



Version 0.9

User Manual

1. Introduction

GEMUX CPC is an Amstrad CPC emulator that allows original software for this platform to be run on modern systems. Compatible with the CPC 464, CPC 664 and CPC 6128 models, the emulator offers an experience very close to the original hardware, including support for floppy disks, cassette tape, joystick and various monitor modes.

This manual describes all the options available in the interactive menu and the arguments available on the command line.

All emulator options can be used at any time, either by navigating through the menu or by pressing the corresponding key or key combination. These combinations are shown in grey to the right of each option within the menu.

The ESC key can be used at any time to exit a menu or dialog without applying any pending changes in that dialog — for example, to cancel disk selection or abandon the ROM configuration. However, any options that were already changed in the main menu remain applied.

2. Starting the emulator

2.1 Graphical interface

When GEMUX CPC is launched without arguments, it automatically restores the last configuration used, which is saved in the file `last-config.cpc`. If that file does not exist, the emulator starts with the default configuration: CPC6128 model in English, colour monitor and scanlines enabled. The main menu can be opened at any time by pressing F1.

2.2 Command line

The emulator can be launched from the command line with various arguments to pre-configure the session:

```
gemux [-cpc <model>] [-cfg <config>] [-lang <language>]
      [-mem <pages>] [-mon <mode>] [-scnln <bool>]
      [-drva <disk>] [-drvb <disk>] [-tape <cassette>]
      [-sna <snapshot>] [-fullscr] [-bas <file>]
      [-bin <file>:<addr>]* [-paste "<text>"]
```

Argument	Description	Possible values
-cpc <model>	CPC model to emulate	464, 664, 6128 (CPC472=CPC464)
-cfg <config>	Configuration file to use	Path to the file
-lang <language>	ROM language (464 and 6128 only)	en, es, dk, fr
-mem <pages>	Extended memory pages of 64k (4 banks of 16k each)	Integer from 0 to 31

Argument	Description	Possible values
-mon <mode>	Monitor display mode	color, bw, green, amber
-scnln <bool>	Enable monitor scanlines	0 = disabled, 1 = enabled
-drva <disk>	Disk image in drive A	Path to the image file
-drvb <disk>	Disk image in drive B	Path to the image file
-tape <cassette>	Cassette image in tape	Path to the image file
-sna <snapshot>	Start with snapshot file	Path to the file
-fullscr	Use fullscreen mode	(no value)
-bas <file>	Load ASCII BASIC file	Path to the .bas file
-bin <file>:<addr>	Load file into memory address at startup	Multiple files supported
-paste <text>	Paste text at startup. Use double quotes if the text contains spaces (e.g. "CALL &4000"). Use \" for a literal double quote within the text.	Text string

3. Main menu

The menu is organised into expandable sections. Use the navigation keys to move through the options:

Key(s)	Action
↑ / ↓	Move the cursor through the menu
ENTER	Expands or collapses a submenu, or selects the option, depending on the type of menu item
→ (RIGHT)	Expand submenu
← (LEFT)	Collapse submenu
F2	Expand all submenus
F3	Collapse all submenus

4. Disk drives

4.1 Drive A

Manages the disk image inserted in drive A.

Option	Key(s)	Description
Insert/Eject disk	F2	Opens a dialog to select or eject the disk image in drive A
Protected : No/Yes	AltGr+F2	Enables or disables write protection for the disk in drive A

4.2 Drive B

Manages the disk image inserted in drive B. Works identically to drive A.

Option	Key(s)	Description
Insert/Eject disk	F3	Opens a dialog to select or eject the disk image in drive B
Protected : No/Yes	AltGr+F3	Enables or disables write protection for the disk in drive B

5. Tape

Controls the virtual cassette of the emulator. Allows tape images to be inserted and controls playback and recording.

Option	Key(s)	Description
Insert/Eject cassette	F5	Selects or ejects the cassette image file
Protected : No/Yes	AltGr+F5	Enables or disables write protection for the cassette
Play	F6	Starts cassette playback
Record	AltGr+F6	Starts recording to the cassette
Pause	F7	Pauses playback or recording
Stop	AltGr+F7	Stops playback or recording
Rewind one track	Home	Rewinds one track on the cassette
Rewind	AltGr+Home	Fully rewinds the cassette to the beginning
Wind one track	End	Advances one track on the cassette
Wind	AltGr+End	Fast-forwards to the end of the cassette

6. Monitor

Configures the display mode of the emulator, including the monitor type and image variants.

6.1 Display mode

Selects the type of monitor from the original CPC:

Option	Description
Color	Colour monitor (default option)
Green	Green phosphor monitor
Gray	Greyscale monitor
Amber	Amber phosphor monitor

The active option is indicated by an asterisk in brackets [*] to its right in the menu.

Each of the four modes also has four unnamed variants that differ very subtly from one another. Switching between them reveals small differences in brightness and contrast, allowing the visual appearance to be adjusted to taste.

