# NextZXOS Editor features (Updated 12 Feb 2024)

This document describes the changes in the editor and menu system between the version of the +3e currently available from the +3e website (+3e v1.43) and the current version of NextZXOS (v2.09).

This should be read in conjunction with the other documents:

- NextBASIC file-related commands and features
- NextBASIC new commands and features
- NextZXOS and esxDOS APIs

A list of updates made to this document is now provided at the end.

## Colour schemes

The default colour scheme for the editor and menu system can be reconfigured using the **.editprefs** dot command or selecting a **.ecs** file in the *Browser*. (Similarly, the default colour scheme for the *Browser* is controlled by the **.browseprefs** dot command or **.bcs** files). Full details can be found in the *NextZXOS* guide (accessible from the main menu) and *Browser* guide (accessible from within the *Browser*).

## Additional editing functions

The NextBASIC editor is enhanced from the original +3e v1.43 editor as follows:

1. The current mode is now reflected in the cursor colour (flashes alternately with white):
   - normal text entry: blue (as previously)
   - CAPS lock on: cyan
   - GRAPHICS mode: magenta
   - EXTEND mode: green
   - error marker: red (as previously)

2. Extended mode symbols shown in red below the keys (ie ~ | \ [ ] { }) can be entered either by entering EXTEND mode and then pressing SYMBOL-SHIFT plus the key, OR by just pressing SYMBOL-SHIFT plus the key in normal/CAPS modes.

The exception is the copyright symbol, which can either be entered in EXTEND mode by pressing SYMBOL-SHIFT plus P, or in normal/CAPS mode by pressing SYMBOL-SHIFT plus Q.

3. The following additional editing keys are available (EXTEND,key means press and release the EXTEND key (to enter EXTEND mode) and then press the key):
   - **EXTEND,EDIT** - Switch between full/lower screen editor (same as choosing Screen from the edit menu)
   - **EXTEND,CURSOR LEFT** - Move to start of BASIC line
   - **EXTEND,CURSOR RIGHT** - Move to end of BASIC line
   - **EXTEND,CURSOR UP** - Move up 10 screen lines
   - **EXTEND,CURSOR DOWN** - Move down 10 screen lines
   - **EXTEND,GRAPHICS** - Move to start of program
   - **EXTEND,CAPS LOCK** - Move to end of program
   - **TRUE VIDEO** - Move left one word
   - **INVERSE VIDEO** - Move right one word
   - **EXTEND,TRUE VIDEO** - Delete word left
   - **EXTEND,INVERSE VIDEO** - Delete word right
   - **EXTEND,DELETE** - Delete character right
   - **EXTEND,9** - Delete to start of BASIC line
   - **EXTEND,0** - Delete to end of BASIC line
   - **EXTEND,1** - Toggle whether keys **ASDFGYUQ** produces symbols or tokens
   - **EXTEND,2** - Toggle whether extended UDGs or tokens are shown in strings

4. Depending upon the selected colour scheme, syntax-highlighting is provided for different elements of BASIC lines. For modes without colour capability, only UDG characters are distinguished (by displaying in inverse video).

Note:

The maximum line length allowable in the editor is 1280 characters. (This is also enforced by the **.txt2bas** dot command).

## Additional Menu Features

All menus now display the amount of RAM available to the Spectrum in the bottom-right corner (this is expected to be 768K for standard 1MB Nexts and 1792K for fully-expanded 2MB Nexts).

The current clock speed is displayed in the menu title bar, and defaults to the standard 3.5MHz at boot. It can be altered whilst in the menus by pressing the left and right cursor keys to reduce/increase the speed respectively.

If a real-time clock module is present (and has been correctly set using the **.DATE** and **.TIME** dot commands), then the current date and time are shown in a footer at the bottom of the menu.

Shortcuts are shown for each menu option in blue, and can be activated by pressing the appropriate key. The shortcuts can be made more visible by pressing EXTEND.

## Menu configuration

The default menus can be overridden by custom user menus defined in c:/nextzxos/enMenus.cfg. An example configuration, replicating the standard menu system, is provided in c:/nextzxos-enMenus-example.cfg. For details on the configuration file format, please see the *NextZXOS* guide, available from the main menu.

