TED Screen Editor

Commodore Plus/4 column screen editor

Contents:

Version history and download

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Link to latest build

Version v099-20220525-2325:

- First released beta version based on VDCSE version v099-20220324-1527

Introduction

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TED Screen Editor is an editor to create text based screens for the Commodore Plus/4. It fully supports using a user defined character set.

Main features of the program:

- Support for screen maps larger than 40x25 characters. Screens can be up to 15 KiB (15.615 bytes), all sizes fitting in that memory with width of 40 at minimum and heigth of 25 at minimum are supported. NB: As both the character data as the attribute data needs to be stored, a screen takes width times height times 2 bytes in storage. So 15k would fit up to 7 standard 40x25 screens to be distributed over width and height, so e.g. 2 screens wide and 3 screens high (80x75 characters).
- Supports resizing canvas size, clear or fill the canvas
- Support for loading user defined charsets (should be standard charsets of 128 characters of 8 bits width and 8 bits height that will be hardware reversed for screencodes higher than 128).
- Includes a simple character editor to change characters on the fly and directly see the result in your designed screen (for editing a full character set one of the many alternatives for C64 character set editing is suggested).

- Supports luminance and blink attributes of the TED, giving 121 colors and the ability for flashing characters.
- In not redefined charactersets lowercase and uppercase character set can be selected (but bot can not be used at the same time).
- User definable background and border color.
- Write mode to freely type characters with the keyboard, supporting all printable PETSCII characters and also supporting Commodore or Control + 0-9 keys for selecting colors and RVS On/Off
- Color write mode to freely type attributes and colors
- Line and box mode for drawing lines and boxes
- Select mode to cut, copy, delete or repaint (only color or all attributes) the selection.
- Move mode to scroll the screen contents (due to memory constraints only for the 40x25 viewport)
- Palette mode, including visual PETSCII mode, to visually select characters and colors
- Favorite slots to quickly select 10 favorite characters
- TED2PRG utility to convert a 40x25 TEDSE project to a stand-alone executable for the Commodore Plus/4

Start program

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Mount the TEDSE disk image. Choose the .D641 or .D81 image depending on what is supported on the hardware or emulator you use. The program will run the same from both images, but the .D81 will be providing faster load times and more available free storage space for your screens if you want to save your work in this same image. The disk can be mounted from any valid device ID number.

Run the program by entering LOAD "TEDSE",<device number> and then enter RUN (or use other methods like JiffyDOS shortcodes or your favorite file browser). The TEDse file (with PRG file type) is the executable that should be started, the other files on the disk are supporting binaries, title screen or help screens.

Description of contents of the disk image:

- TEDSE (PRG): Main executable
- TEDSE.TSCR (PRG): Title screen
- TEDSE.HSC1 (PRG): Help screen for main mode
- TEDSE.HSC2 (PRG): Help screen for character edit mode
- TEDSE.HSC3 (PRG): Help screen for select, move and line/box modes
- TEDSE.HSC4 (PRG): Help screen for write and color write modes
- TEDSE.PETV (PRG): Mapping table for visual PETSCII map
- TEDSE2PRG (PRG): Executable of the TEDSE2PRG utility
- TEDSE2PRG.ASS (PRG): BASIC header and assembly part for generating executables

(Fun fact: all screens have actually been created using TEDSE as editor)

Leave the title screen by pressing any key.

Main mode

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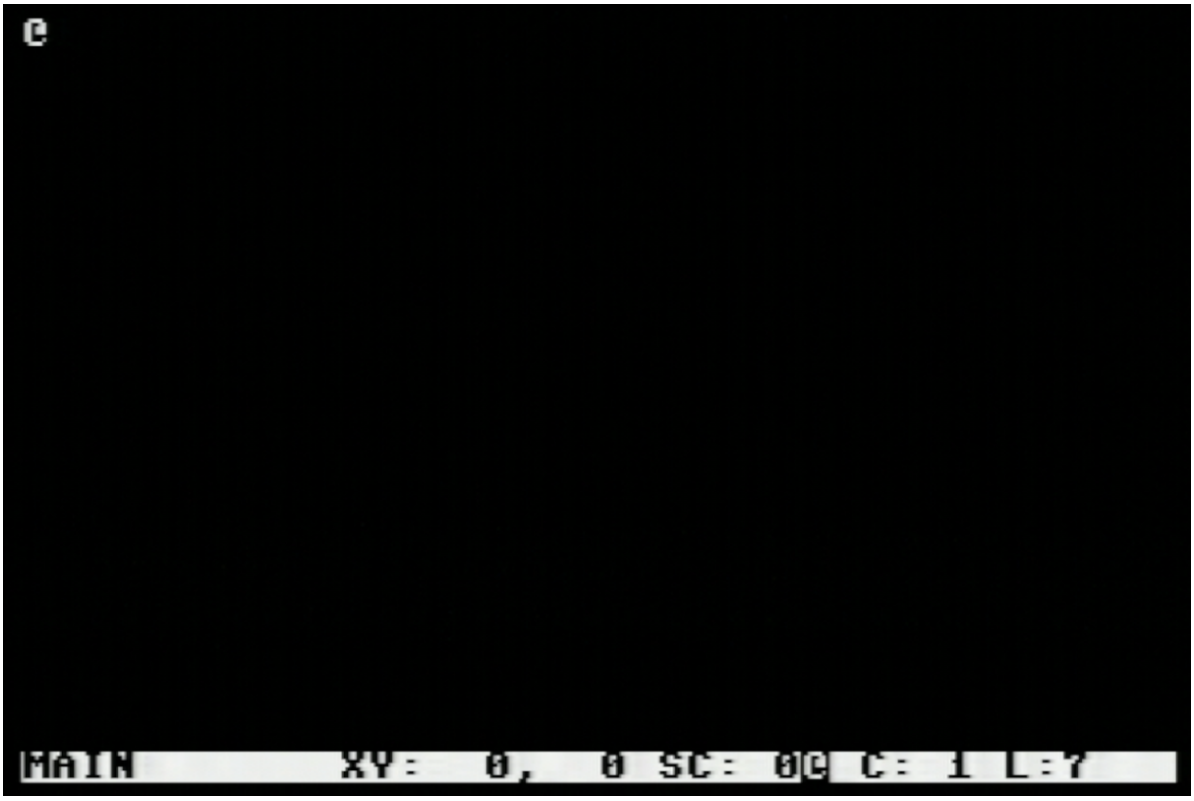
After the title screen, the program starts in this mode. At start the screen shows this:



Only a blinking cursor with the presently selected screencode and attributes is visible.

Press these keys in main mode for editing:

Key	Description
Cursor keys	Move cursor
+	Next character (increase screen code)
-	Previous character (decrease screen code)
0-9	Select character from favorite slot with corresponding number
SHIFT + 1-9	Store character to favorite slot with corresponding number
*****	Store character to favorite slot with number 0 (shift 0 does not exist)
,	Previous color (decrease color number)
.	Next color (increase color number)
:	Decrease luminance
;	Increase luminance
SPACE	Plot with present screen code and attributes
DEL	Clear present cursor position (plot white space)
B	Toggle '**B**link' attribute
A	Toggle lowercase/uppercase
E	Go to 'character **E**dit mode' with present screen code
G	**G**rab underlying character and attribute at cursor position
W	Go to '**W**rite mode'
C	Go to '**C**olor write mode'
L	Go to '**L**ine and box mode'
M	Go to '**M**ove mode'
S	Go to '**S**elect mode'
P	Go to '**P**alette mode'
T	**T**ry mode
I	Toggle '**I**nverse': toggle increase/decrease screencode by 128
HOME	Move cursor to upper left corner of canvas
F1	Go to main menu
F6	Toggle statusbar visibility
HELP	Help screen

Moving cursor

Press the **cursor keys** to move the cursor around the screen. If the canvas size is bigger than the 80x25 screensize, the sreen will scroll on reaching the edges.

