clear character if your saving the file with a clear character pre-pended, and then expect to not have the screen cleared after the first pre-trended one.

If the display of the saved file is not what you expect, it is not the programs fault.

Keystrokes

Pressing **HELP** or using the main menu's Help/Keys option will display key combinations and their functions in a brief form.

Available keystroke combinations and their functions are detailed in the table below:

Keystroke	Description
Help	Displays the Keys help screen (as depicted above).
Start	Opens the main menu.
Option	Displays a popup dialog showing the status of preferences, filename, and cursor location.
←	Move cursor left 1 character. Cursor will wrap from left border to right.
→	Move cursor right 1 character. Cursor will wrap from right border to left.
↑	Move cursor up 1 character. Cursor will wrap from top border to bottom.
↓	Move cursor down 1 character. Cursor will wrap from bottom border to top.
Return	Moves cursor to the next line and far left column.
Control-H	Homes the cursor to the upper left corner of the screen.
Shift-Control-H	Centers the cursor on the screen.
Tab	Moves the cursor 10 characters to the right.
Shift-Tab	Moves the cursor 10 characters to the left.

| Keystroke	Description
Control-Tab	Draws the Tab character (►). For use in ATASCII art screens.
Insert	Inserts character at cursor position and shifts remainder of the line 1 character to the right. Characters pushed off the right side are lost.
Shift-Insert	Inserts a line at the cursor position. All lines below are shift down by one line. Lines pushed off the bottom are lost.
Delete	Deletes the character under the cursor. If Auto Advance is turned on, it also moves the cursor 1 character to the left.
Shift-Delete	Deletes the line at the cursor position. All lines below are shifted up by 1 line.
Control-Delete	Draws the Delete character (◄). For use in ATASCII art screens.
Control-W	Wipes (clears) characters from the cursor position to the start of the line.
Shift-Control-W	Wipes (clears) characters from the cursor position to the end of the line.
Shift-Control-D	Deletes (clears) all characters on cursors current row.
Clear (◥)	Draws the clear character (◥). For use in ATASCII art screens.
Shift-Control-Clear (◥)	Draws the left arrow character (←). For use in ATASCII art screens.
Shift-Control-Insert	Draws the right arrow character (→). For use in ATASCII art screens.
Shift-Control-↑	Draws the up arrow character (↑). For use in ATASCII art screens.
Shift-Control-↓	Draws the down arrow character (↓). For use in ATASCII art screens.
Shift-Control-E	Toggle the end of screen marker (end line).
Shift-Control-M	Show the keyboard control character map.
Escape	Draws the escape character (Ɛ).
Caps	Toggle CAPS lock.
Inverse	Toggle Inverse characters.
All others	Draws the given character at the cursors position. If Auto Advance is turned on the cursor will be moved 1 character to the right.

Control Key Map

A map showing the control key to keystroke mapping can be invoked from the editor or from the main menu. It is meant as a quick reference for finding **ATASCII** characters, both inverse and normal.

To invoke it from the editor, press **Control-Shift-M.**

Status Display

A dialog showing the status of program preferences, screen modification state, cursor location, end line marker location, and filename can be displayed at any time by pressing the **OPTION** button.
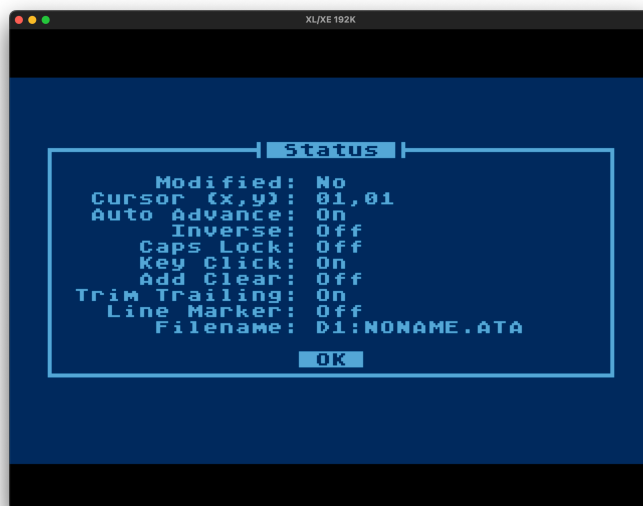
End Line (Screen) Marker

Mr. Paint allows saving partial screens, from the top row to a specified row. The End Line (or Screen) marker sets the last line to be saved. To set the End Line marker, press **Control-Shift-E**. To clear the marker, press the key combination again.
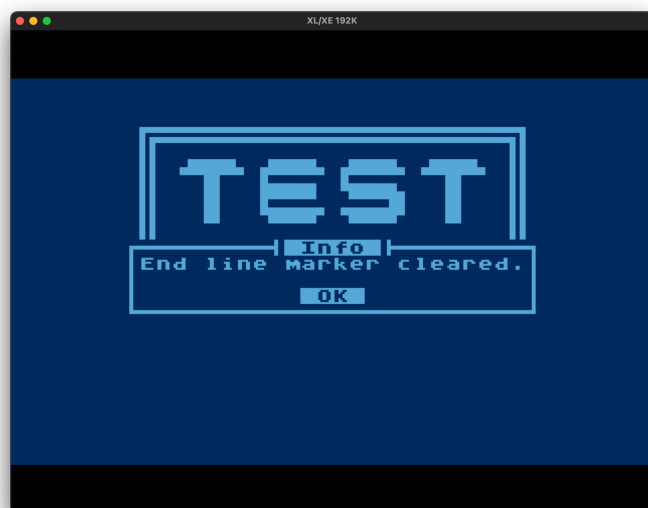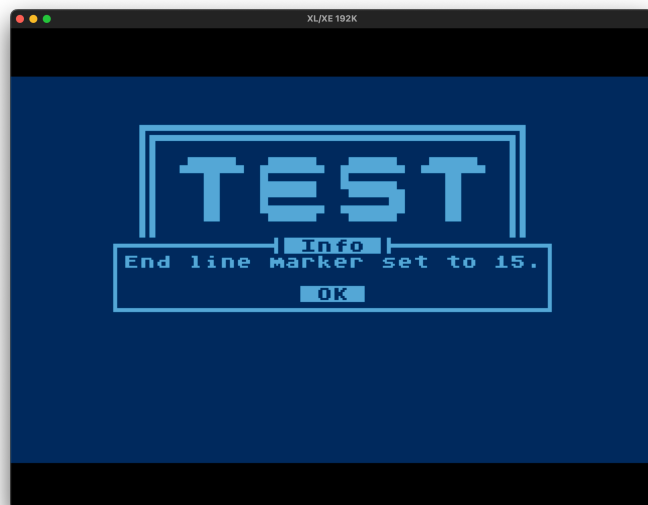
Menu