## Main Menu

The main menu now contains the following items:

- Browser
- Command Line
- NextBASIC
- Calculator
- Guide
- More...

Leading to a second page with:

- Tape Loader
- Tape Tester
- Interface 2
- CP/M
- 48K BASIC
- 128K BASIC
- ZX80 BASIC
- ZX81 BASIC
- Tools
- More...

Of these, *NextBASIC, Calculator* and *48K BASIC* are the same as the old *+3 BASIC, Calculator* and *48 BASIC* options.

**Browser**
Starts the file browser, an easy way to manage and run files from the SD card. A full guide to the *Browser* can be seen by pressing **G**.

**Command Line**
This is the same as the *NextBASIC* option except that any currently-resident BASIC program is not listed (and can't be directly edited, although you can still RUN the program, enter new lines, or delete them by just entering the line number). The main purpose is for using disk-related commands such as **CAT** so that the output can be seen without being continually replaced by the program

**Guide**
Launches a guide to NextZXOS.

**Tape Loader**
This will start loading from cassette. If a .TAP file has been attached to the tape input (using the **.tapein** dot command), then this will be loaded. Listing.

**Tape Tester**
This is the same option as provided on the original 128K Spectrum, and provides a way to find the optimum loading volume.

**CP/M**
This will re-map drives to files in the **C:/NEXTZXOS** directory named CPM-A.P3D etc (or, if not present, DRV-A.P3D etc) and then attempt to load the **CP/M** operating system from drive A:. Therefore, **C:/NEXTZXOS/CPM-A.P3D** must contain all the necessary **CP/M** system files for the ZX Spectrum Next. (It is intended that this drive image will be made available for download or distributed on the SD card).

**128K BASIC, ZX80 BASIC, ZX81 BASIC**
Resets the Next into 128K, ZX80 or ZX81 mode ready for BASIC entry.

**Interface 2**
Leads to a submenu for booting any ROM cartridge present in an Interface 2 (or clones such as the RAM Turbo, Kempston Pro and modern equivalents such as the Dandanator). The options are:

- 48K Cart only
- 48K Cart+joys
- 128K Cart only
- 128K Cart+joys

All the originally-released cartridges should be booted using the 48K options. Some modern equivalents (such as the Dandanator and Paul Farrow's ZXC4 cartridges) can support 128K snapshots or software, and the 128K options can be used to boot these with the Spectrum's 128K paging registers enabled.

The "only" options set the Next's joystick ports to Sinclair 1/2 types, so that cartridge games can be played directly with the Next's joysticks (the Interface 2's joystick ports are disabled).

The "+joys" options enable the joystick ports on the Interface 2, so that cartridge games can be played with joysticks plugged in to the interface. The Next's joystick ports are set to MD 1/2 types.

**Tools**
Leads to a submenu with utilities for setting up your Next.

## The NextBASIC Editor

The *NextBASIC* editor option operates largely as previously, but can now operate in the usual 32-column mode (with colour-coded cursors as noted earlier) or in 64-column or 85-column modes.

The 64/85-column options use the *Timex hi-res* screen mode, and so are in monochrome. In these modes, instead of colour-coded cursors, there are new cursor shapes:

- normal text entry: horizontal bar in lower half of character
- CAPS lock on: horizontal bar in upper half of character
- GRAPHICS mode: vertical bar
- EXTEND mode: horizontal stripes
- error marker: rectangular outline

The options menu within *NextBASIC* now has the following options (note that the previously-available *Print* option has been removed):

- Command Line
- 32/64/85
- Screen
- Autonumber
- Renumber
- Clear
- Token keys
- String tokens
- Guide
- Exit

The *Command Line* option returns to the editor in command-line mode.

*32/64/85* cycles between the number of text columns available in editing mode (with Timex hi-res mode being used for 64 or 85 columns).

*Screen* switches between having the editing area in the upper/lower screen (as previously).

*Autonumber* begins automatic line number entry, starting at the current line in steps of 10. You can delete the line number and change it to something else, and new lines will continue to be generated following this. To end automatic numbering, delete the line number and press **DELETE** once more. For more control over automatic line numbering, the **LINE NEW** command can be used.

*Renumber* renumbers the entire program starting at line 10 in steps of 10 (note that this cannot be altered by POKing system variables, as these no longer exist. Instead the new **LINE** and **LINE..TO** command must be used).