Pressing **HOME** will return the cursor to the upper left position.

Selecting the screencode to plot

The **+** or **-** key will increase resp. decrease the selected screencode by one. The cursor will update to the presently selected screencode.

Pressing **I** will increase the screencode by 128 if the present screencode is lower than 128, otherwise decrease by 128. This will emulate RVS On / RVS Off.

Selecting the screencode to plot from a favotite slot

In TEDSE 10 positions are available to store your most frequently used characters in. Pressing one of the **0-9** keys selects the favorite with the corresponding number.

Storing the present screencode to a favorite slot

Pressing **SHIFT** plus **1-9** stores the presently selected character to the corresponding favorite slot. As SHIFT+0 is the same as 0 on the Plus/4, press ***** for favorite position 0.

Selecting the attributes to plot

Increase or decrease the color code by one by pressing the **.** resp. **,** key. Increase or decrease the luminance by one by pressing the **;** resp. **:** key. Pressing **B** or **A** will toggle the **B**link or lowercase charset attribute.
The cursor will update to show the updated attribute code.

Plotting and deleting a character

Press **SPACE** to plot the presently selected character in the presently selected attributes at the present cursor position. **DEL** will delete the character and attribute value at the present position.
Press **T** to preview how the selected character would look like if plotted without cursor blinking. Then press **SPACE** to confirm plotting the character, or any other key to cancel.

Grabbing a character

Pressing **G** will 'grab' the character and attributes at the present cursor position and change the selected character screencode and attribute to these values for use in all other edit functions.

Character edit mode

This will enter character edit mode and start with editing the presently selected screencode. Tip: if you want to edit a specific character on the screen, grab that character first by moving the cursor on that character and press **G** for grab.

Enter edit modes

Press **S** (Select mode) , **M** (Move mode), **L** (Line and box mode), **W** (Write mode) or **C** (Color write mode) for entering the corresponding edit modes.
Reference is made to the specific sections in this readme for these modes (click the links). From all modes, return to main mode by pressing **ESC** or **STOP**.

Toggle statusbar visibility
Press **F6** to toggle between the statusbar being visible (default) or not.

Help screen
Press **HELP** to show a help screen with all keyboard commands for this mode.

Statusbar

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If enabled, the statusbar is plotted as this at the lowest line of the screen:

From left to right, this status bar shows:

- Mode: mode the program is in (such as Main, Select, Line/Box, Palette or Character Editor).
- X,Y: X and Y co-ordinates of the cursor (co-ordinates of the large full screen, and not only the visible screen, if a larger screen than 80 by 25 characters is selected)
- SC: Screemcode, the present selected character to plot, first as screencode number in hexadecimal, second as actual visual character.
- C: Color, the present selected color to plot
- L: Luminance, the present selected luminance to plot
- The actual plot color and luminance visualised
- Atrributes: this shows the enabled attributes, B for Blink and A for lowercase character set. If the abbreviation is shown, the corresponding attribute is enabled, else disabled.

The status bar auto hides if the cursor is moved to the lowest visible line on the screen, and pops up again (if enabled in the first place) when the cursor moves up.

Pressing **F6** toggles statusbar visibility in every mode.

Main menu

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From main mode, press **F1** to go to the main menu. The following menu will pop up:

(NB: Note that if your design uses a changed character set, the program will load the standard system font and your design might temporarily look incorrect. This will be restored on exiting the main menu. Also, the colors of the main menu and the highlight colors might differ if you have chosen a non-black background color, to ensure visibility of the menus).

Navigation in this menu is performed by the following keys:

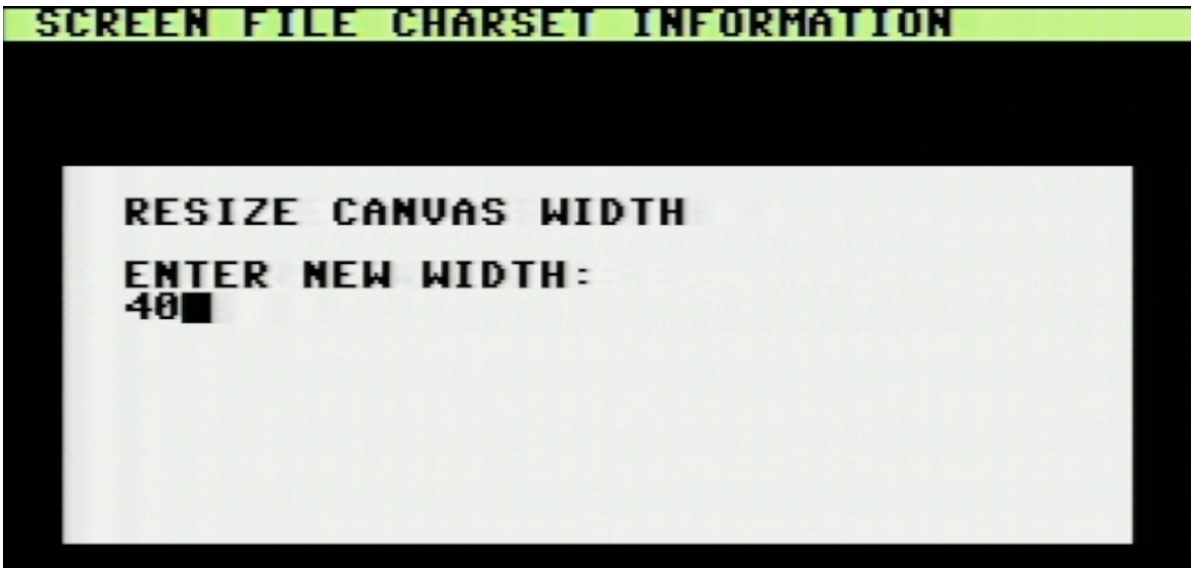
Key	Description
Cursor LEFT / RIGHT	Move between main menu options
Cursor UP/ DOWN	Move between pulldown menu options
RETURN	Select highlighted menu option
ESC / STOP	Leave menu and go back

Screen menu

Width: Resize width

Resize the canvas width by entering the new width. You can both shrink as expand the width. Minimum width is 40, maximum width depends on the canvas height and the result fitting in the maximum of 15 KiB memory size allocation.

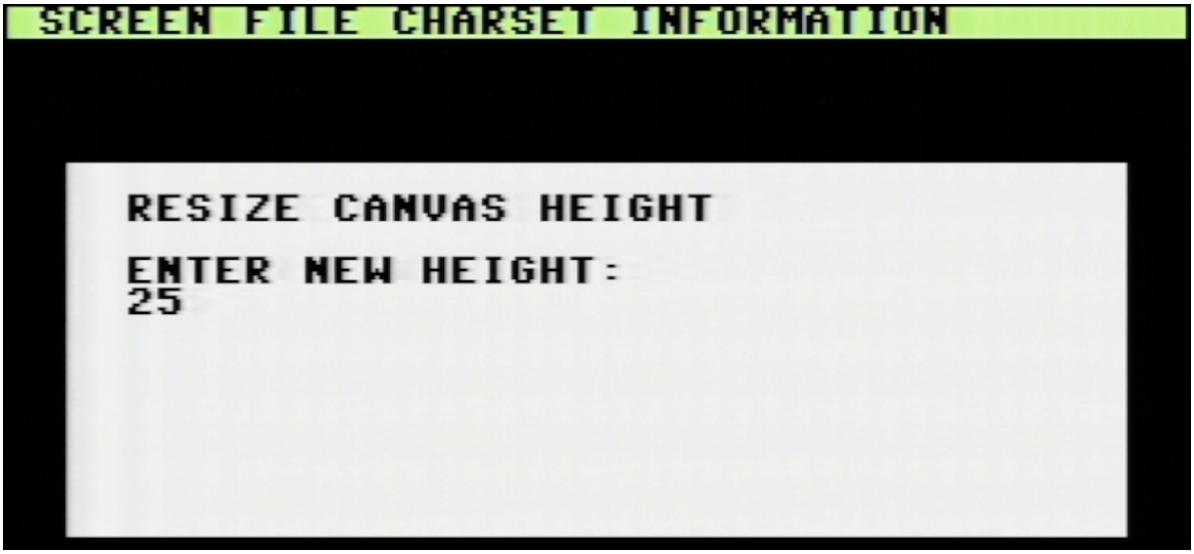
Note that with shrinking the width you might loose data, as all characters right of the new width will be lost. That is why on shrinking a pulldown menu will pop-up asking if you are sure. Select the desired answer (yellow highlighted position if using a black background).