Main Menu

The main menu contains four options. This menu and the option menus operate in the same manner. Keys accepted are:

— **LEFT** and **RIGHT**, or **UP** and **DOWN**, will move between selectable options.
— **RETURN** selects the currently highlighted item.
— **ESC** exits the menu.
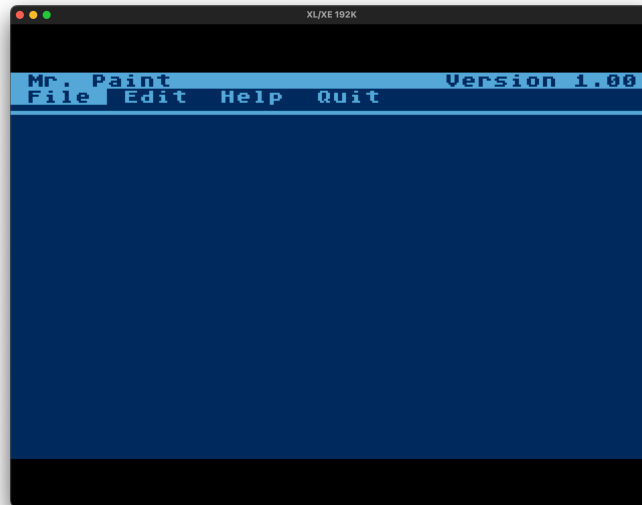
File Menu

The File menu contains options related to file handling.
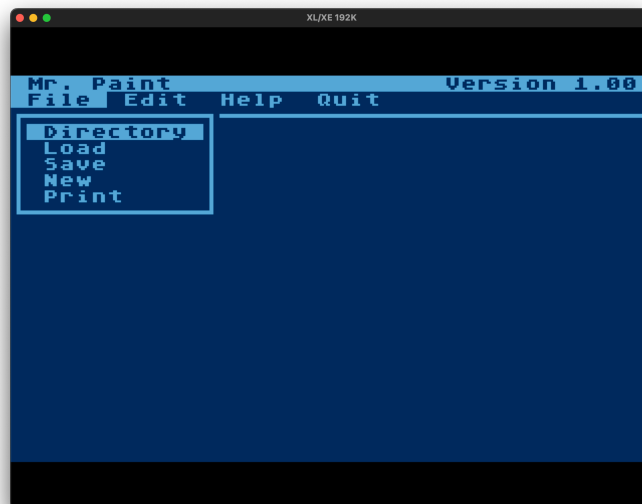
Keys accepted are:

- **LEFT** and **RIGHT**, or **UP** and **DOWN**, will move between selectable options.
- **RETURN** selects the currently highlighted item.
- **ESC** exits the File menu.

The descriptions and usage of each option are detailed on the following pages.