Option	Key(s)	Description
Scanlines : Yes/No	AltGr+F10	Enables or disables the scanlines effect (CRT scan lines)
Next mode	AltGr+M	Switches to the next monitor mode (Color, Green, Gray, Amber)
Next variant	AltGr+N	Switches to the next variant of the current mode (4 variants per mode, with slight differences in brightness and contrast)

7. Joystick

Configures the type of emulated joystick control. Select the desired option or cycle through the available schemes:

Option	Key(s)	Description
None		No joystick (default option)
QAOP+SPACE+COPY		Directions: Q=up, A=down, O=left, P=right. Fire 1: SPACE. Fire 2: COPY

Option	Key(s)	Description
Cursor keys+SPACE+COPY		Directions: cursor keys. Fire 1: SPACE. Fire 2: COPY
Keypad+0+.		Directions: numeric keypad (8=up, 2=down, 4=left, 6=right). Fire 1: 0. Fire 2: .
Next setup	AltGr+J	Switches to the next available joystick scheme

8. Sound

Controls the volume of the audio emulation:

Option	Key(s)	Description
Volume Up	PgUp	Increases the volume
Volume down	PgDn	Decreases the volume
Muted : No/Yes	AltGr+PgDn	Enables or disables audio mute

9. CPC settings

Allows emulator configurations to be saved and loaded, and the CPC model and memory to be changed:

Option	Key(s)	Description
Load	F9	Loads a saved configuration
Save current	AltGr+F9	Saves the current configuration
CPC model	AltGr+W	Selects the CPC model and ROM language (see section 9.1)
RAM size	AltGr+A	Adjusts the size of the extended RAM
Select ROMs	AltGr+O	Selects the ROMs to use for emulation (see section 9.2)

9.1 CPC model selection (AltGr+W)

Activating this option displays a submenu that allows the CPC model and its ROM language to be chosen simultaneously. The currently active model is always shown at the bottom of the submenu. The available combinations are:

Option	Model	ROM language
CPC464 English	CPC 464	English
CPC464 Spanish	CPC 464	Spanish
CPC464 Danish	CPC 464	Danish
CPC464 French	CPC 464	French
CPC664 English	CPC 664	English
CPC6128 English	CPC 6128	English
CPC6128 Spanish	CPC 6128	Spanish
CPC6128 Danish	CPC 6128	Danish
CPC6128 French	CPC 6128	French

The CPC664 is only available in English. The model change takes effect after the emulated system restarts.

9.2 ROM selection (AltGr+O)

This option opens the "Change ROMs" dialog, which allows the set of ROMs used by the emulator to be configured. The CPC architecture distinguishes two types of ROM:

- Lower ROM: the operating system ROM, which occupies the lower position in the memory map. Only one can be assigned.
- Upper ROMs: expansion ROMs assigned to numbered slots from 0 to 31. Slot 0 is typically used for BASIC and slot 7 for AMSDOS. Unassigned slots appear empty in the list.

For each entry in the list, either an official Amstrad ROM or a third-party ROM can be assigned, and it is also possible to remove the ROM assigned to any slot. Changes are not applied until explicitly confirmed, so the configuration can be explored without risk of accidentally modifying anything.

Key	Description
ENTER	Assigns a ROM from an external file to the selected slot (third-party ROMs)
F4	Assigns an official Amstrad ROM to the selected slot, chosen from a list
F8	Removes the ROM assigned to the selected slot
F10	Accepts all changes and applies them. The emulation restarts automatically so the new ROMs take effect.

10. Emulation speed

Controls the emulation speed and performance diagnostic options:

Option	Key(s)	Description
Pause : No/Yes	Pause	Pauses or resumes the emulation
Speed : Normal	AltGr+Pause	Cycles through the available speed modes
Show FPS : No/Yes	AltGr+F	Shows or hides the frames per second counter
Show CPU load : No/Yes	AltGr+U	Shows or hides the CPU load indicator

11. Snapshots

Snapshots allow the complete state of the emulation to be saved and restored at any time:

Option	Key(s)	Description
Load	F8	Loads a previously saved snapshot
Save	AltGr+F8	Saves the current emulation state as a snapshot

12. Screen

Options related to the display and capture of the emulator screen:

Option	Key(s)	Description
Fullscreen : No/Yes	F11	Enables or disables fullscreen mode
Pixel perfect size	AltGr+F11	Resizes the window to the CPC pixel-perfect size
Save	F10	Saves a screenshot
Capture text	AltGr+C	Captures the text visible on screen and copies it to the operating system clipboard (see section 12.1)

12.1 Text capture (AltGr+C)

This function analyses the screen contents and attempts to recognise the visible text, copying it directly to the operating system clipboard so it can be pasted into any other application.

The recognition is based on the character definitions in the Lower ROM, which establishes the standard CPC character set. For this reason, the capture works correctly when the system is in the firmware environment or in BASIC, but not in programs or games that use their own custom characters, as these do not follow the standard definition and the result would be incorrect or unreadable.