Height: Resize height

Similar to resize width, with this option you can resize the height in the same way. Minimum height is 25, maximum again dependent on width given maximum of 15 KiB memory allocation.

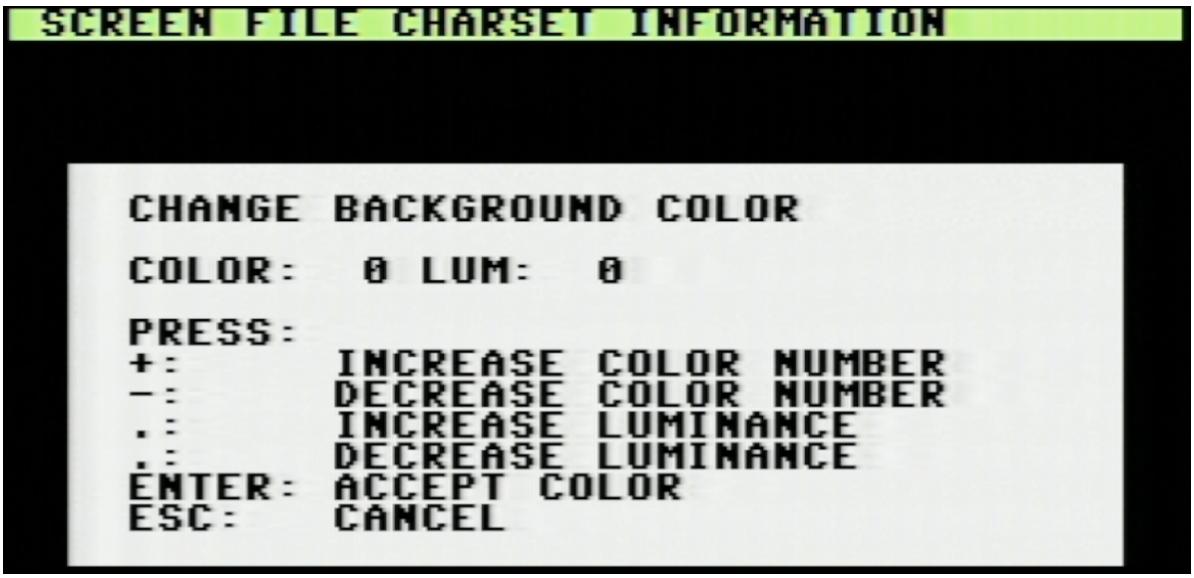
Also here: on shrinking you might loose data, which is lost if you confirm.



Background: Change background color

Select the background color. Note that if the chosen color is not black, the menu and popup colors will be changed to black on colors with intensity bit on, and white on colors with intensity bit off.

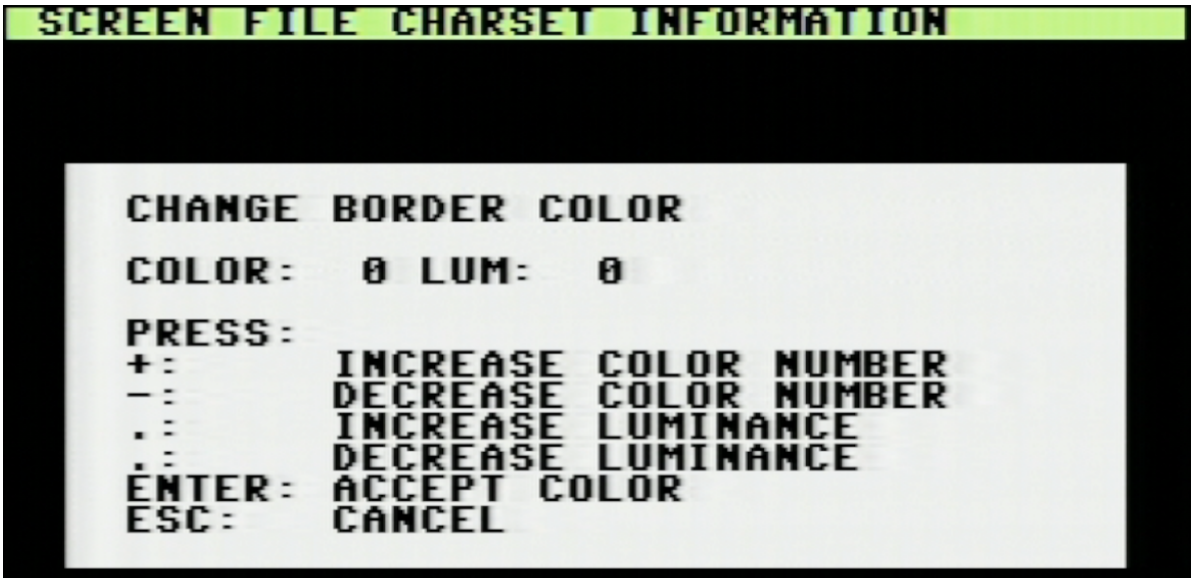
The color can be selected with the **+** and **-** keys to increase resp. decrease the color value, amd the **+.** and **-,** keys to increase resp. decrease the luminance value. The background color will change directly accordingly. Press **ENTER** to accept the new color, or **ESC** or **STOP** to cancel.



Border: Change border color

Select the background color. Note that if the chosen color is not black or grey, the menu and popup colors will be changed to black on colors with intensity bit on, and white on colors with intensity bit off.

The color can be selected with the **+** and **-** keys to increase resp. decrease the color value, amd the **+.** and **-,** keys to increase resp. decrease the luminance value. Press **ENTER** to accept the new color, or **ESC** or **STOP** to cancel.



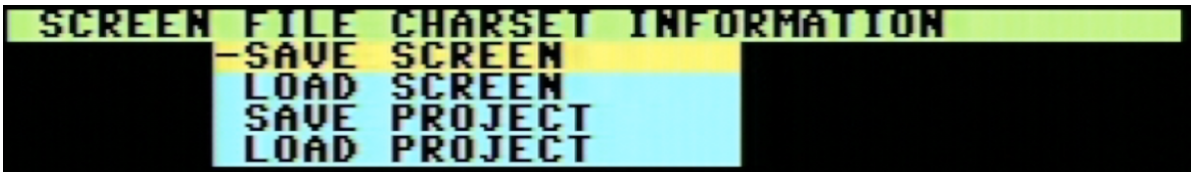
Clear: Clear the canvas

Selecting this menu option will clear the canvas (which means filling the canvas with spaces, with attribute code for the color white, no other attributes). No confirmation will be asked.

Fill: Fill the canvas

Similar to clear, but this will fill the canvas with the present selected screencode and attributes (so the values that the cursor was showing).