Directory

Invoking the directory option opens a full screen directory viewer. The top portion has selectors for the drive and file mask. The lower section will show up to 60 files matching the file mask on the selected drive.
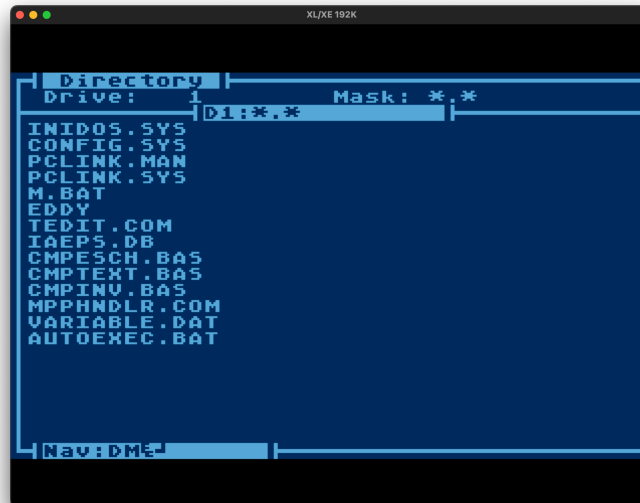
Press **D** to change the drive number. Use the **LEFT, RIGHT, UP** and **DOWN** keys to change the drive number. Use **RETURN** to accept the entry. If a disconnected drive is selected, and error indicating the drive can not be opened will be displayed.
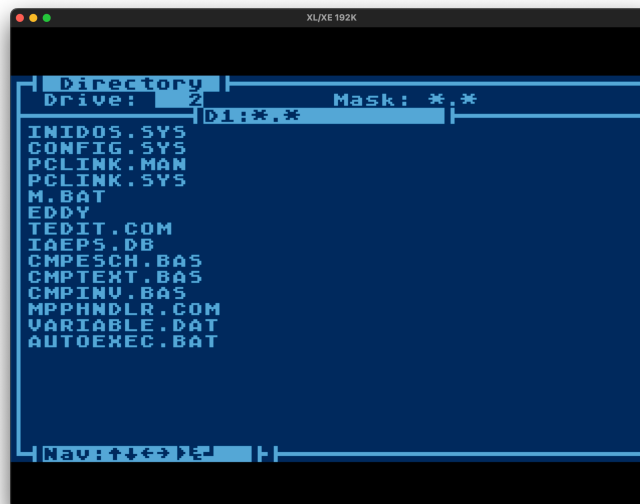
Press **M** to change the file mask. Wild cards are supported, in fact
the default is (*.*).
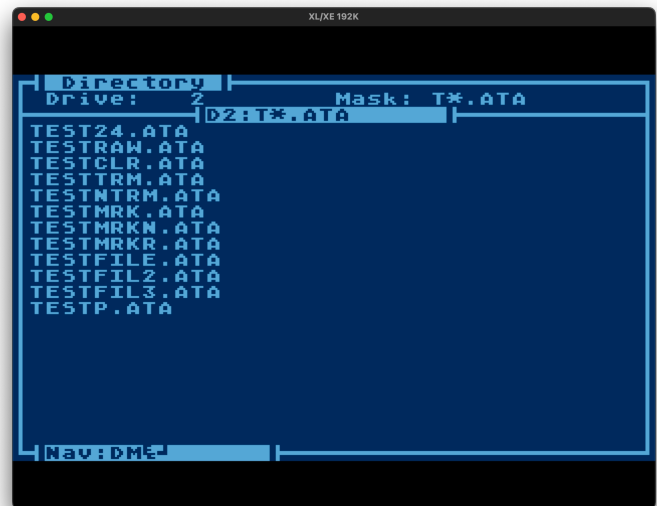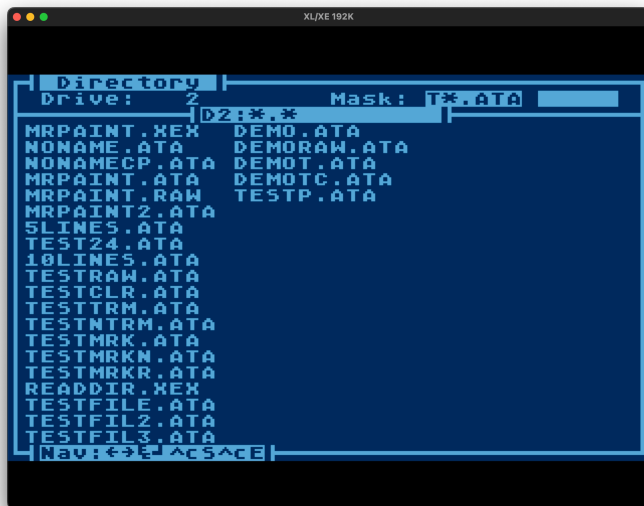
If an attempt to display a disk with more than 60 files is made, you
will be asked to refine the file mask to reduce the number of files
displayed.
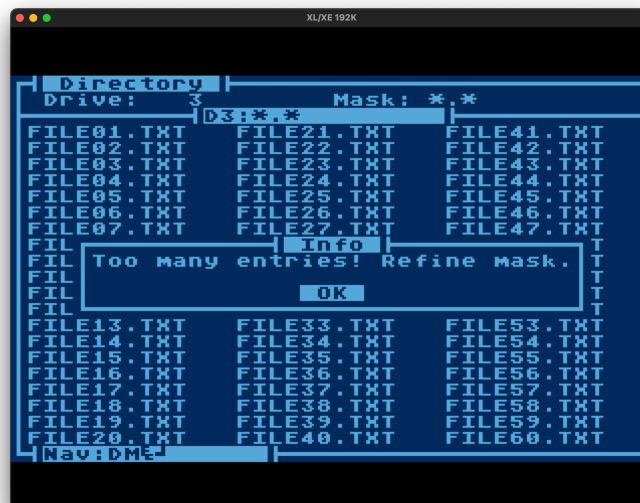
Load

The Load option is used to load a previously saved screen. It is designed to load screens saved by Mr. Paint. However, you may be able to load *some* screens saved with other programs providing the file format is acceptable.

You will be presented with a Load File dialog which prompts for the file to load. Enter the name using the drive:filename.ext syntax (ie: D1:NONAME.ATA). Once the name is entered, press **TAB** or press **ENTER** to advance to the OK and Cancel soft buttons. Then select OK or Cancel as appropriate. While loading a progress bar will be displayed.
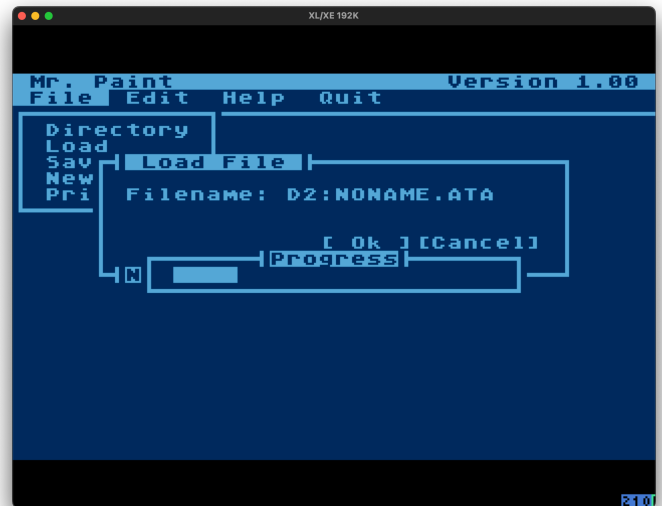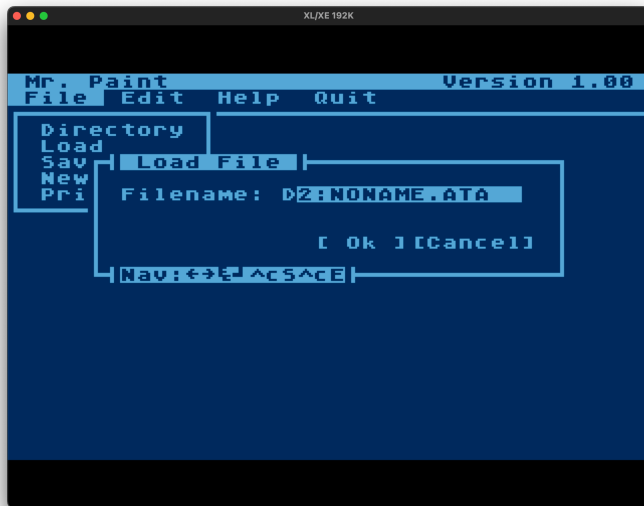
Once loading is complete, you will be returned to the editor screen with the loaded screen contents displayed:
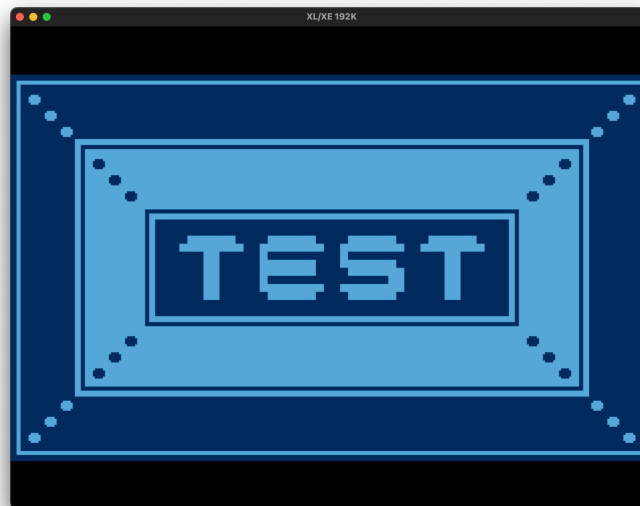
The load routine will look for an Atari clear character (◣, hex 7D, decimal 125) in the first byte, and if found will enable the Add Clear preference, but NOT include it in the screen itself.