*Clear* deletes all variables and restores RAMTOP to just below the user-defined graphics (so is normally equivalent to tbe command CLEAR 65367). This is useful when encountering Out of memory errors, to restore the system to a usable state (in particular, if RAMTOP has been set so low that there is no longer enough room to evaluate any BASIC line and therefore a new CLEAR command cannot be entered and BASIC lines can’t be deleted).

*Token keys* toggles whether keys **A S D F G Y U Q** produce symbols **~ \ | { } [ ] (c)** (the default), or the codes corresponding to keyword tokens on the keys. This can also be changed with **EXTEND** followed by **1**.

*String tokens* toggles whether graphics characters (the default) or keyword tokens are shown within strings. This can also be changed with **EXTEND** followed by **2**.

*Guide* launches a guide to NextBASIC.

*Exit* exits the editor and returns to the main menu.

Graphics entry

In graphics mode, the available keys are as follows, some requiring the CAPS-SHIFT or SYMBOL-SHIFT keys or the DRIVE button (on the left of the case) to be held down:

| **Key** | **Characters generated** | **ASCII codes** |
|---|---|---|
| 9 or GRAPH | exits graphics mode | - |
| 0 or DELETE | deletes character to the left | - |
| 1-8 | block character graphics shown on the keys | 128-135 |
| CAPS + 1-8 | inverse block character graphics | 136-143 |
| A-Z | UDGs A-Z (shown as A-Z) | 144-169 |
| SYM + 1-8 | extended UDGs (shown as 1-8) | 170-177 |
| SYM + A-Z | extended UDGs (shown as a-z) | 178-203 |
| DRIVE + A-Z | extended UDGs (shown as a-z, underlined) | 204-229 |
| CAPS + A-Z | extended UDGs (shown as A-Z, underlined) | 230-255 |

Keyword token entry

Tokens shown above a key are entered in extended mode. For example, press and release EXTEND and then press I to enter the code for *CODE*. Or press and release EXTEND, then hold SYMBOL-SHIFT and press I to enter the code for *IN*.

Tokens shown on the top row on a key must be entered in graphics mode, with CAPS-SHIFT held down. For example, press GRAPH to enter graphics mode and then hold CAPS-SHIFT and press I to enter the code for *INPUT*. Press GRAPH again to leave graphics mode.

Tokens shown on the 2nd row on a key are entered in normal mode using SYMBOL-SHIFT. For example, holding SYMBOL-SHIFT and pressing I enters the code for *AT*. Note that this is overridden on some keys (eg **A S D F G Y U Q**) to give easier access to other symbols. To enter tokens instead for these keys, toggle the *token keys* option from the edit menu, or press **EXTEND** followed by **1**.

Default token options

The *token keys* option is controlled by bit 7 of the **FLAGS2** system variable. Therefore the default can be changed if desired with a line in your *autoexec.bas* file such as:

```
10 POKE %$5c6a, %PEEK $5c6a|$80
```

The *string tokens* option is controlled by bit 7 of the **TV_FLAG** system variable. However, it is not recommended to change the default for this, due to the possibility of tokens within strings being accidentally converted into their individual letters when editing a line.

Note that the editor mode is independent of the mode used by BASIC. Therefore, even if you have switched to hi-res mode in the editor, when a BASIC command or program is executed, the mode is changed to whatever was last set by the **LAYER** command (or to standard Spectrum mode if no **LAYER** commands have been issued). When the command/program has finished, the mode will switch back to the appropriate mode for the editor.

## Calculator and Command Line

The options menu in the Calculator mode now has the following options:

- 32/64/85
- Guide
- Exit

The options menu in the Command Line mode has the following options:

- NextBASIC
- 32/64/85
- Guide
- Exit

All the options work in the same way as those found in the NextBASIC options menu. (The Calculator and Command Line have their own separate guides.)

Note that the NextBASIC, Command Line and Calculator modes all use the same setting for 32/64/85 columns, so changing the number of columns in one also affects the others.

## Editor-related BASIC commands

The **.editprefs** command is now the preferred way to set editor colour schemes. Type **.editprefs** at the command-line for a full list of options.