File menu



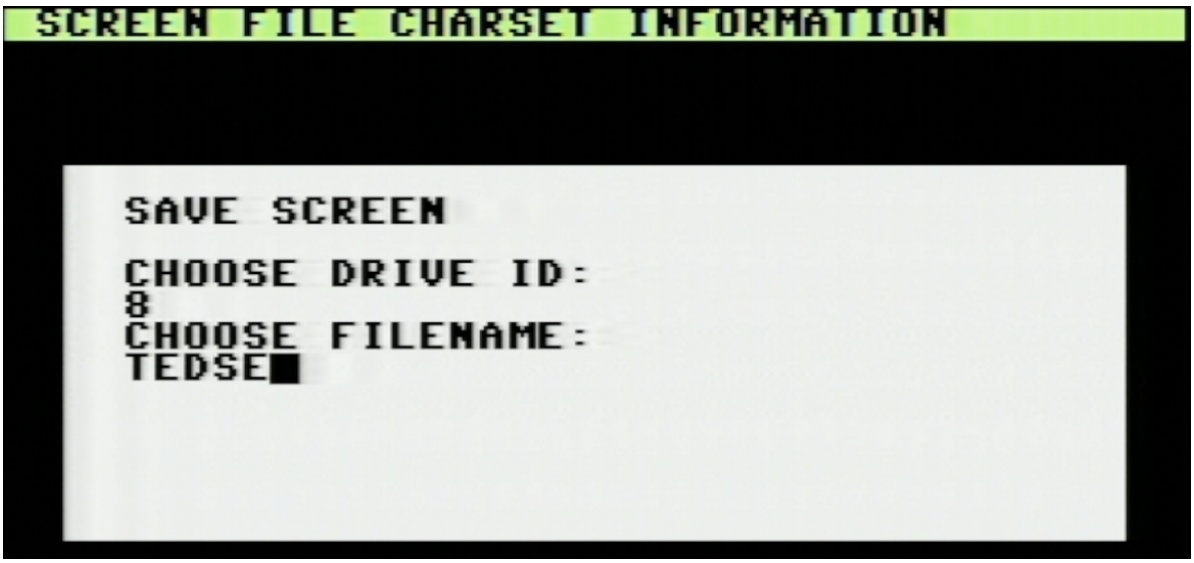
In general: pressing **ESC** or **STOP** on any devide ID or filename input dialogue cancels the file operation.

Save screen

This option saves the present canvas to disk. First the device ID number is asked of the device to save to (should be between 8 and 30 and pointing to an active disk system with that ID number). Then the filename is asked (max 15 characters in length).

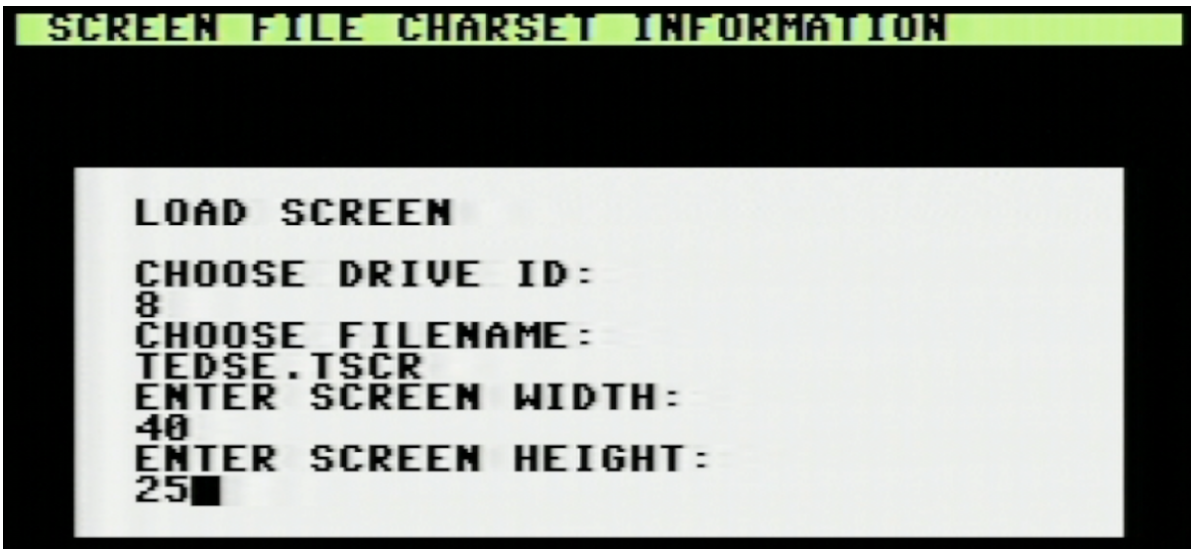
If a file with that name is already existing, confirmation is asked. Confirming will delete the old file before saving the new file.

In case of a file error, a popup will be shown with the error number.



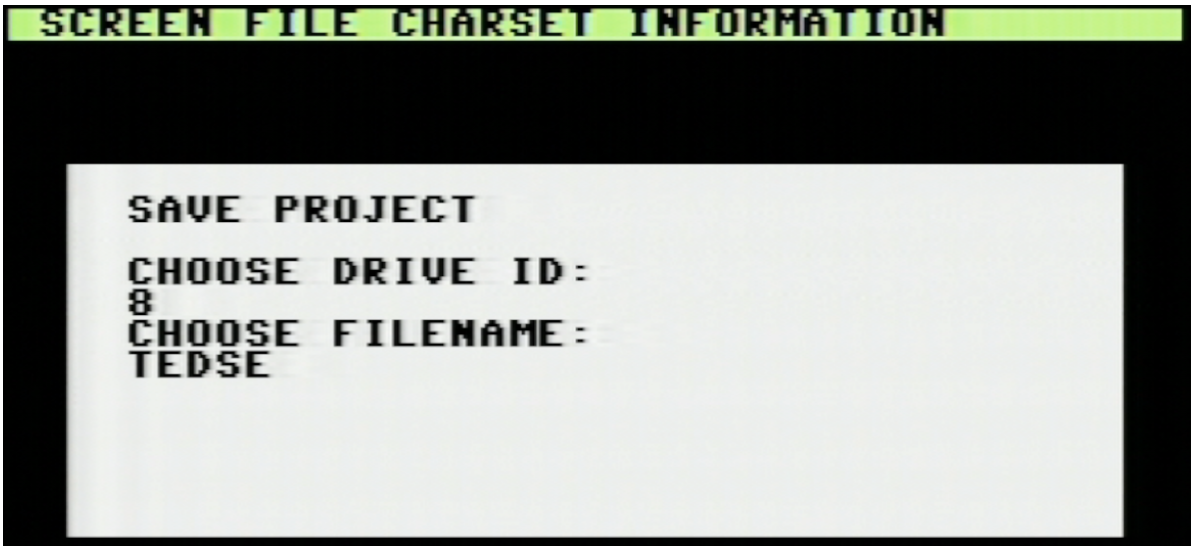
Load screen

With this option you can load a screen from disk. Dialogue for this option is very similar to the Save screen option above. Device ID and filename will be asked, but next to that the width and height in characters will be asked as that can not be read from a standard screen file.