Save

Guess what save does? That's right, this is where you save your
ATASCII masterpieces to file. Like Load, you will be presented
with a Save File dialog which prompts for the filename to save to.
The filename populated will be that of the default (NONAME.ATA)
unless a filename has been previously entered at a filename prompt.
Mr. Paint remembers and uses a filename until changed again.

The dialog also contains a selection checkbox for Raw. Checking
this box will cause the screen to be saved in the Raw format. Raw
format saves the screen as a linear sequence of **ATASCII** characters
without any newlines. All 40 characters of all 24 lines are written
to file consecutively, producing a 960 byte file. The Trim Trailing
and Add Clear preferences are ignored when saving in this format.

With Raw unchecked, the screen will be saved in **ATASCII** format,
which means there will be an Atari newline character (hex 9B,
decimal 155) placed at the end of each line as they are written to
the file from the top line to the bottom line.

If the Trim Trailing preference is enabled, then each line will have
the right side (end) trimmed of empty space before the Atari newline
is added. So, if there is a line where the last character is 25,
the last 15 characters of the line will be omitted. This is NOT
applicable when saving in the Raw format.

If the Add Clear preference is enabled, an Atari clear character
(◣, hex 7D, decimal 125) will be added as the first byte of the
output file. This is NOT applicable when saving in the Raw format.

Use **TAB** or **ENTER** to move between dialog form elements. Use **SPACE** or
X to toggle the Raw checkbox when it is highlighted.

Once the form is accepted, Mr. Paint will check to see if the file
already exists. If it does you will be prompted to confirm an
overwrite.
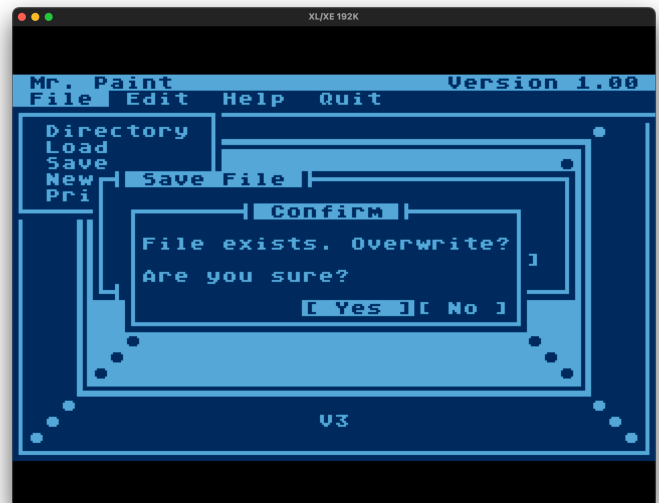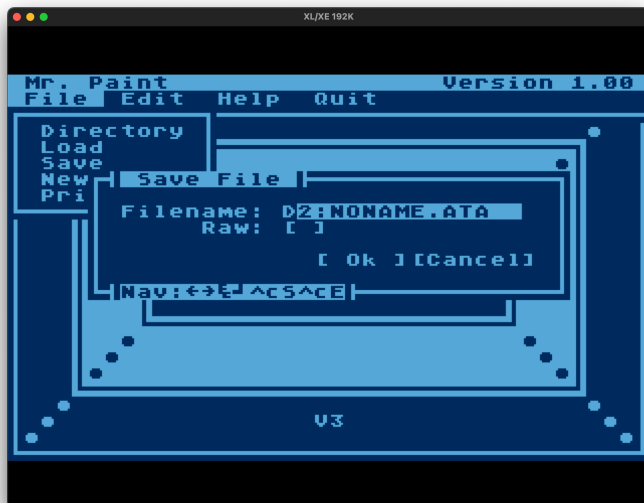
Once the Save File dialog form is accepted, the file will be loaded
and a progress bar will be shown.
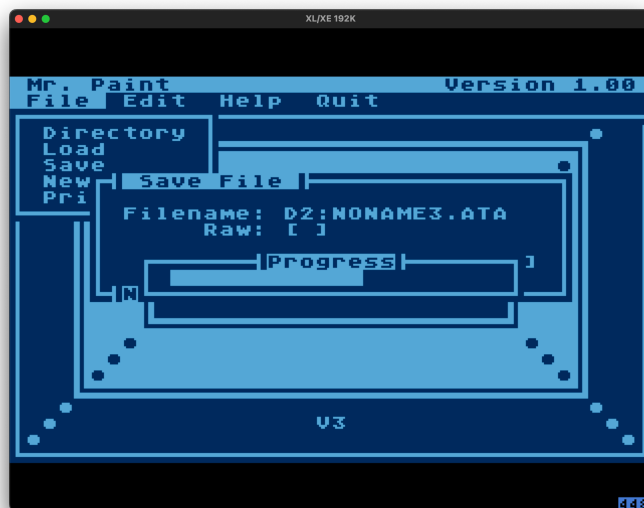
New

The New option allows you to clear the contents of the editor screen
(buffer). If you have made and edits to the screen and not saved
it, you will be prompted to confirm.

Print

The Print option allows you to print the editor screen contents to a printer.

