



4.7.3. 8-bit Parallel MCU Interface

The DBI TYPE B 8-bit parallel bus interface of the ILI9488 is used by setting the external pin IM [2:0] as 011. Figure 109 shows this system interface.

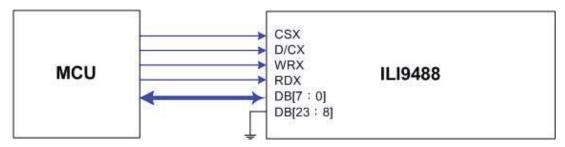


Figure 109: 8-bit Parallel MCU Interface

The available display data formats are:

- 65K-Colors, RGB 5, 6, 5 bits input data (set Standard Command 3Ah, DBI [2:0] as 101)
- 262K-Colors, RGB 6, 6, 6 bits input data (set Standard Command 3Ah, DBI [2:0] as 110)

4.7.3.1. 8-bit Data Bus for 16-bit/pixel (RGB 5-6-5 Bits Input), 65K-color

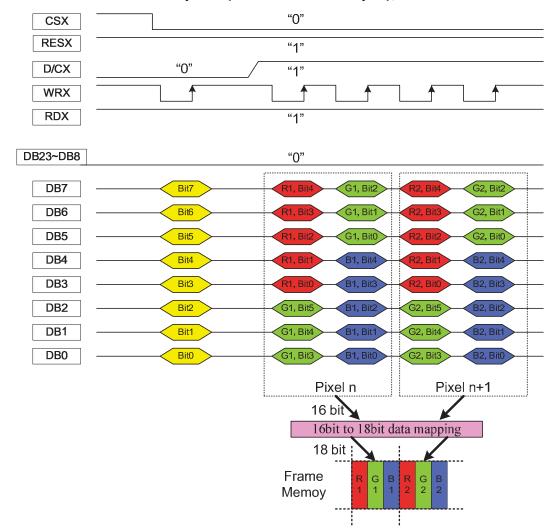


Figure 110: 8-bit Data Bus for 16-bit/pixel (RGB 6-5-6 Bits Input), 65K-color

Page 123 of 339 Version: 001





Notes:

- 1. The data order is as follows: MSB = DB7, LSB = DB0, and picture data is MSB = Bit 5, LSB = Bit 0 for Green data, and MSB = Bit 4, LSB = Bit 0 for Red and Blue data.
- 2. 2-times transfer is used to transmit 1 pixel data to the 16-bit color depth information.
- 3. '-' = void

4.7.3.2. 8-bit Data Bus for 18-bit/pixel (RGB 6-6-6 Bits Input), 262K-color

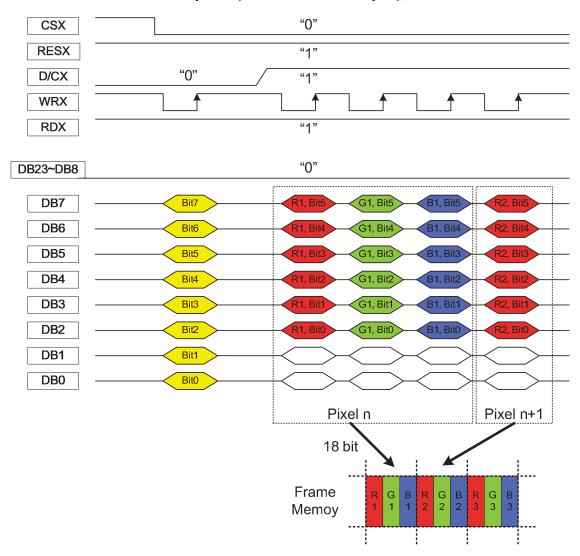


Figure 111: 8-bit Data Bus for 18-bit/pixel (RGB 6-6-6 Bits Input), 262K-color

Notes:

- 1. The data order is as follows: MSB = DB7, LSB = DB0, and picture data is MSB = Bit 5, LSB = Bit 0 for Green, Red and Blue data.
- 2. 3-times transfer is used to transmit 1 pixel data to the 18-bit color depth information.
- 3. '-' = void

Page 124 of 339 Version: 001

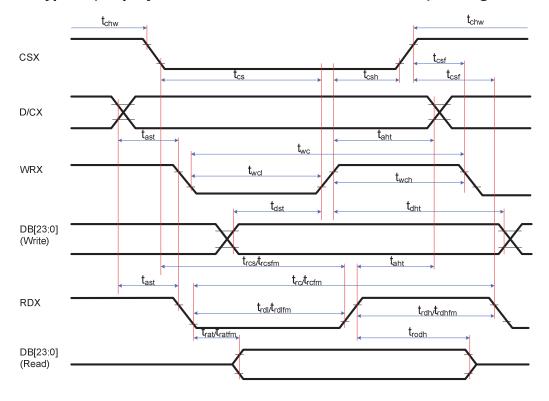






17.4. AC Characteristics

17.4.1. DBI Type B (Display Parallel 8-/9-/16-/18-/24-bit interface) Timing Characteristics



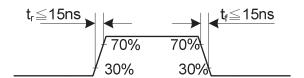
Signal	Symbol	Parameter	min	max	Unit	Description
DOV	tast	Address setup time	0	-	ns	-
DCX	that	Address hold time (Write/Read)	0	-	ns	-
	tchw	CSX "H" pulse width	0	-	ns	-
	tcs	Chip Select setup time (Write)	15	-	ns	-
CSX	trcs	Chip Select setup time (Read ID)	45	-	ns	-
	trcsfm	Chip Select setup time (Read FM)	355	-	ns	-
	tcsf	Chip Select Wait time (Write/Read)	0	-	ns	-
	twc	Write cycle	30	-	ns	-
WRX	twrh	Write Control pulse H duration	15	-	ns	-
	twrl	Write Control pulse L duration	15	-	ns	-
	trcfm	Read Cycle (FM)	450	-	ns	
RDX (FM)	trdhfm	Read Control H duration (FM)	90	-	ns	When read from Frame Memory
	trdlfm	Read Control L duration (FM)	355	-	ns	Wichiory
	trc	Read cycle (ID)	160	-	ns	
RDX (ID)	trdh	Read Control pulse H duration	90	-	ns	When read ID data
	trdl	Read Control pulse L duration	45	-	ns	
DB [23:0],	tdst	Write data setup time	10	-	ns	
DB [23.0], DB [17:0],	tdht	Write data hold time	10	-	ns	
DB [15:0],	trat	Read access time	-	40	ns	For maximum, CL=30pF For minimum, CL=8pF
DB [8:0],	tratfm	Read access time	-	340	ns	1 or minimum, oc-opi
DB [7:0]	trod	Read output disable time	20	80	ns	

Page 325 of 339 Version: 001

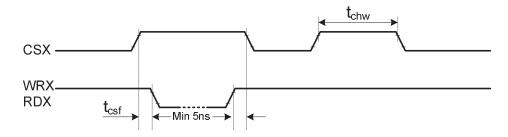


Notes:

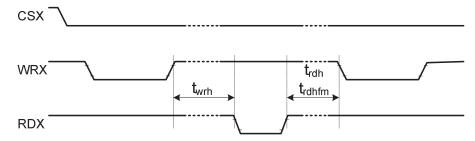
- 1. Ta = -30 to 70 $^{\circ}$ C, IOVCC = 1.65V to 3.3V, VCI = 2.5V to 3.3V, AGND = DGND = 0V
- 2. Logic high and low levels are specified as 30% and 70% of IOVCC for input signals.
- 3. Input signal rising time and falling time:



4. The CSX timing:



5. The Write to Read or the Read to Write timing:



Page 326 of 339 Version: 001





5. Command

5.1.Command List

5.1.1. Standard Command List

OTTO OTALICA OCT		~ =.c											
Command Function	D/CX	RDX	WRX		D7	D6	D5	D4	D3	D2	D1	D0	Hex
NOP	0	1	1	XX	0	0	0	0	0	0	0	0	00h
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Soft Reset	0	1	1	XX	0	0	0	0	0	0	0	1	01h
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	0	0	0	0	1	0	0	04h
	1	1	1	XX	Х	Х	Х	Х	Х	Х	Х	Х	XX
Read display identification information	1	^	1	XX		•	•	ID1 [•				XX
Information	1	^	1	XX				ID2 [XX
	1	^	1	XX				ID3 [XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	0	0	0	0	1	0	1	05h
Read Number of the Errors on	1	1	1	XX	X	X	X	X	X	X	X	Х	XX
DSI	1	1	1	XX		ı		P [7		ı			XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	0	0	0	1	0	0	1	09h
	1	<u> </u>	1	XX	X	X	X	X	X	Х	Х	X	XX
	1	*	1	XX				D [31					XX
Read Display Status	1	<u> </u>		XX									XX
	1		1	XX				D [23					XX
		T	1										+
	1	Î	1	XX		•		D [7	<u>':0]</u>				XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Read Display Power Mode	0	1	1	XX	0	0	0	0	1	0	1	0	0Ah
	1	Ţ 	1	XX	Х	Х	X	X 7.01	Х	Х	X	X	XX
	1		1				_	7:2]			0	0	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Read Display MADCTL	1	1	4	XX	0 X	0 X	0 X	0 X	1 X	0 X	1 X	1 X	0Bh XX
nead Display MADOTE	1	<u> </u>	1	XX	^	_ ^		•	_ ^	^	0	0	XX
Command Function		DDV											
Command Function	D/CX 0	RDX	WRX	D [23:8] XX	0	D6 0	0	0	1	1	0	D0 0	Hex 0Ch
Read Pixel Format	1	1 ^	1	XX	X	X	X	X	X	X	X	X	XX
Tiodd Fixer Format	1	^	1	XX	0		DPI [2:0]		0		DBI [2:0]		XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Command Function	0	1	↑ ↑	XX	0	0	0	0	1	1	0	1	0Dh
Read Display Image Mode	1	·	1	XX	X	X	X	X	X	X	X	X	XX
	1	1	1	XX		ı		D [7		ı			XX
Command Function	D/CX	RDX	WRX		D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	0	0	0	1	1	1	0	0Eh
Read Display signal Mode	1	1	1	XX	Х	Х	Х	Х	Х	Х	Х	Х	XX
	1	1	1	XX	D7	D6	D5	D4	D3	D2	D1	D0	XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	0	0	0	1	1	1	1	0Fh
Read Display Self-Diagnostic Result	1	1	1	XX	Χ	Х	Х	Х	Х	Х	Х	Χ	XX
า เฮอนเเ	1	1	1	XX	D7	D6	0	0	0	0	0	D0	XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Sleep IN	0	1	1	XX	0	0	0	1	0	0	0	0	10h
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Sleep OUT	0	1	1	XX	0	0	0	1	0	0	0	1	11h
				_									
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Command Function Partial Mode ON	D/CX 0	RDX 1	WRX	D [23:8] XX	D7 0	D6 0	D5 0	D4 1	D3 0	D2 0	D1 1	D0 0	Hex 12h

The information contained herein is the exclusive property of ILI Technology Corp. and shall not be distributed, reproduced, or disclosed in whole or in part without prior written permission of ILI Technology Corp.