13. Basic

Options for working with Amstrad CPC BASIC programs:

Option	Key(s)	Description
Load program	AltGr+L	Loads a BASIC program from a file
Reload program	AltGr+R	Reloads the last BASIC program that was loaded
Run after load : Yes/No		Automatically runs the program after loading
Save program	AltGr+S	Saves the current BASIC program to a file

14. Other options

The following options do not fit within any of the previous sections. Like all other emulator functions, they can be used at any time from the menu or via their keyboard shortcut:

Option	Key(s)	Description
Insert pokes	F4	Opens the memory poke management dialog (see section 14.1)
Paste	AltGr+V	Pastes text into the CPC as if it had been typed
Reset	F12	Resets the emulated CPC
Quit	AltGr+F4	Closes the emulator

14.1 Pokes dialog (F4)

Pokes allow memory addresses in the CPC to be modified directly while a program is running, something commonly used to enable cheats in games (infinite lives, invulnerability, etc.).

The dialog displays a numbered list of up to 16 entries, each with two fields: the memory address and the value to write to it. Both values are entered in hexadecimal.

Key	Description
ENTER	Edits the selected entry, allowing the address and value to be entered or modified in hexadecimal
F8	Removes the selected entry
F10	Accepts the entered pokes and applies them immediately to the CPC memory

15. File selection dialog

This dialog opens whenever the emulator needs to select a file: when inserting or ejecting a disk or cassette, and when saving or loading a snapshot, a configuration or a screen capture.

The dialog shows the current directory with a list of available files and subdirectories. Entries marked as <DIR> are folders. The counter in the bottom-right corner shows the cursor position relative to the total number of entries (e.g. 14/70).

In addition to browsing and selecting a file, the dialog provides the following options:

Key	Description
F2 New	Creates a new file in the current directory (see section 15.1)
F3 Search	Filters the file list by name (see section 15.2)
F8 Delete	Deletes the file currently pointed to by the cursor
F9 Drives	Allows selection of a system disk drive (Windows only)

The F2 New option is available when inserting a disk or cassette, and also when saving a screen capture, a snapshot or a configuration. In all cases, once the file has been created it must be selected from the list to actually use it.

15.1 Creating a new disk (F2)

When F2 is pressed in a disk image selection dialog, the dialog first asks for the name of the file to be created, then displays a submenu to select the disk format:

Format	Description
3" data format (178 KB)	Standard 178 KB data disk. The most common format for CPC commercial software.
3" system format (169 KB)	169 KB system disk. Reserves space for the operating system, leaving less capacity available for data.
3" unformatted	Creates an unformatted disk file. Useful for formatting later from within the CPC itself.

15.2 File search (F3)

When F3 is pressed, the dialog prompts for a text string. The file list is then filtered to show only files whose names contain that string. To clear the filter and return to the full list, press F3 again and confirm with an empty search string.

16. Command line examples

1) Insert a disk in drive A and run RUN"DISC

Inserts a disk image in drive A and automatically types the command RUN"DISC on startup:

```
gemux -drva game.dsk -paste RUN"DISC"
```

2) CPC464 with green monitor, cassette inserted and RUN"

Emulates a CPC464, enables the green phosphor monitor, inserts a cassette image and types RUN" on startup:

```
gemux -cpc 464 -mon green -tape game.cdt -paste RUN"
```

3) Load two BIN files into memory and execute CALL &4000

Loads two binary files at memory addresses 0x4000 and 0x5000 respectively, and types CALL &4000 on startup:

```
gemux -bin file1.bin:0x4000 -bin file2.bin:0x5000 -paste "CALL &4000"
```

4) Load a BAS file and run it

Loads an ASCII BASIC file and types RUN on startup to execute it immediately:

```
gemux -bas program.bas -paste RUN
```

17. Quick key reference

Function	Key(s)
Drive A: Insert/Eject disk	F2
Drive A: Protected	AltGr+F2
Drive B: Insert/Eject disk	F3
Drive B: Protected	AltGr+F3
Tape: Insert/Eject cassette	F5
Tape: Protected	AltGr+F5
Tape: Play	F6
Tape: Record	AltGr+F6
Tape: Pause	F7
Tape: Stop	AltGr+F7
Tape: Rewind one track	Home
Tape: Rewind	AltGr+Home
Tape: Wind one track	End
Tape: Wind	AltGr+End
Monitor: Scanlines	AltGr+F10
Monitor: Next mode	AltGr+M
Monitor: Next variant	AltGr+N
Joystick: Next setup	AltGr+J
Sound: Volume Up	PgUp
Sound: Volume down	PgDn
Sound: Muted	AltGr+PgDn
CPC settings: Load	F9
CPC settings: Save current	AltGr+F9
CPC settings: CPC model	AltGr+W
CPC settings: RAM size	AltGr+A
CPC settings: Select ROMs	AltGr+O
Emulation speed: Pause	Pause
Emulation speed: Speed	AltGr+Pause
Emulation speed: Show FPS	AltGr+F
Emulation speed: Show CPU load	AltGr+U
Snapshots: Load	F8
Snapshots: Save	AltGr+F8
Screen: Fullscreen	F11
Screen: Pixel perfect size	AltGr+F11
Screen: Save	F10

Function	Key(s)
Screen: Capture text	AltGr+C
Basic: Load program	AltGr+L
Basic: Reload program	AltGr+R
Basic: Save program	AltGr+S
Insert pokes	F4
Paste	AltGr+V
Reset	F12
Quit	AltGr+F4