There is a special caveat! This is not a graphical dump to a graphic printer. This requires a printer capable of producing **ATASCII** output such as the soft **ATASCII** printers in Atari800MacX and FujiNet! Printing to any other printer will product garbage results. The soft printers typically allow saving to PDF, which can in turn be printed to any modern printer from a modern OS. There is one exception to this rule — printing an all ASCII screen, which should work on any printer.

Upon selection a Print File dialog is presented. Enter the printer device (ie: P1:) that you want to print to. There is no restriction on the device name.

Use **TAB** or **ENTER** to move between dialog form elements. Then choose OK to start the print. Like Load and Save, a progress bar will be displayed while printing.
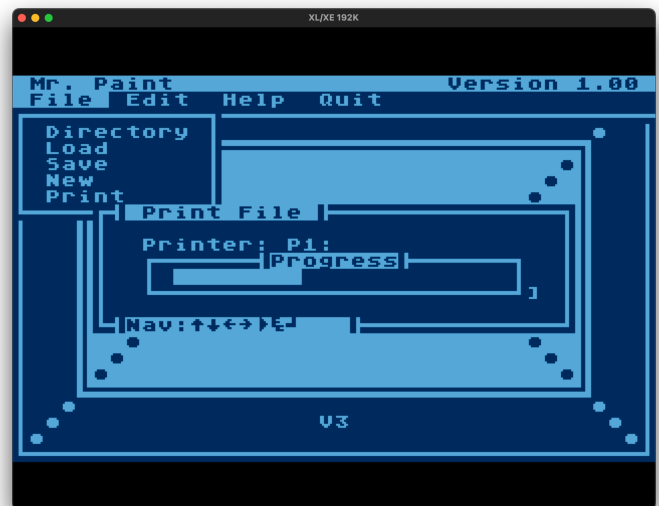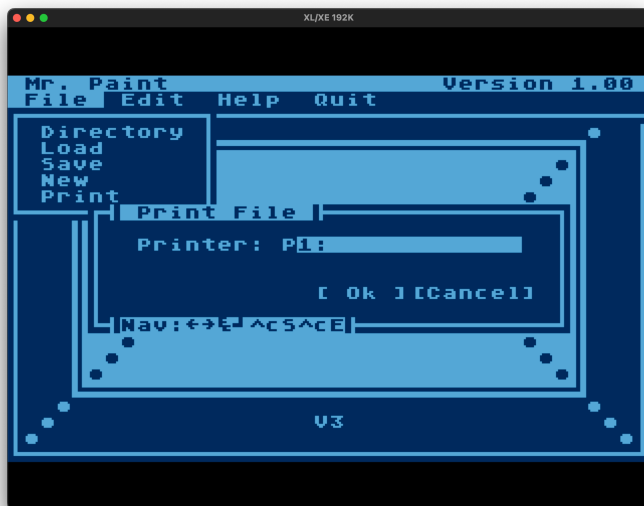
Examples of printouts follow.

A screen using **ATASCII** characters printed to the **ATASCII** printer
in Atari800MacX is on the left. A screen using ASCII characters only
printed to an emulated Epson FX80 is on the right:
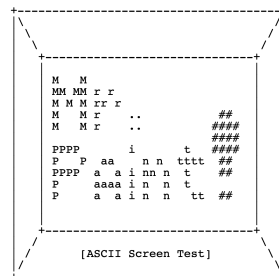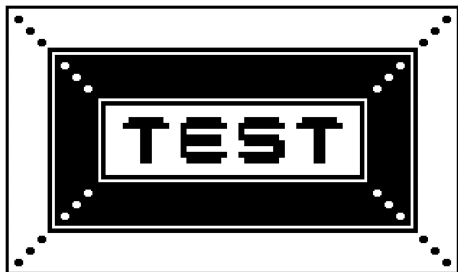
Edit Menu

The Edit menu holds two options.
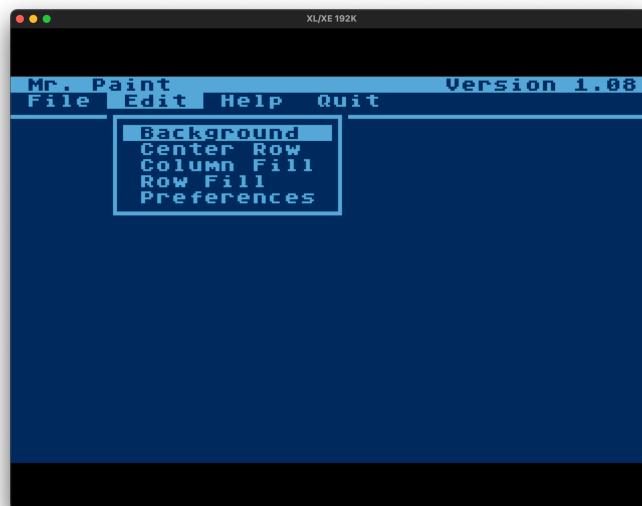
Keys accepted are:

— **LEFT** and **RIGHT**, or **UP** and **DOWN**, will move between selectable options.
— **RETURN** selects the currently highlighted item.
— **ESC** exits the Edit menu.

Each option is described on the following pages.

Background

The Background option allows you to set the entire screen to a specific character. You must know the **ATASCII** character code for the character to be set.