Page 140 of 339

Version:





Commenced Franchica	D/OV	DDV	WDV	D.(00.01	D7	DC	Dr	D4	Do	DO	D4	Do	Have	
Command Function Normal Display Mode ON	D/CX 0	RDX 1	WRX	D [23:8] XX	D7 0	D6 0	D5 0	D4 1	D3 0	D2 0	D1 1	D0	Hex 13h	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
Display Inversion OFF	0	1	VVII ∧	XX	0	0	1	0	0	0	0	0	20h	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
Display Inversion ON	0	1	VV □ ∧	XX	0	0	1	0	0	0	0	1	21h	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
All Pixel OFF	0	1	VV □ ∧	XX	0	0	1	0	0	0	1	0.0	22h	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
All Pixel ON	0	1	↑ ↑	XX	0	0	1	0	0	0	1	1	23h	
Command Function	D/CX		WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
Display OFF	0	1	↑ ↑	XX	0	0	1	0	1	0	0	0	28h	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
Display ON	0	1	1	XX	0	0	1	0	1	0	0	1	29h	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
Command Fanotion	0	1	1	XX	0	0	1	0	1	0	1	0	2Ah	
	1	1	1	XX	-			SC [1	5:8]		1		XX	
Column Address Set	1	1	1	XX				SC [7:0]				XX	
	1	1	1	XX				EC [1	5:8]				XX	
	1	1	1	XX				EC [7:0]				XX	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
	0	1	1	XX	0	0	1	0	1	0	1	1	2Bh	
5	1	1	1	XX	SP [15:8] XX									
Page Address Set	1	1	1	XX				SP [XX	
	1	1	1	XX				EP [1 EP [XX	
Command Function			WDV		D7	DC	Dr			Do	D1	DO		
Command Function	D/CX 0	RDX 1	WRX	D [23:8] XX	D7 0	D6 0	D5 1	D4 0	D3	D2 1	D1 0	D0 0	Hex 2Ch	
	1	1	1		0	U		[23:0]	!	'	0	U	XX	
Memory Write	1	1	1		Dx [23:0] XX									
	1	1	1					n [23:0]					XX	
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex	
	0	1	1	XX	0	0	1	0	1	1	1	0	2Eh	
								Χ	Х	Х			101	
	1	1	1	XX	Χ	X	X				X	Χ	XX	
Memory Read	1	↑ ↑	1	XX	Х	Х	D1	[23:0]	Λ		X	Х	XX	
Memory Read	1 1 1	↑ ↑	1	XX	Х	X	D1 Dx	[23:0] ([23:0]			X	X	XX	
ŕ	1 1 1 1	↑ ↑ ↑	1 1 1				D1 Dx Dr	[23:0] ([23:0] n [23:0]					XX XX XX	
Memory Read Command Function	1 1 1 1 1 D/CX	↑ ↑ ↑ ↑ ↑ RDX	1	D [23:8]	D7	D6	D1 Dx Dr	[23:0] ([23:0] n [23:0] D4	D3	D2	D1	D0	XX XX XX Hex	
ŕ	1 1 1 1 1 D/CX	1	1 1 1	D [23:8] XX			D1 Dx Dr	[23:0] ([23:0] n [23:0] D4 1	D3 0				XX XX XX Hex 30h	
Command Function	1 1 1 1 1 D/CX 0	1	1 1 1	D [23:8] XX XX	D7	D6	D1 Dx Dr	[23:0] (23:0] 1 [23:0] D4 1 SR [1	D3 0 5:8]	D2	D1	D0	XX XX XX Hex 30h XX	
ŕ	1 1 1 1 1 D/CX	1 1 1	1 1 1	D [23:8] XX XX XX	D7	D6	D1 Dx Dr	[23:0] (23:0] 1 [23:0] D4 1 SR [1	D3 0 5:8] 7:0]	D2	D1	D0	XX XX XX Hex 30h XX XX	
Command Function	1 1 1 1 1 D/CX 0 1	1	1 1 1	D [23:8] XX XX	D7	D6	D1 Dx Dr	[23:0] (23:0] 1 [23:0] D4 1 SR [1 SR [D3 0 5:8] 7:0] 5:8]	D2	D1	D0	XX XX XX Hex 30h XX	
Command Function Partial Area	1 1 1 1 1 0 0 1 1 1	1 1 1 1	1 1 1 WRX ↑ ↑	D [23:8] XX XX XX XX XX	D7 0	D6 0	D1 D2 D7 D5	[23:0] (23:0] 1 [23:0] D4 1 SR [1 SR [1 ER [1	D3 0 5:8] 7:0] 5:8] 7:0]	D2 0	D1 0	D0 0	XX XX XX Hex 30h XX XX XX XX	
