STANDARD LCD CONTROL CODES

CONTROL CODES

Control Codes are used for LCD panel setup and control of character or cursor position. All control codes are wriitten to LCD panel address $B5F0. The BUSY flag should be tested before any control updates to verify that any previous control command has been completed. The BUSY flag is bit position 7 of the Control register (data mask = $80). A read of the Control address $B5F0 will return the BUSY flag status and the current display character location address.

COMMAND	DATA	TIME DELAY
Clear Display, Cursor to Home	$01	1.65ms
Cursor to Home	$02	1.65ms
Entry Mode:		
Cursor Decrement, Shift off	$04	40us
Cursor Decrement, Shift on	$05	40us
Cursor Increment, Shift off	$06	40us
Cursor Increment, Shift on	$07	40us
Display Control:		
Display, Cursor, and Cursor Blink off	$08	40us
Display on, Cursor and Cursor Blink off	$0C	40us
Display and Cursor on, Cursor Blink off	$0E	40us
Display, Cursor, and Cursor Blink on	$0F	40us
Cursor / Display Shift: (nondestructive move)		
Cursor shift left	$10	40us
Cusor shift right	$14	40us
Display shift left	$18	40us
Display shift right	$1C	40us
Display Function (default 2x40 size)	$3C	40us
Character Generator Ram Address set	$40 - $7F	40us
Display Ram Address set	$80 - $FF	40us
(2 x 40 Display = $80 - $CF max)		

STANDARD LCD CHARACTER CODES

The display Character Generator Ram is displayed at $00 - $1F. Refer to display panel data sheet for extended character set.

DATA	CHARACTER	DATA	CHARACTER	DATA	CHARACTER
$20	Space	$40	Time Sym	$60	`
$21	!	$41	A	$61	a
$22	"	$42	B	$62	b
$23	#	$43	C	$63	c
$24	$	$44	D	$64	d
$25	%	$45	E	$65	e
$26	&	$46	F	$66	f
$27	'	$47	G	$67	g
$28	(	$48	H	$68	h
$29	)	$49	I	$69	i
$2A	*	$4A	J	$6A	j
$2B	+	$4B	K	$6B	k
$2C	,	$4C	L	$6C	l
$2D	-	$4D	M	$6D	m
$2E	.	$4E	N	$6E	n
$2F	/	$4F	O	$6F	o
$30	0	$50	P	$70	p
$31	1	$51	Q	$71	q
$32	2	$52	R	$72	r
$33	3	$53	S	$73	s
$34	4	$54	T	$74	t
$35	5	$55	U	$75	u
$36	6	$56	V	$76	v
$37	7	$57	W	$77	w
$38	8	$58	X	$78	x
$39	9	$59	Y	$79	y
$3A	:	$5A	Z	$7A	z
$3B	;	$5B	[	$7B	{
$3C	{	$5C	Yen Sym	$7C		
$3D	=	$5D	]	$7D	}
$3E	}	$5E	^	$7E	>
$3F	?	$5f	_	$7f	<