

Global shortcuts:	
Alt + Enter	Toggle fullscreen (Windows only)
Ctrl + F1	Show only C64 screen
Ctrl + F2	Show C64 disassembler , memory map and memory dump
Ctrl + F3	Show C64 disassembler w/hex codes, memory dump and VIC state
Ctrl + F4	Show C64 and 1541 disk disassembler and memory maps
Ctrl + F5	Show states of chips
Ctrl + F6	Show C64 disassembler , a big memory map and memory dump
Ctrl + F7	Show C64 and 1541 disk disassembler
Ctrl + F8	Show Monitor console, memory map , memory dump and debugging tools
Ctrl + Shift + F1	Show zoomed C64 screen.
Ctrl + Shift + F2	Show cycle-exact debugging tools with C64 screen zoom, memory dump and code labels
Ctrl + Shift + F3	Show C64 disassembler and small C64 screen
Ctrl + Shift + F4	Show VIC Display "lite" screen
Ctrl + Shift + F5	Show VIC Display screen
Ctrl + Shift + F6	Show VIC Editor screen
Ctrl + Shift + F7	Show all bitmaps in memory at once
TAB	Change focus to next view
Shift + TAB	Change focus to previous view
F9	Show Main menu screen
Ctrl + B	Show Breakpoints screen
Ctrl + T	Mute sound On/Off
Ctrl + [Set slower emulation speed
Ctrl +]	Set faster emulation speed
Ctrl + Windows Key	Rotate through emulation speeds
Ctrl + P	Limit emulation speed On/Off (warp mode)
Ctrl + 8	Attach D64 file
Ctrl + Shift + 8	Detach D64 file
F7	Browse attached disk image
F3	Start first PRG from disk image
Ctrl + O	Load PRG file
Ctrl + L	Reload PRG & Start
Ctrl + Shift + A	Toggle auto-load first PRG from inserted disk
Ctrl + Shift + H	Toggle C64 reset before PRG load
Ctrl + 0	Attach cartridge
Ctrl + Shift + 0	Detach cartridge
Ctrl + F	Cartridge freeze button
Ctrl + R	Soft reset C64
Ctrl + Shift + R	Hard reset C64
Ctrl + Alt + R	Reset 1541 Disk drive
Ctrl + Shift + D	Detach everything
Ctrl + Y	Use keyboard arrows as joystick On/Off, Right Alt to fire
F10	Pause code or run to next instruction (step)
Alt + F10	Back-Step one instruction
Ctrl + F10	Step to next line (step over JSR)
Shift + F10	Run one CPU cycle
F11	Run/continue emulation
Ctrl + W	Toggle memory dump view with watches view
Ctrl + M	Toggle data memory map/memory dump taken directly from RAM or as-is with I/O and ROMs selected by \$0001

Global shortcuts (cont.):	
Ctrl + E	Toggle show current raster beam position
Ctrl + Shift + S	Show Snapshots screen
Ctrl + S	Store snapshot to a file
Ctrl + D	Restore snapshot from a file
Shift + Ctrl + 1, 2, 3, ..., 6	Quick store snapshot to slot #1,#2,#3, ..., or #6
Ctrl + 1, 2, 3, ..., 6	Quick restore snapshot from slot #1,#2,#3, ..., or #6
Ctrl + U	Dump C64's memory to file
Ctrl + Shift + U	Dump 1541 Drive's memory to file
Ctrl + Shift + E	Save current screen data to file
Ctrl + Backspace	Clear memory markers
Ctrl + Shift + P	Save C64 screenshot and sprite bitmaps to PNG files
Ctrl + Arrow ←	Rewind emulation back one frame
Ctrl + Arrow →	Forward emulation one frame
Alt + Ctrl + Arrow ←	Rewind emulation back one second
Alt + Ctrl + Arrow →	Forward emulation one second
Shift + Ctrl + Arrow ←	Rewind emulation back 10 seconds
Shift + Ctrl + Arrow →	Forward emulation 10 seconds
Ctrl + ;	Select next code symbols segment
Ctrl + '	Select previous code symbols segment

In Disassembly view:	
Mouse Click on memory address	Add/remove breakpoint
` (~ tilde key)	Add/remove breakpoint
Arrow ↑/↓	Scroll code one instruction up/down
Page ↑/↓ or Shift + Arrow ↑/↓	Scroll code by \$100 bytes up/down
Space	Toggle tracking of code display by current PC
Enter	Enter code editing mode (assemble)
[or]	Scroll code one byte up/down
Arrow ←/→	If not editing code: follow code jumps and branches using Right-Arrow key, and move back with Left-Arrow key. When argument is a memory address then memory dump view will be scrolled to that address. If editing code and hex values visible: change edited hex value.
CTRL + G <addr>	Move cursor to specific address (f.e. CTRL+G EA31)
CTRL + J	JMP to current cursor's address (change CPU PC)
Mouse wheel	Scroll code (faster with Shift pressed)