A small popup will be presented in which you enter the three digit **ATASCII** code. Press **ENTER** to accept, or **ESC** to cancel. If you have previously altered the edit screen (buffer), you will be asked to confirm the operation because it will destroy existing editor contents.
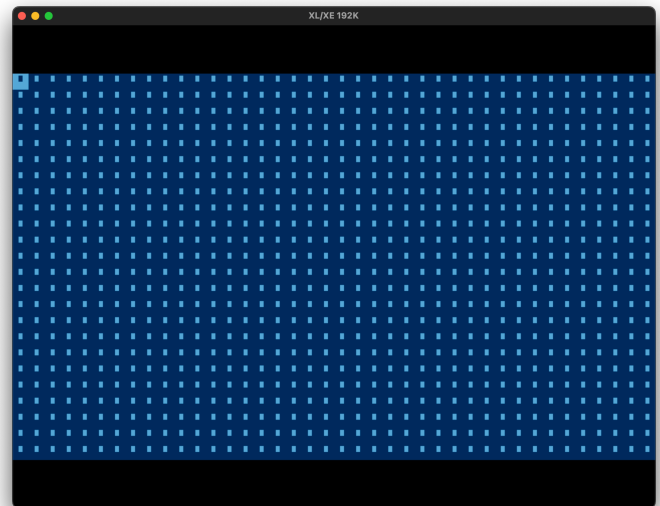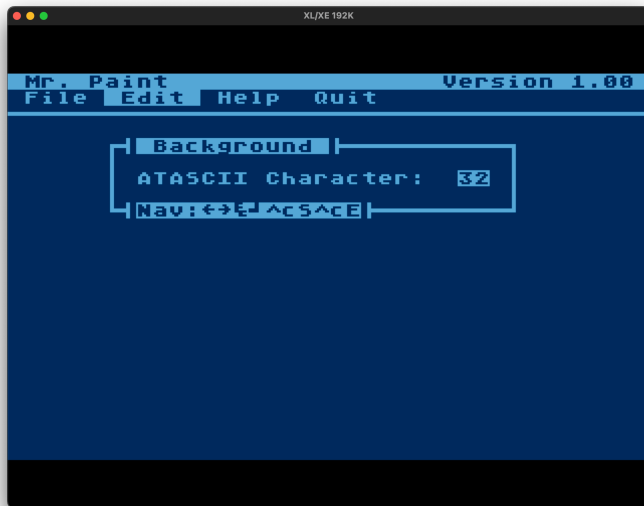
Center Row

The Column Row option allows you to center the contents of the current row (where the cursor is located). Leading and trailing space is trimmed, and the remaining line content is centered. Line content can contain spaces between the first and last characters without issue.
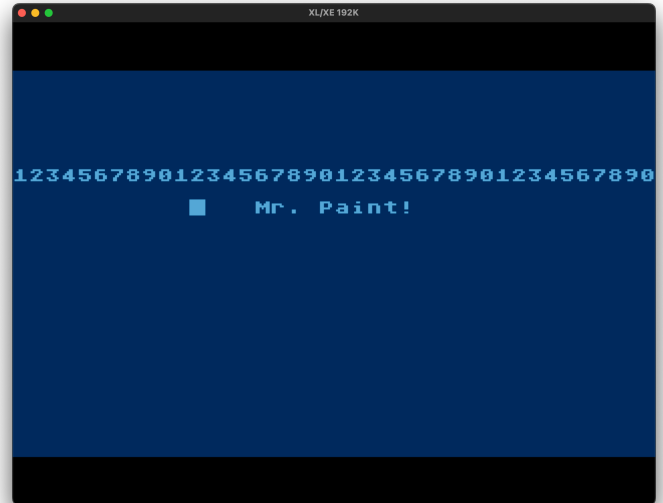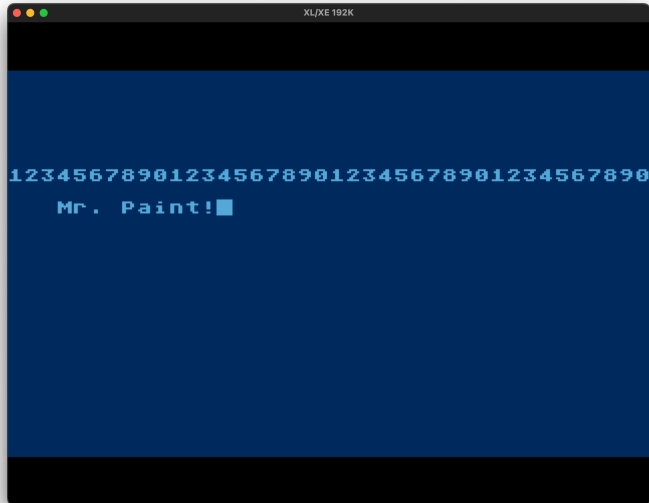
Column Fill

The Column Fill option allows you to set the entire current column
(where the cursor is located) to a specific character. You must
know the **ATASCII** character code for the character to be set.

A small popup will be presented in which you enter the three digit
ATASCII code. Press **ENTER** to accept, or **ESC** to cancel. No
confirmation is asked. If the column contains characters, they will
be overwritten with the new character.
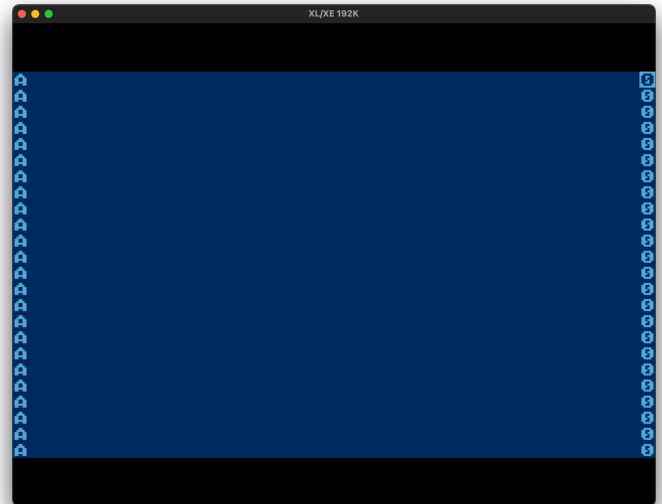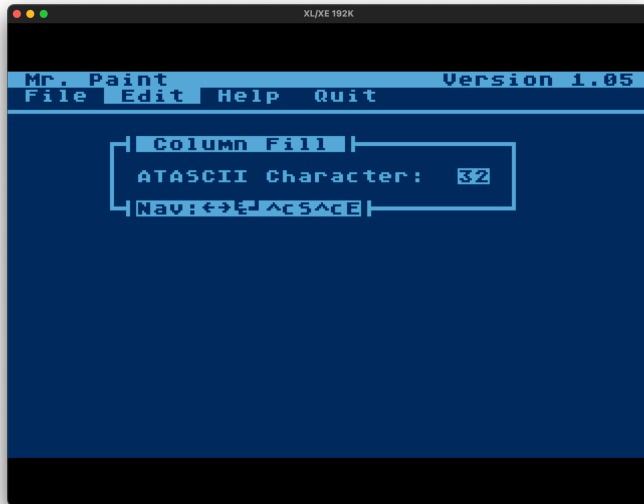
Row Fill

The Row Fill option allows you to set the entire current row (where the cursor is located) to a specific character. You must know the **ATASCII** character code for the character to be set.

