

CESCA LCD Interface:

Commands for the LCD Module:

Name	Command (8 bits)								Description
Display clear	0	0	0	0	0	0	0	1	Clears display and restores the shift
Cursor home	0	0	0	0	0	0	1	X	Restores the cursor and display shift
Entry mode set	0	0	0	0	0	1	I/D	S	Sets direction of shift and cursor movement
Display ON/OFF	0	0	0	0	1	D	C	B	Turns on/off display, cursor and blink
Display shift	0	0	0	1	S/C	R/L	X	X	Shifts display or moves cursor ¹
Function set	0	0	1	1	N	F	X	X	Sets font and number of lines ²
Write to Char. Generator	0	1	C.G. Address						Sets the Character Generator address ³
Write to address	1	Display Address							Sets the display address ³

X = Don't care

I/D = Increment (1) / Decrement (0)

D = Display ON (1) / OFF (0)

S/C = Move display (1) / cursor (0)

N = 2 lines (1) / 1 line (0)

S = Shift ON (1) / OFF (0)

C = Cursor ON (1) / OFF (0)

R/L = Shift right (1) / left (0)

F = Font size: 10 dots (1) / 8 dots (0)

B = Cursor blink (1) / static (0)

¹ Keep in mind "Display shift" is just for a one-time movement and doesn't change the settings for future characters. The correct command for that purpose is "Entry mode set".

² The parameters of the "Function set" command depend on the hardware of the LCD screen, so those will remain constant in all programs. The 4th bit is always 1 since data length is always 8 bits.

³ After a "Write to Character Generator" or "Write to address" command, an LCD data instruction must be performed (LCD-Imm, LCD-Reg or LCD-Mem). This data will be written to the address indicated in the command.

Characters for the LCD Module:

Lower 4 Bits		Upper 4 Bits																	
		0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111		
xxxx0000		CG RAM (1)			0	1	A	P	`	P				—	9	E	α	ρ	
	(2)			!	1	A	Q	a	4					。	7	チ	厶	ä	q
xxxx0010	(3)			"	2	B	R	b	r					「	イ	ウ	×	ρ	θ
	(4)			#	3	C	S	c	s					」	ウ	7	E	ε	∞
xxxx0100	(5)			\$	4	D	T	d	t					、	工	ト	†	μ	Ω
	(6)			%	5	E	U	e	u					。	オ	ナ	1	ε	Ü
xxxx0110	(7)			&	6	F	V	f	v					ヲ	カ	ニ	ヨ	ρ	Σ
	(8)			'	7	G	W	g	w					ア	キ	ヌ	ラ	g	π
xxxx1000	(1)			(8	H	X	h	x					イ	ウ	ネ	リ	フ	×
	(2))	9	I	Y	i	y					ウ	7	リ	ル	´	y
xxxx1010	(3)			*	:	J	Z	j	z					工	コ	ハ	レ	j	チ
	(4)			+	;	K	L	k	l					★	サ	ヒ	ロ	*	ア
xxxx1100	(5)			,	<	L	¥	1	l					ハ	シ	フ	ワ	φ	円
	(6)			—	=	M	J	m	j					ユ	ズ	ハ	ン	±	÷
xxxx1110	(7)			.	>	N	^	n	+					ヨ	セ	ホ	°	ん	
	(8)			/	?	O	_	o	+					ッ	ソ	マ	°	ó	■