

## Display List Instructions#

There are 3 kinds of instructions

- \$x0 blank lines
- \$x1 jumps
- \$x2-\$xF display lines, divided into
  - \$x2-\$x7 text lines
  - \$x8-\$xF pixel/map/graphics lines

## Instructions for Blank lines#

Instruction dec	Instruction hex	BASIC Mode	Scan lines	Pixel per line	Bytes per line	Comment
0	\$00	na	1	0	0	1 blank line
16	\$10	na	2	0	0	2 blank lines
32	\$20	na	3	0	0	3 blank lines
48	\$30	na	4	0	0	4 blank lines
64	\$40	na	5	0	0	5 blank lines
80	\$50	na	6	0	0	6 blank lines
96	\$60	na	7	0	0	7 blank lines
112	\$70	na	8	0	0	8 blank lines

## Jump Instructions#

Instruction dec	Instruction hex	BASIC Mode	Scan lines	Pixel per line	Bytes per line	Comment
1	\$01	na	0	0	0	jump to address, instruction followed by address (2 byte in LSB,MSB order)
65	\$41	na	0	0	0	jump to address and wait for VBI, instruction followed by address (2 byte in LSB,MSB order)

## Instructions for Text Lines#

Instruction dec	Instruction hex	BASIC Mode	Scan lines	VSCROL max	Pixel per line	Bytes per line	Comment
2	\$02	0	8	7	40	40	Text mode 0, normal

							text, 24 rows
3	\$03	na	10	9	40	40	text with full size descenders (e.g. g,p,y,j,q)
4	\$04	12 XL/XE OS only	8	7	40	40	<a href="#">4-color-characters</a> , 4 pixel width, 24 rows
5	\$05	13 XL/XE OS only	16	15	40	40	<a href="#">4-color-characters</a> , 4 pixel width, double height, 12 rows
6	\$06	1	8	7	20	20	Text mode 1, double width text, 24 rows
7	\$07	2	16	15	20	20	Text mode 2, double width and height text, 12 rows

## Instructions for Pixel/Graphics Lines#

Instruction dec	Instruction hex	BASIC Mode	Scan lines	<a href="#">VSCROL</a> max	Pixel per line	Bytes per line	Comment
8	\$08	3	8	7	40	10	Graphics Mode 3, 24 rows
9	\$09	4	4	3	80	10	Graphics Mode 4, 48 rows
10	\$0A	5	4	3	80	20	Graphics Mode 5, 48 rows
11	\$0B	6	2	1	160	20	Graphics Mode 6, 96 rows
12	\$0C	14 XL/XE OS only	1	0	160	20	Graphics Mode 14, 192 rows
13	\$0D	7	2	1	160	40	Graphics Mode 7, 96 rows

14	\$0E	15 XL/XE OS only	1	0	160	40	Graphics Mode 15, 192 rows
15	\$0F	8	1	0	320	40	Graphics Mode 8, 192 rows

## Added functions#

To activate special functions in a display line, add the value as stated below

Function	add decimal	add hex	bit	comment
enable Horizontal Scrolling	16	\$10	4	see <a href="#">HSCROL</a> , possible for text and pixel lines
enable Vertical Scrolling	32	\$20	5	see <a href="#">VSCROL</a> , possible for text and pixel lines
Load memory scan	64	\$40	6	instruction followed by address (2 byte in LSB,MSB order), possible for text and pixel lines. The screen memory can NOT cross a 4K boundary. If screen memory is bigger than 4K, the display list must contain at least 2 LMS commands.
enable Display List Interrupt	128	\$80	7	see <a href="#">VDSLST</a> , possible for blank, text and pixel lines

see also: [Display List Topics](#), [VDSLST](#), [VSCROL](#), [HSCROL](#), [4-color-characters](#), [Table of Modes and Screen Format](#)