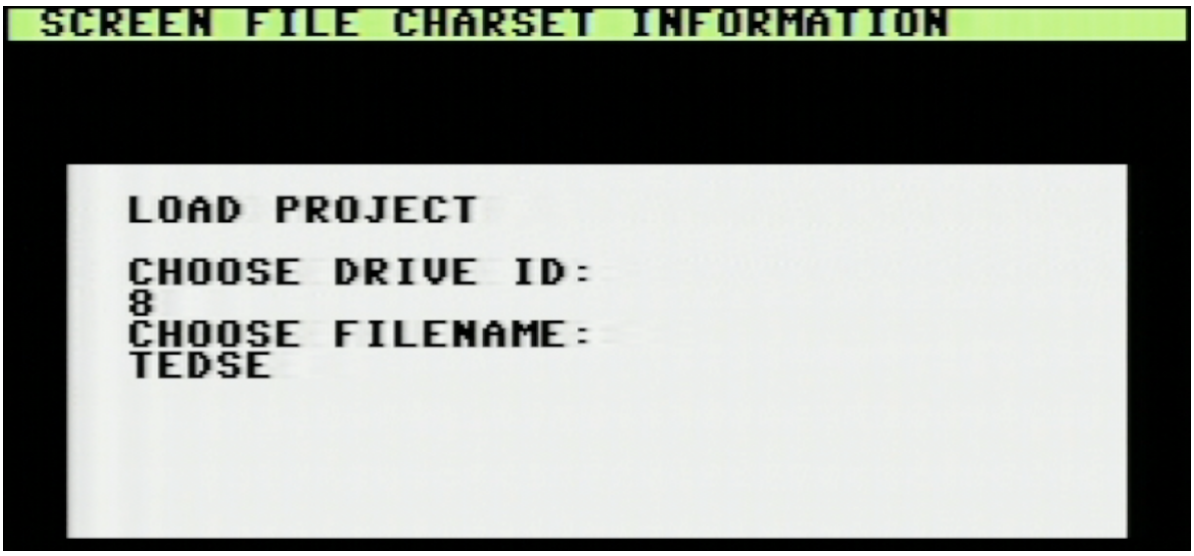
Save project

Similar to save screen, but with this option also the canvas metadata (width, height, present cursor position etc.) and the character sets if altered will be saved. Maximum filename length is now 10 to allow for an .xxxx suffix as it will save up to four files: filename.proj for the metadata, filename.scrn for the screen data, filename.chr1 for the standard charset and filename.chr2 for the alternate charset.



Load project

Loads a project: the metadata, the screen and the charsets. Provide the filename without the .xxxx suffix (.proj,.scrn,.chr1 and .chr2). As the canvas width and height is now read from the metadata, no user input on canvas size is needed.



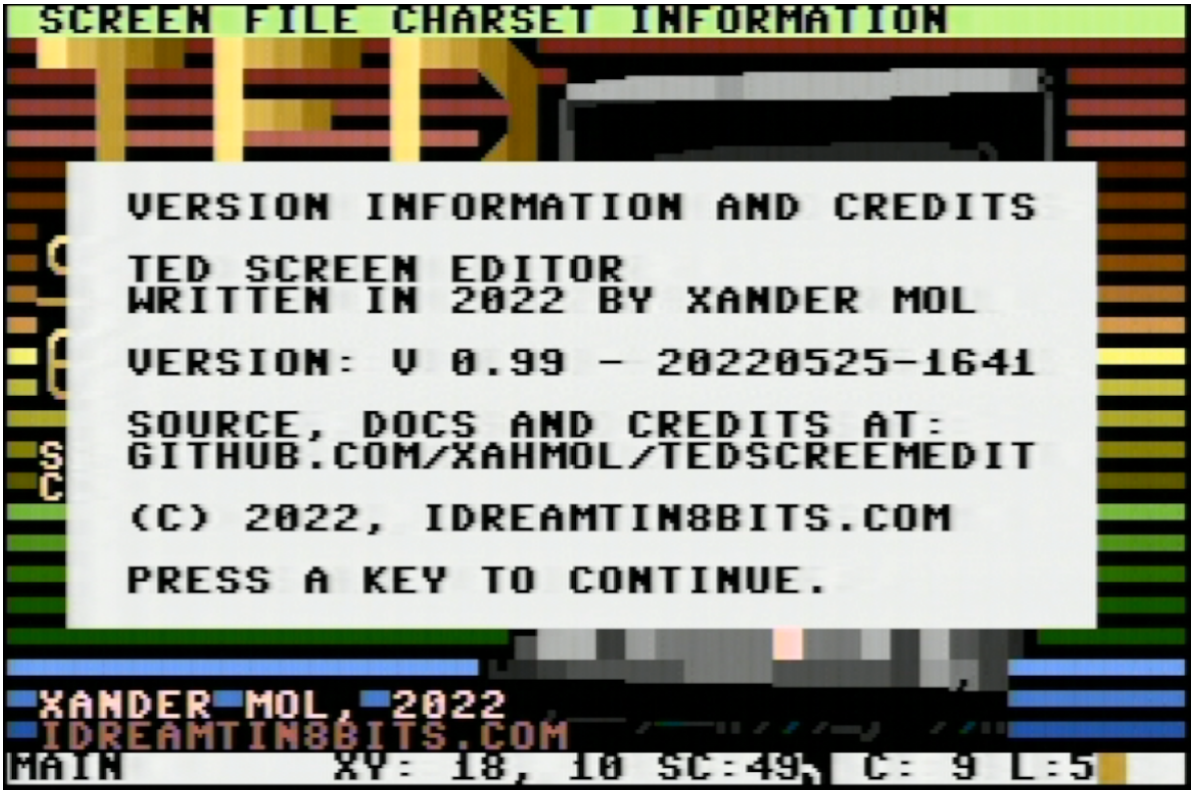
Charset: Load and save character set

In this menu you can select the options to Load or Save the character set.
Dialogue of these options is similar to the screen save and load options: enter device ID and filename.

Information: Version information, exit program

Information

This option shows a popup with version information.



Exit program

With this option you can exit the program. NB: No confirmation will be asked and unsaved work will be lost.

Character editor:

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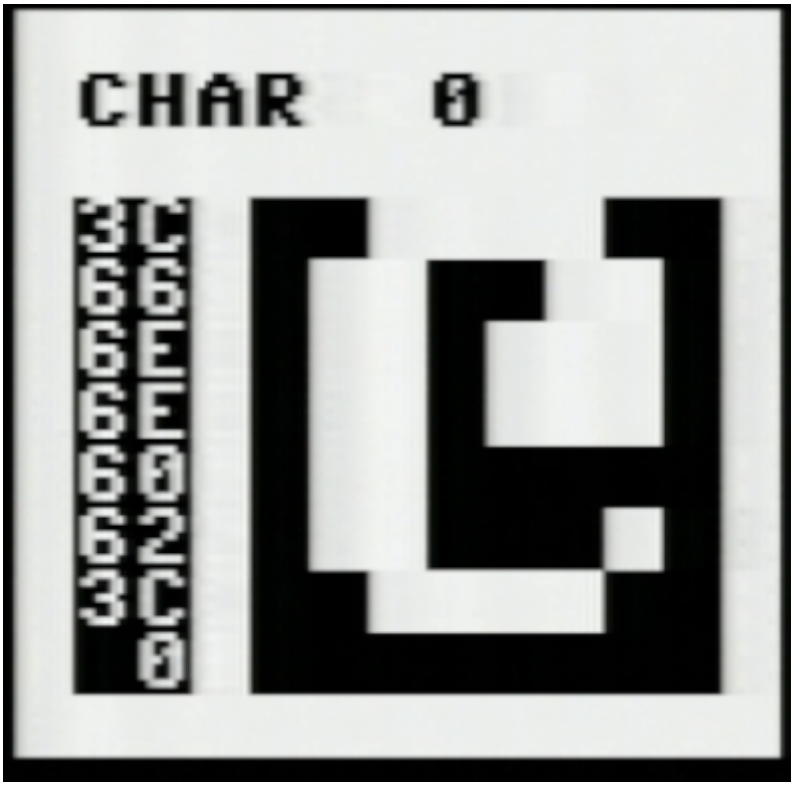
Pressing **E** from the main mode will result in the character editor popping up, which looks like this:



It shows a magnified grid of the bits in the present character. The header shows the screencode of the present character (in hex) and if the Standard (Std) or Alternate (Alt) character set is active. On the left of the grid the byte values of the 8 lines of the character are shown in hex.

Keyboard commands in this mode:

Key	Description
Cursor keys	Move cursor
+	Next character (increase screen code)
-	Previous character (decrease screen code)
0-9	Select character from favorite slot with corresponding number
SHIFT + 1-9	Store character to favorite slot with corresponding number
*****	Store character to favorite slot with number 0 (shift 0 does not exist)
SPACE	Toggle pixel at cursor position (plot/delete pixel)
DEL	Clear character (delete all pixels of present character)
I	**I**nverse character
Z	**U**ndo: revert present character to original state
S	Re**s**tore character from system character set (=lower case system ROM charset)
C	**C**opy present character
V	Paste present character
X / Y	Mirror in **X** axis or **Y**-axis
O	R**O**tate clockwise
L / R / U / D	Scroll **L**eft, **R**ight, **U**p or **D**own
H	Input **H**ex value for line at cursor position
ESC / STOP	Leave character mode and go back to main mode
F6	Toggle statusbar visibility
HELP	Help screen

Moving cursor

Press the **cursor keys** to move the cursor around the 8 by 8 grid.