In Memory Dump view:	
Mouse Click on hex value	Select hex value
Double Mouse Click on hex value	Scroll Disassembly view to selected address
Arrow ←↑→↓	Move editing cursor
Page Up/Dn or Shift + Arrow ↑/↓	Scroll code by \$100 bytes up/down
Enter or 0-9 or A-F	Start editing value
Ctrl + Mouse Click	Scroll Disassembly view to code address that stored that value
Ctrl + Shift + Mouse Click	Scroll Disassembly view to code address that last read that value
Alt + Shift	Change CBM charset
Ctrl + K	Change colour mode on/off for sprites/characters
Ctrl + G <addr>	Move cursor to specific address (f.e. CTRL+G 0400)
Ctrl + V	Paste hex codes from clipboard into memory. Simple separators are parsed, also the text can contain addresses as 4 hex digits

VIC Editor screen:	
Ctrl + N	Create new picture and setup C64 for painting
LMB, RMB	Paint using selected color
Alt + LMB, Alt + RMB	Paint dither
Ctrl + LMB or Ctrl + RMB	Force painting / replace color
Shift + LMB	Get color at cursor as LMB color
Shift + RMB	Get color at cursor as RMB color
X	Exchange LMB/RMB colors
0	Set LMB color from \$D021 color
Shift + 0	Get color at cursor as background (\$D021) color
RMB on Preview Window	Move display
Space Bar (hold in main display)	Move display
Mouse Scroll	Zoom in/out the canvas
Shift + Mouse Scroll	Quickly zoom in/out the canvas
[or]	Select Circle Brush size
Ctrl + [or Ctrl +]	Select Rectangle Brush size
/	Change Preview Window scale
'	Show cursor pointer in Preview Window
` (tilde key)	Select next visible layer
12345678QWERTYUI	Select color
Shift + 1, Shift + 2, Shift + 3	Select sprite painting color num (\$D025, \$D027+, \$D026)
F	Show/hide all windows
D	Show/hide preview window
P	Show/hide colors palette
C	Show/hide character set window
S	Show/hide sprite window
L	Show/hide layers window
Ctrl + G	Show/hide sprite frames
Ctrl + Shift + Mouse Click	Lock/Select sprite
Arrow ← → ↓	Move selected sprite
Ctrl + Backspace	Clear screen
Ctrl + Z	Undo
Ctrl + Shift + Z	Redo
Ctrl + S	Save image in VIC Editor (*.vce) format
Ctrl + O	Load/Import image (vce, png, kla, art, dd)
Ctrl + Shift + E	Export image to kla/art/raw text
Ctrl + B	Toggle top bar with icons
ESCAPE	Back to C64 Debugger

VIC Display screen:	
Arrow ← → ↓	Move locked cursor
Shift + Arrow ← → ↓	Move locked cursor in large steps
` (~ tilde key)	Toggle VIC raster breakpoint
L	Lock/Unlock mouse cursor
Space Bar	Lock/Unlock Disassemble auto-scroll code
X	Select next auto-scroll code mode
R	Select auto-scroll code to Raster
S	Select auto-scroll code to Screen (Text)
B	Select auto-scroll code to Bitmap
C	Select auto-scroll code to Colour

In Memory Map view:	
Ctrl + M	Memory map shows current values of memory cells. Ctrl+M switches bank to RAM. Each memory cell value is mapped into RGB or Gray or None. In RGB mode red are values from 0 to 85, green are values from 85 to 170 and blue are values from 170 to 255. In Gray mode all values are mapped into grayscale colors.
Memory access:	<ul style="list-style-type: none"> • White shows current PC • Blue marks read access • Red marks write access
Settings	Change colours to ICU-standard (read marked by green)
Mouse Click	Scroll memory dump view to a clicked memory address
Double Mouse Click	Scroll Disassembly view to a memory address under cursor
Ctrl + Mouse Click	Scroll Disassembly view to code address that stored value under cursor
Ctrl + Shift + Mouse Click	Scroll Disassembly view to code address that last read value under cursor
Mouse Wheel	Zoom-in (Windows, Linux, MacOS)
Hold RMB	Move around
Multitouch gestures	Pinch zoom and scroll using two fingers (MacOS only). Select desired control behaviour in Settings

In Breakpoints screen:	
Arrow keys	Move around
Enter or Spacebar	Toggle value or start editing breakpoint
Backspace	Remove selected CPU PC Breakpoint

Commodore 64 screen:	
Keys	All keys are mapped as original Commodore 64 keyboard
RUN+STOP	ESC Key
C64 Control key	Right Control
RESTORE	Not mapped, but you can change this in Settings
Left Control key is not mapped and reserved for keyboard shortcuts	
When joystick is turned on then you can control selected ports using arrow keys, and right-alt as fire	

Monitor screen:	
You can use these instructions in code monitor:	
HELP	Show help
DEVICE C / D / 8	Set current device (C64/Disk/Disk)
F <from> <to> <value>	Fill memory with value
C <from> <to> <destination>	Compare memory with memory
H <from> <to> <value> [<value>...]	Compare memory with values
HC <from> <from> <value> [<value>]	Continue hunt, compare memory with values that addresses overlap with previous results of hunt command
T <from> <from> <destination>	Copy memory
L [PRG] [from] [file name]	Load memory (with option from PRG file)
S [PRG] <from> <from> [file name]	Save memory (with option as PRG file)
D [NH] <from> <from> [file name]	Disassemble memory (with option NH without hex codes)
G <address>	Jump to address