It is also possible to override the basic background colour selection for the current colour scheme using the following standard commands from +3e BASIC:

**SPECTRUM INK** *n*
**SPECTRUM PAPER** *n*
**SPECTRUM FLASH** *n*
**SPECTRUM BRIGHT** *n*
**SPECTRUM ATTR** *n*

The colour scheme applies to the standard 32-column editing mode as well as the hi-resolution 64/85 column modes. However, since Timex hi-res only allows 8 different colour schemes, the scheme used is the one with the same **PAPER** colour as standard mode.

The default number of columns in the editor can be chosen using the new command:

**SPECTRUM CHR$** *n*
where *n* is 32, 64 or 85.

This can also be set using the **-c** *n* option of the **.editprefs** dot command.

As noted in a previous document, there is no “permanence” with commands like these, but they can be included in **C:/NEXTZXOS/AUTOEXEC.BAT** to be executed automatically at startup.

The screensaver behaviour can be controlled with the new command:

**SPECTRUM SCREEN$** *n*,*t*
Sets the screensaver to type *n* (0=bouncing box, 1=blank screen) with a timeout of *t* minutes (1-127). If *t*=0, then the screensaver is disabled.

The screensaver will activate (after the selected timeout) whenever the machine is waiting for a key to be pressed under the following circumstances:

- In menus, Browser, Calculator, NextBASIC editor or Command Line
- During **INPUT** statements
- During **PAUSE 0** statements
- When **NEXT** *#n,var* is waiting for a keystroke from K, S or W channels
- Machine-code software using the IDE_BROWSER call, or the IDE_STREAM_IN call (accessing K, S or W channels) or an IDE_BASIC call accessing the previously listed BASIC statements

The screensaver will *not* activate when games are being run (unless they use the API calls listed above), or in 48 BASIC mode.

## List of updates

**Updated: 12 February 2024**

Updated menu options to include the new "Autonumber" option.

**Updated: 31 October 2022**

Updated menu options to include the new Tools submenu.

**Updated: 26 September 2022**

Added description of UDG and keyword token entry, introduced with NextZXOS v2.07l.
Added description of Interface 2 submenu for using ROM cartridges.

**Updates: 13 February 2022**

Added description of colour schemes, syntax-highlighting and custom menus, introduced with NextZXOS v2.07.

**Updates: 10 August 2021**

Updated menu options and descriptions to match NextZXOS v2.07.

**Updates: 26 October 2020**

Noted the maximum line length supported by the editor (1280 characters).

**Updates: 30 January 2020**

Updated NextZXOS version number referred to, for day zero release (v2.04).

**Updates: 28 Nov 2019**
Documented the new main menu options (ROM cartridge support).

**Updates: 4 Nov 2019**
Fixed incorrect mentions of “extensions” in the text; these are properly referred to as “types”.

**Updates: 3 Aug 2019**
Added information on new “Clear” option available from NextZXOS v2.01B in the NextBASIC editor menu.

**Updates: 17 July 2019**

Added notes about new Browser features in NextZXOS v2.01:

- quoted | in browser.cfg is replaced by an LFN rather than short name
- pressing SYM SHIFT+ENTER on a file performs the action for the 2nd matching line in browser.cfg
- **F** key allows listed files to be filtered with a wildcard string

**Updates: 11 Sep 2018**

Added note about **U** key in Browser.
Added more information about browser.cfg and the .ASSOCIATE dot command.

**Updates: 6 Aug 2018**

Added notes on language code substitution (ASCII 96) in browser.cfg.

**Updates: 12 Feb 2018**

Removed the **Boot A:** menu option, as disk images will be mountable/bootable from the *Browser*.

**Updates: 17 Jan 2018**

Added **SPECTRUM SCREEN$** *n*,*t* command (moved from the “NextBASIC additional changes document).

Added note of the RTC display in the menus.

**Updates: 30 Nov 2017**

Added description of new Browser features: remount, mkdir, rename, copy/paste and erase.

**Updates: 25 Nov 2017**

Added note that it is now possible to use the wildcard character **?** in the Browser configuration file to match a single character in the filetype (with examples).

**Updates: 14 Nov 2017**

Added note that it is now possible to use the wildcard character ***** in the Browser configuration file to match remaining characters in the filetype (with examples).