Selecting the screencode to plot

The **+** or **-** key will increase resp. decrease the selected screencode by one. Pressing A will toggle the character set to be used between Standard and Alternate.

Selecting the screencode to plot from a favotite slot

In TEDSE 10 positions are available to store your most frequently used characters in. Pressing one of the **0-9** keys selects the favorite with the corresponding number.

Storing the present screencode to a favorite slot

Pressing **SHIFT** plus **1-9** stores the presently selected character to the corresponding favorite slot. As SHIFT+0 is the same as 0 on the Plus/4, press ***** for favorite position 0.

Toggling bits in the grid

Press **SPACE** to toggle the bit at the present cursor position. **DEL** clears all bits in the grid, **I** inverts all bits in the grid.

Undo and restore

U reverts the present character to the original values. Note that after changing to a different screencode to edit, the previous screencode can no longer be reverted.

S copies the present screencode from the system font.

Copy and paste

C copies the present screencode to buffer memory to be pasted with pressing **V* at a different screencode after selecting this other screencode.

Mirror, rotate and scroll

Press **X** or **Y** to mirror the grid on the X resp. Y axis. **O** rotates the grid clockwise. **L**, **R**, **U** and **D** scrolls the grid to the **L**eft, **R*ight**, **U**p or **D**own.

Hex input

Press **H** to edit the full present row of the grid by entering the hex value of the byte representing the bits in that byte for the line.

Leave mode and help

Pressing **ESC** or **STOP** leaves the character mode and returns to main mode. **HELP** will show a help screen with all keyboard commands of the character mode.

Palette mode:

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Pressing **P** in the main mode starts the Palette mode. In this mode a character for plotting can be selected from the character set, the full 121 color palette and the 10 favorite slots.

A window like this appears:

The window shows the 10 favorite slots as first line, below that thecharacter set and below that the color palette.

Keyboard commands in this mode:

Key	Description
Cursor keys	Move cursor
SPACE or ENTER	Select character
0-9	Store character in corresponding favorite slot
V	Toggle between normal mode and visual PETSCII mode
ESC / STOP	Leave character mode and go back to main mode
F6	Toggle statusbar visibility
HELP	Help screen

Moving cursor

Press the **cursor keys** to move the cursor around the grid. You can move over to the different sections by just moving out of a section to the other.

Selecting character or color

Press **SPACE** or **ENTER** to select the hightlighted character or color as new character or color to plot with. This leaves the palette mode.

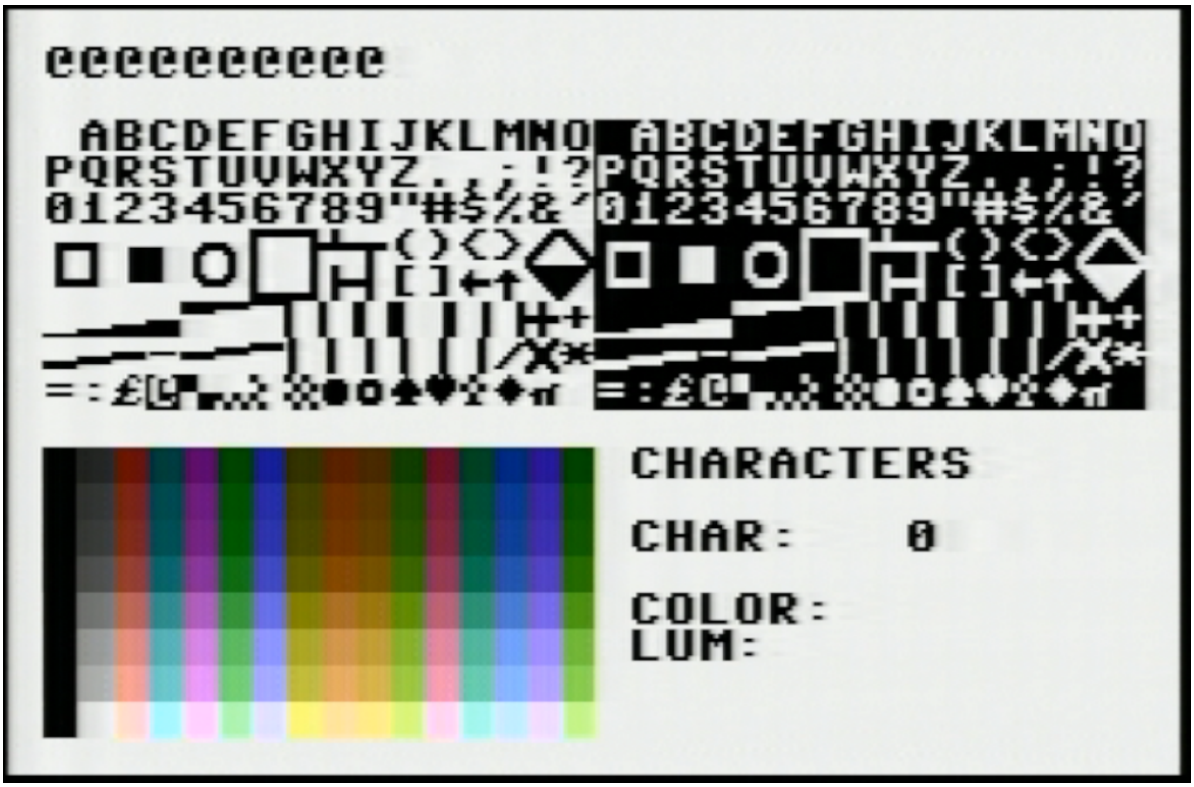
Storing to a favorite slot

Pessing **0-9** stores the presently highlighted character to the corresponding favorite slot.

Toggle visual PETSCII mode

Visual PETSCII mode is a mode in which the palette for the standard charset is mapped in such a way that PETSCII characters are ordered in a logical order for drawing. This mode makes only sense for standard charsets that left the PETSCII drawing characters unchanged.

This looks like this:



Pressing **V** toggles between normal and visual mode.

Leave mode and help

Pressing **ESC** or **STOP** leaves the palette mode and returns to main mode. **HELP** will show a help screen with all keyboard commands of the character mode.

Select mode:

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Pressing **S** in the main mode starts the Select mode.

If enabled, the statusbar shows this on entering this mode:

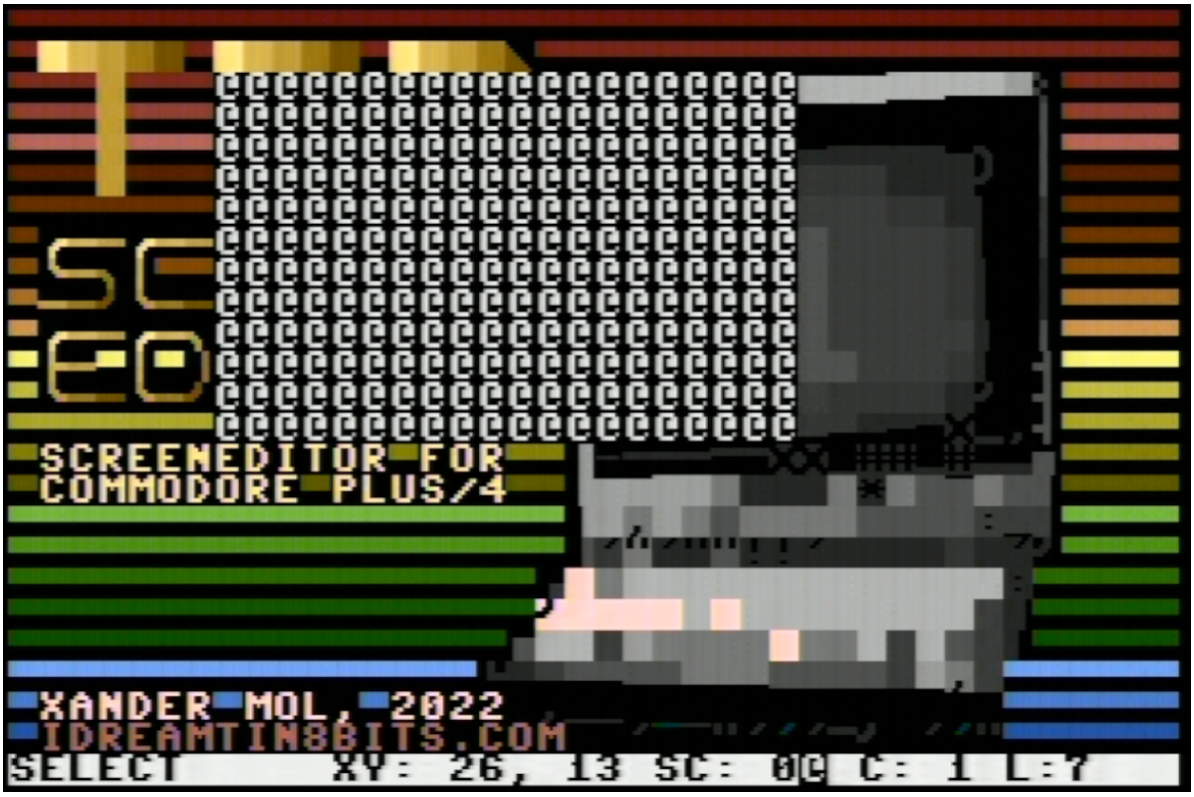
In this mode a selection can be made on which different operations can be performed as described below.

Key	Description
X	Cut: Delete selection at old position and paste at new position
C	**C**opy: Copy selection at new position, leaving selection unchanged at old position
D	**D**elete selection (fill with spaces)
A	Paint with **A**ttribute: change attribute value of selection to present attribute value
P	**P**aint with color: change only the color value of selection
RETURN	Accept selection / accept new position
ESC / **STOP**	Cancel and go back to main mode
Cursor keys	Expand/shrink in the selected direction / Move cursor to select destination position
F6	Toggle statusbar visibility
HELP	Help screen

Making the selection

Ensure that the cursor is located at the desired upper left corner of the selection to be made before entering Select mode. On entering select mode, grow the selection by pressing **Cursor Right** to increase width and **Cursor Down** to increase height. **Cursor Left** and **Cursor Up** will shrink width resp. height. This is similar to the keys used in the Line and box mode.

The selection will be visually shown with plotting in the present selected screencode and attributes. It should look like this:



Accept the selection by pressing **RETURN**, cancel the selection by pressing **ESC**.

Choose action to perform

After accepting the selection, press **X**, **C**, **D**, **A** or **P** to choose an action, or press **ESC** or **STOP** to cancel.
Statusbar (if enabled) shows this as prompter:

Cut and copy

After pressing **X** for cut or **C** for copy, move cursor to the upper left corner where the selection should be copied to. **C** will only make a copy, **X** will delete the selection at the old location.

Statusbar (if enabled) displays Cut or Copy correspondingly, like:

Delete

Pressing **D** will erase the present selection (fill the selected area with spaces).

Paint with attribute or only color

Pressing **A** will change the attribute values of all characters in the selected area to the present selected attribute value, so color, luminance and blink value. Pressing **P** will only change the color, but will leave the other attributes (blink and luminance) unchanged. Note that **P** is much slower than **A**.

Leaving mode and Help

Leave selection mode by pressing **ESC** or **STOP**. Pressing **HELP** at any time in this mode will provide a helpscreen with the key commands for this mode (not possible if the selection is grown but not yet accepted).

Move mode:

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Pressing **M** in the main mode starts the Move mode. Use this mode to scroll the present viewport in the desired direction by pressing the **Cursor keys**.

Note that moving is only performed on the present 40x25 viewable part of the screen, so on larger canvas sizes not the whole screen will be moved. This is due to memory constraints.

It is also important to note that characters that 'fall off' of the screen are lost if the move is accepted.

Alternative to move mode is using select mode and use Cut to move a selection to a new position.

Accept with **RETURN**, cancel with **ESC** or **STOP**. Both will leave this mode and return to main mode.

Key	Description
Cursor keys	Move in the selected direction
RETURN	Accept moved position
ESC / **STOP**	Cancel and go back to main mode
F6	Toggle statusbar visibility
HELP	Help screen

Line and box mode:

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Pressing **L** in the main mode starts the Line and box mode. In this mode lines and boxes can be drawn, plotting with the present selected screencode and attribute value.

Ensure that the cursor is located at the desired upper left corner of the line or box to be made before entering Line and box mode. Grow the line or box by pressing **Cursor Right** to increase width and **Cursor Down** to increase height. **Cursor Left** and **Cursor Up** will shrink width resp. height. Leaving with or height at one character draws a line, otherwise a box is drawn.

Accept with **RETURN**, cancel with **ESC** or **STOP**. Both will leave this mode and return to main mode.

HELP will show a help screen with all screen commands for this mode.

Key	Description
Cursor keys	Expand/shrink in the selected direction
RETURN	Accept line or box
ESC / **STOP**	Cancel and go back to main mode
F6	Toggle statusbar visibility
HELP	Help screen

Write mode:

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Pressing **W** in the main mode starts the Write mode. In this mode text can be freely entered by using the full keyboard, making text input way easier than selecting the appropriate screencodes one by one. The full keyboard is supported, as long as the characters entered are printable (which means: can be transferred from the input PETSCII value to a screencode. To be able to enter the full range of characters, pressing **SHIFT** or **C=** with a supported key is possible.

Luminance can be increased and decreased by **F2** resp. **F5**.

Additionally, selecting colors and RVS On or Off is supported using the **CONTROL** and **C=** keys while pressing the 0 to 9 keys.

Blink and Lowercae Charset attributes can be toggled by using resp. the **F1** and **F4** key.

Undo and redo can be performed (if enabled and if 64 KiB TED memory is present) with **F2** for Undo and **F4** for redo.

Leave Write mode by pressing **ESC** or **STOP**. **HELP** will show a help screen with the key commands for this mode.

Key	Description
Cursor keys	Move in the selected direction
DEL	Clear present cursor position (plot white space)
F2	Increase luminance
F5	Decrease luminance
F1	Toggle 'blink' attribute
F4	Toggle lower/uppercase
C= / **CONTROL** + **1-8**	Select color
CONTROL + **9 / 0**	RVS On / RVS Off (toggle screencode + 128)
ESC / **STOP**	Go back to main mode
F6	Toggle statusbar visibility
HELP	Help screen
Other keys	Plot corresponding character (if printable)

Color write mode:

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Pressing **C** in the main mode starts the Color write mode. In this mode you can conveniently edit colors in the screen by entering the color value of the desired color by pressing the key with the corresponding hex value of that color value (so **0-9** and **A-F**).
Pressing **SHIFT+0-7** plots luminance with the corresponding value, **SHIFT+8** plots a blink attribute.

Blink and lowercase attributes can be toggled by using resp. the **F1** or **F4** key.

Leave Color write mode by pressing **ESC** or **STOP**. **HELP** will show a help screen with the key commands for this mode.

