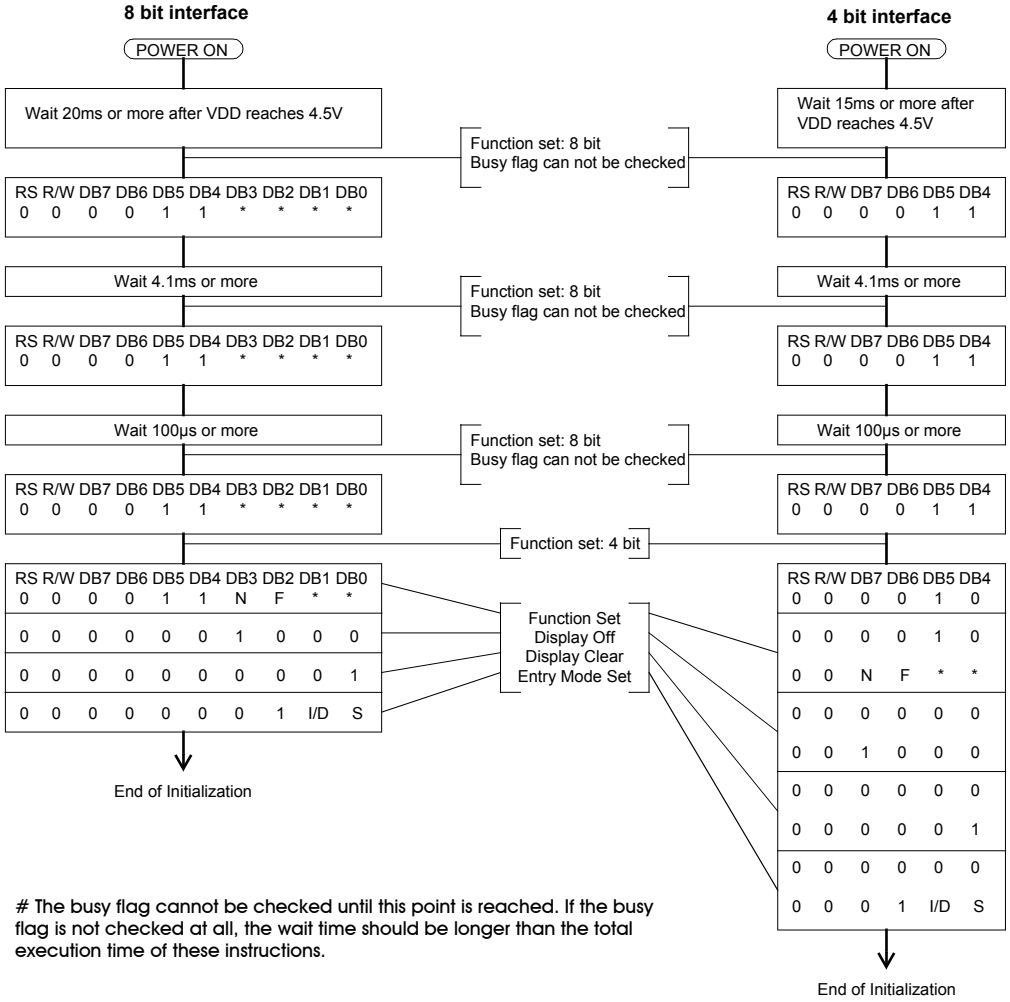
Software Initialization

1) Clear Display
2) Function set
   DL=1.....8-bit data length for interface
   N=0.....Single-line display
   F=0.....5x7 dot matrix character font
3) Display ON/OFF Control
   D=0.....Display OFF
   C=0.....Cursor OFF
   B=0.....Blink function OFF
4) Entry Mode Set
   I/D=1.....Increment Mode
   S=0.....Display shift OFF



The busy flag cannot be checked until this point is reached. If the busy flag is not checked at all, the wait time should be longer than the total execution time of these instructions.

COMMANDS FOR CHARACTER MODULES

Command	Code										Description	Execution Time
	RS	R/W	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0		
Clear Display	0	0	0	0	0	0	0	0	0	1	Clears the display and returns the cursor to the home position (address 0).	82µs~1.64ms
Return Home	0	0	0	0	0	0	0	0	1	*	Returns the cursor to the home position (address 0). Also returns a shifted display to the home position. DD RAM contents remain unchanged.	40µs~1.64ms
Entry Mode Set	0	0	0	0	0	0	0	1	I/D	S	Sets the cursor move direction and enables/disables the display.	40µs
Display ON/OFF Control	0	0	0	0	0	0	1	D	C	B	Turns the display ON/OFF (D), or the cursor ON/OFF (C), and blink of the character at the cursor position (B).	40µs
Cursor & Display Shift	0	0	0	0	0	1	S/C	R/L	*	*	Moves the cursor and shifts the display without changing the DD RAM contents.	40µs
Function Set	0	0	0	0	1	DL	N$	F	*	#	Sets the data width (DL), the number of lines in the display (L), and the character font (F).	40µs
Set CG RAM Address	0	0	0	1	A_{CG}						Sets the CG RAM address. CG RAM data can be read or altered after making this setting.	40µs
Set DD RAM Address	0	0	1	A_{DD}							Sets the DD RAM address. Data may be written or read after making this setting.	40µs
Read Busy Flag & Address	0	1	BF	AC							Reads the BUSY flag (BF) indicating that an internal operation is being performed and reads the address counter contents.	1µs
Write Data to CG or DD RAM	1	0	Write Data								Writes data into DD RAM or CG RAM.	46µs
Read Data from CG or DD RAM	1	1	Read Data								Reads data from DD RAM or CG RAM.	46µs
	I/D = 1: Increment I/D = 0: Decrement S = 1: Accompanies display shift. S/C= 1: Display shift S/C = 0: cursor move R/L= 1: Shift to the right. R/L= 0: Shift to the left. DL = 1: 8 bits DL = 0: 4 bits N = 1: 2 lines N = 0: 1 line F = 1: 5x10 dots F = 0: 5 x 7 dots BF = 1: Busy BF = 0: Can accept data # Set to 1 on 24x4 modules $ With KS0072 is Address Mode.										DD RAM: Display data RAM CG RAM: Character generator RAM A_{CG}: CG RAM Address A_{DD}: DD RAM Address Corresponds to cursor address. AC: Address counter Used for both DD and CG RAM address.	Execution times are typical. If transfers are timed by software and the busy flag is not used, add 10% to the above times.

```
//LcdCommandWrite(0x01);
// clear display, set the cursor to home position

//LcdCommandWrite(0x02);
// set cursor position to zero

//LcdCommandWrite(0x0A);
// set the display off

//LcdCommandWrite(0x0E);
// set the display on and with out cursor blink

//LcdCommandWrite(0x0F);
// set the display on and  with cursor blink

//LcdCommandWrite(0x0F);
//  cursor blink

//LcdCommandWrite(0x0E);
//  cursor not blink

//LcdCommandWrite(0x18);
// shift display and cursor to the left

//LcdCommandWrite(0x1c);
// shift display and cursor to the right

//LcdCommandWrite(0x14);
// shift cursor to the right

//LcdCommandWrite(0x10);
// shift cursor to the left
```