A small popup will be presented in which you enter the three digit **ATASCII** code. Press **ENTER** to accept, or **ESC** to cancel. No confirmation is asked. If the row contains characters, they will be overwritten with the new character.
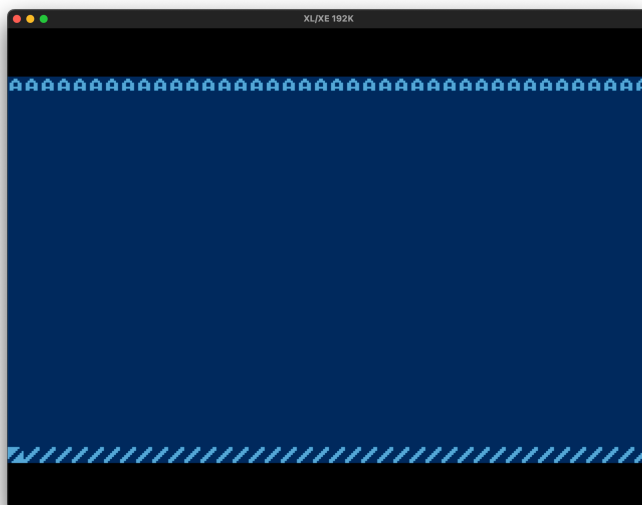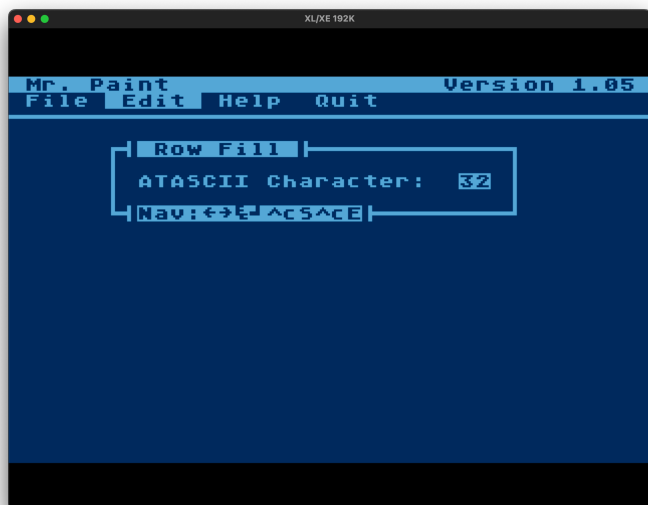
Preferences

The Preferences option allows you to set several program wide options. A dialog form is presented. The primary navigation keys for the form are **TAB** (skip to next field) and **ENTER** (accept field). Each field has keys that assist with entry and selection. The Nav bar on the bottom frame of the dialog will indicate which keys are active for each field as the field becomes active.

The first field is the Work Drive field, which will be active when the dialog form is opened. This sets the drive number Mr. Paint uses for the initial save or load after the program is loaded, and which drive will be read first when opening the Directory.

The remaining options are checkboxes. The **SPACE** or **X** key will toggle their values.
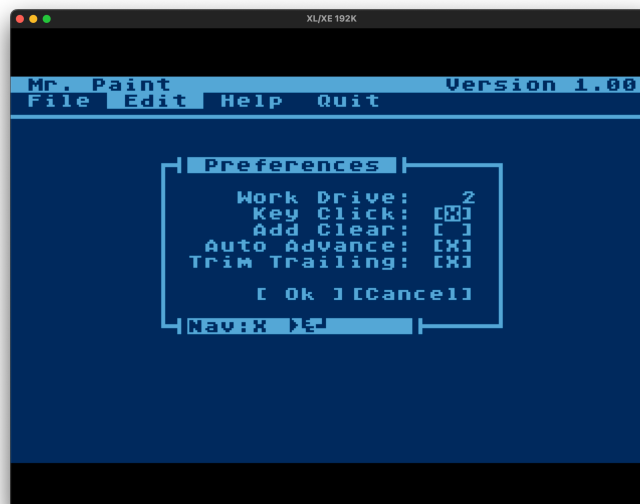
A brief description of each option follows:

⁻ **Key Click** — Enables or disables a very subtle audible key click as each characters are entered in the editor.

⁻ **Add Clear** — Enables or disables adding the Atari clear character () to the beginning of saved files that are not saved in the Raw format.

⁻ **Auto Advance** — Enables or disables the cursor auto advance function. When enabled the cursor will move 1 character to the right after each character keypress. It will also cause **DELETE** to move 1 character to the left after each press.

⁻ **Trim Trailing** — Enables or disables the trimming of space from the end of lines when not saving in Raw mode.

And last on the dialog form are the Ok and Cancel soft buttons. Selecting Ok will cause Mr. Paint to remember these settings until the program is exited, or they are changed again — whichever comes first. Selecting Cancel will cause Mr. Paint to forget the changes you have made. In either case you are returned to the editor.