Key	Description
Cursor keys	Move in the selected direction
0-9 / A-F	Plot color with corresponding hex number
SHIFT+0-7	Plot luminance with corresponding value
SHIFT+8	Plot blink attribute
F1	Toggle 'blink' attribute
F4	Toggle lower/uppercase
ESC / STOP	Go back to main mode
F6	Toggle statusbar visibility
HELP	Help screen

TEDSE2PRG utility

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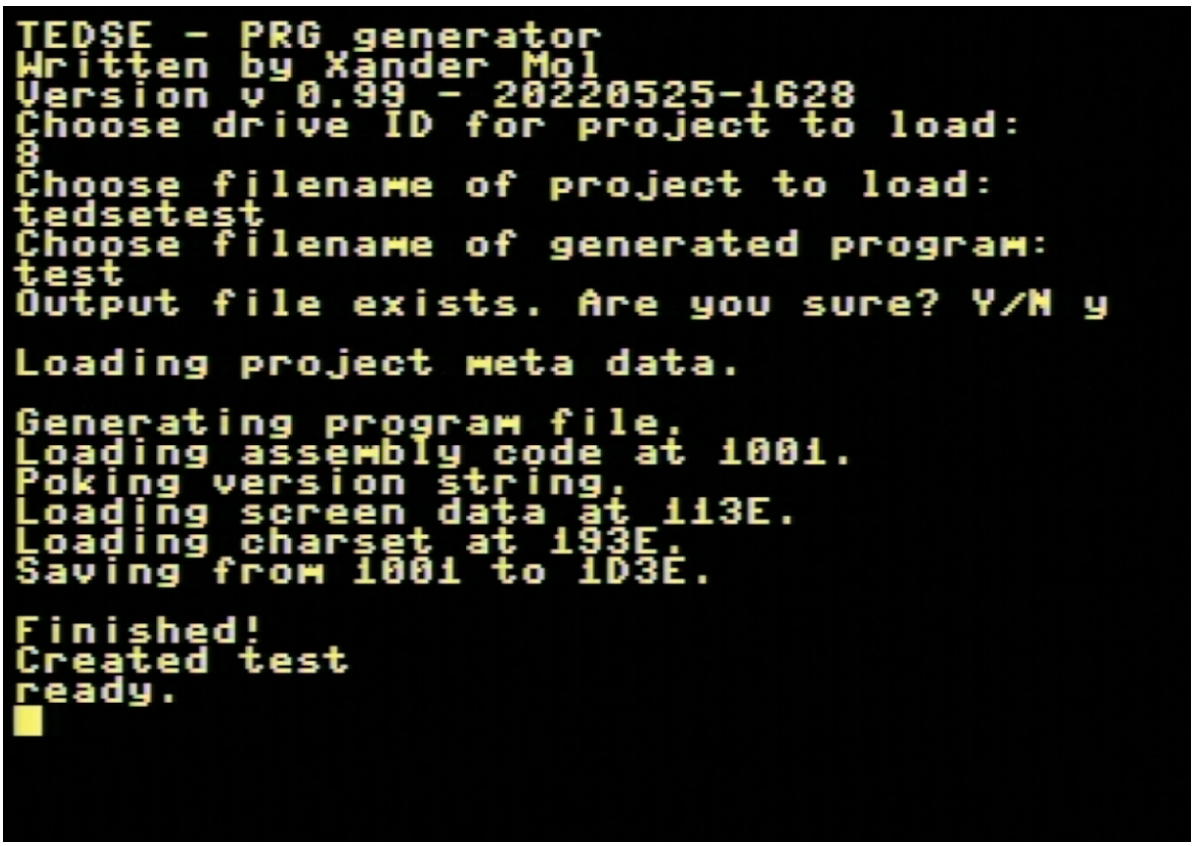
TEDSE2PRG is a separate utility to create an executable program file for the Commodore Plus/4 of a TEDSE project. Only 40x25 screens are supported at the moment, but redefined character sets are supported.

This is a seperate utility which can not be started from the TEDSE main program but has to be started seperately by loading the TEDSE2PRG file from disk with for example LOAD"TEDSE2PRG",U(device number) and then enter RUN.

Running this program gives this interface:



Follow the on screen instructions for selecting the input file and the output file name. Input file should be a TEDSE project file in 40x25 characters, with the associated screen and characterset files on the same disk/location.
Enter the input file filename without the .proj at the end.

The generated program can be executed by using a RUN"(target filename)",U(target device ID).

Color value reference:

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Below the overview of the 15 color values at the default luminance to that color. These colors can be directly accessed in write mode by pressing the corresponding **CONTROL** or **C=** plus **1-8** key.
In color write mode the colors can be selected by the corresponding **0-F** key and will result in that color at present instead of default luminance.

Number	Color	Luminance	Color write mode key	Write mode key
0	Black	0	0	**CONTROL+1**
1	White	7	1	**CONTROL+2**
2	Red	3	2	**CONTROL+3**
3	Cyan	6	3	**CONTROL+4**
4	Purple	4	4	**CONTROL+5**
5	Green	3	5	**CONTROL+6**
6	Blue	4	6	**CONTROL+7**

Number	Color	Luminance	Color write mode key	Write mode key
7	Yellow	7	7	**CONTROL+8**
8	Orange	4	8	**C=+1**
9	Brown	2	9	**C=+2**
10	Yellow green	5	A	**C=+3**
11	Pink	6	B	**C=+4**
12	Blue green	5	C	**C=+5**
13	Light blue	6	D	**C=+6**
14	Dark blue	2	E	**C=+7**
15	Light green	5	F	**C=+8**

Attribute code reference:

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The TED chip uses a byte per character position with the following meaning of the bits in that byte (for character mode):

Bit	7	6-5-4	3-2-1-0
Meaning of bit	Blink	Luminance (0-7)	Color (0-15

This means an attribute code is calculated like:

Multiply by	Value	Meaning
1	0-15	Color value 0 to 15, see color value reference above.
16	0-7	Luminance level 0 to 7
128	0-1	Blnk but off (=0) or on (=1)

Example:

- Yellow green text with 6 luminance: 10+16*6=106
- Green text with 3 luminance blinking: 3+16*3+128=179

Note that in TEDSE calculation of these attribute codes by yourselves is not necessary, the program will do so for you given the selected attributes and color. In memory however this is how the codes are stored.

File format reference

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As both the character data as the attribute data needs to be stored, a screen takes width times height times 2 bytes in storage. A padding of 24 bytes is used to separate character and attribute data in order to be able to load a standard 40x25 screen for both character and attribute data in one go at the default TED memory position of $0800 for color and $0C00 for characters.

For a default 40 characters wide and 25 characters high screen this would result that data would be stored as such:

Offset to start address in bytes (decimal)	Offset in hex	Description
0	0	Start of attribute data using TED attribute codes.
1000	03E8	Start of 24 byte padding. This is used to place a TEDSE version signature
1024	0400	Start of text character data using screen codes

For screensizes greater than 40x25 this would translate to:

Offset to start address in bytes (decimal)	Description
0	Start of attribute data using TED attribute codes.
Width * Height	Start of 24 byte padding. This is used to place a TEDSE version signature
(Width * Height)+24	Start of text character data using screen codes

Credits

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TED Screen Editor

Screen editor for the Commodore Plus/4

Written in 2022 by Xander Mol

Based on VDC Screen Editor for the C128

https://github.com/xahmol/VDCScreenEdit

https://www.idreamtin8bits.com/

Code and resources from others used:

- CC65 cross compiler:
  https://cc65.github.io/
- 6502.org: Practical Memory Move Routines: Starting point for memory move routines
  http://6502.org/source/general/memory_move.html
- DraBrowse source code for DOS Command and text input routine

DraBrowse (db*) is a simple file browser.
Originally created 2009 by Sascha Bader.
Used version adapted by Dirk Jagdmann (doj)
https://github.com/doj/dracopy

- Bart van Leeuwen: For inspiration and advice while coding.
- jab / Artline Designs (Jaakko Luoto) for inspiration for Palette mode and PETSCII visual mode
- Original windowing system code on Commodore 128 by unknown author.
- Tested using real hardware plus VICE.

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