Help Menu

The Help menu is where you can get quick hints on the program and its usage.
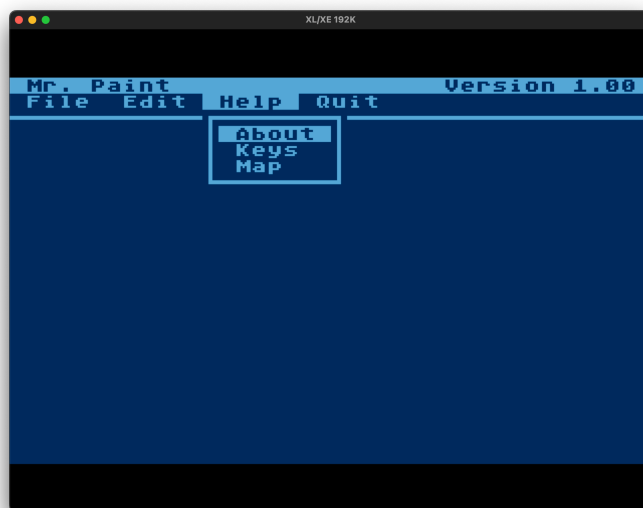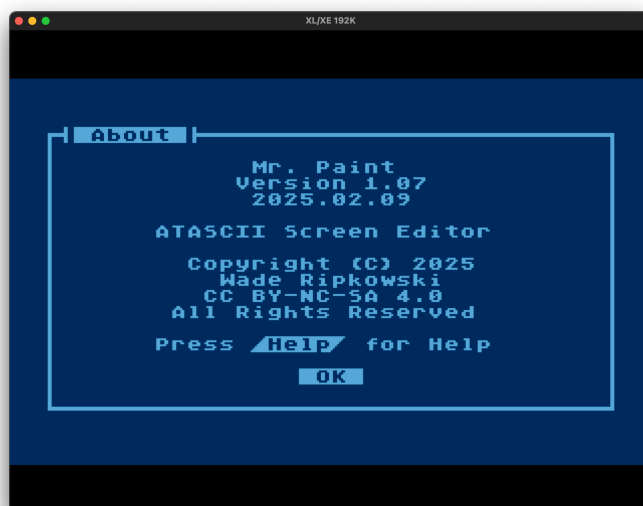

Keys accepted are:

- **LEFT** and **RIGHT**, or **UP** and **DOWN**, will move between selectable options.
- **RETURN** selects the currently highlighted item.
- **ESC** exits the Help menu.

There are three options. Each is discussed below.

About

The about option re-displays the Mr. Paint splash screen. It contains version, build date, copyright, author, and license information.

Keys

The Keys option displays a dialog of helpful key combinations.
These are discussed in detail in the Editor / Keystrokes section of
this user guide.

This is also available from the editor by pressing the **HELP** button.

Map

The Map option displays a dialog showing which keys on the keyboard
correspond to which Atari **ATASCII** control characters, both normal
and inverse. It can be used as a quick reference to find a
character you have forgotten the mapping to.

Quit

The Quit option exits Mr. Paint. If the underlying DOS supports it, you will be returned to the DOS's command interpreter or shell, whichever is applicable.
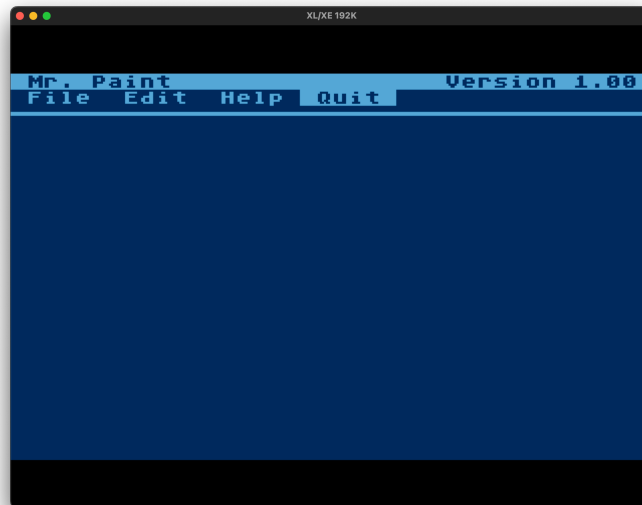
If you attempt to Quit with a modified screen (buffer), you will be prompted to confirm to prevent the loss of your **ATASCII** work of art.

Example Screens

1. This screen uses all **ATASCII** characters, both inverse and normal, saved in Raw mode. On the top is the screen captured in the Mr. Paint editor. On the bottom is the screen copied to the Atari screen from DOS.
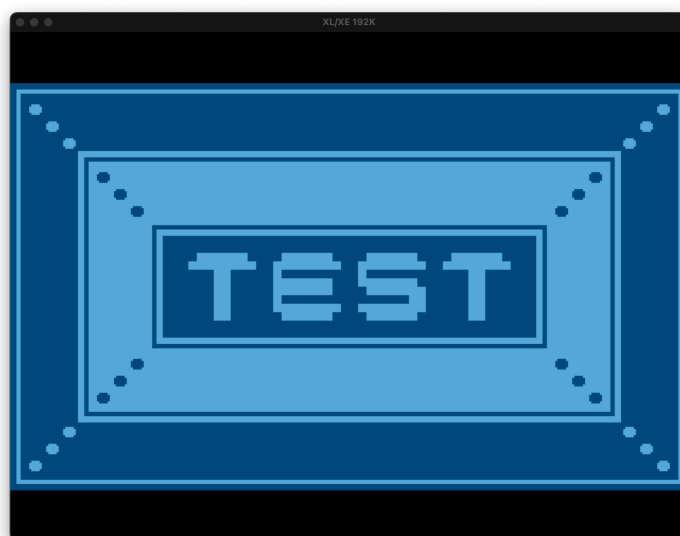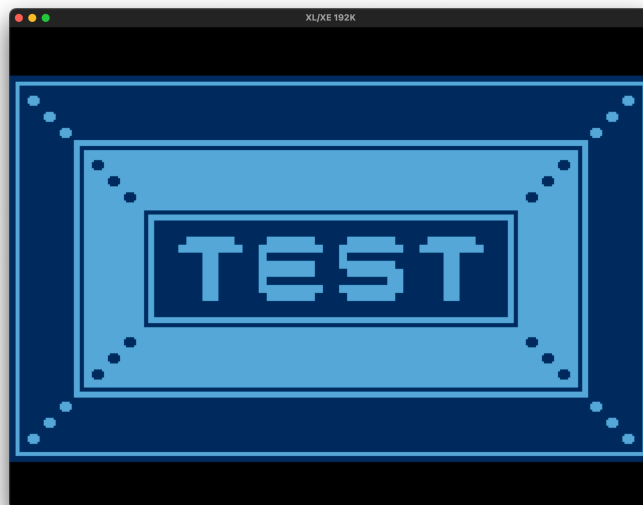
2. This screen is a modified version of example 1. It is set with a
screen end marker, and saved with Trim Trailing enabled.

On the left is the screen copied to the Atari screen from DOS as
saved with the above configuration.

On the right is the same screen copied to the Atari screen from DOS
as saved with Add Clear enabled as well.

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