Command Function	1 1 1 1 1 0 1 1 1	1 1 1	1 1 1	D [23:8] XX XX XX XX XX D [23:8]	D7	D6	D1 Dx Dr	[23:0] (23:0] 1 [23:0] D4 1 SR [1 SR [D3 0 5:8] 7:0] 5:8]	D2	D1	D0	XX XX XX Hex 30h XX XX	
Command Function Partial Area	1 1 1 1 1 0 1 1 1 1 1 1	1 1 1 1 1 RDX	1 1 1 WRX ↑ ↑	D [23:8] XX XX XX XX XX	D7 0	D6 0	D5 D7 D5 1	[23:0] (23:0] (23:0] D4 1 SR [1 SR [1 ER [1	D3 0 5:8] 7:0] 5:8] 7:0] D3 0	D2 0	D1 0 D1	D0 0	XX XX XX Hex 30h XX XX XX Hex	
Command Function Partial Area Command Function	1 1 1 1 1 D/CX 0 1 1 1 1 1 D/CX	1 1 1 1 1 1 RDX	1 1 1 WRX ↑ ↑	D [23:8] XX	D7 0	D6 0	D5 D7 D5 1	[23:0] (23:0] (23:0] D4 1 SR [1 SR [ER [D4 1 TFA [D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0]	D2 0	D1 0 D1	D0 0	XX XX XX Hex 30h XX	
Command Function Partial Area	1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 RDX 1 1 1	1 1 1 WRX ↑ ↑	D [23:8]	D7 0	D6 0	D5 D7 D5 1	[23:0] (23:0] (23:0] D4 1 SR [1 SR [ER [] D4 1 TFA [TFA [D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0]	D2 0	D1 0 D1	D0 0	XX XX XX Hex 30h XX	
Command Function Partial Area Command Function	1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1	1 1 1 WRX ↑ ↑	D [23:8]	D7 0	D6 0	D5 D7 D5 1	[23:0] (23:0] (23:0] D4 1 SR [1 SR [ER [] D4 1 TFA [VSA [VSA	D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0]	D2 0	D1 0 D1	D0 0	XX XX XX Hex 30h XX	
Command Function Partial Area Command Function	1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 WRX ↑ ↑	D [23:8]	D7 0	D6 0	D5 D7 D5 1	[23:0] (23:0] [23:0] D4 1 SR [1 SR [ER [1 TFA [VSA [VSA BFA [D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8]	D2 0	D1 0 D1	D0 0	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition	1 1 1 1 1 1 0/CX 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 WRX ↑ ↑ ↑ ↑ ↑ ↑	D [23:8]	D7 0	D6 0	D5 D7 D5 1	[23:0] (23:0] [23:0] D4 1 SR [1 SR [ER [1 TFA [VSA [VSA [BFA [BFA [D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0]	D2 0	D1 0 D1 1	D0 0 0 D0 1	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function	1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 WRX ↑ ↑ ↑ ↑ ↑ ↑	D [23:8] XX XX XX XX XX D [23:8] XX XX XX D [23:8]	D7 0 D7 0	D6 0 D6 0	D5 D7 D7 D5 1	[23:0] (23:0] D4 1 SR [1 SR [ER [1 ER [TFA [VSA [VSA BFA [BFA]	D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] D3	D2 0 D2 0	D1 0 D1 1 D1 1	D0 0 0 1 1 D0 D0	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function Tearing Effect Line OFF	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 WRX 1 1 1 WRX 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D [23:8]	D7 0 D7 0	D6 0 D6 0	D5 D5 1	[23:0] (23:0] [23:0] D4 1 SR [1 SR [ER [] D4 1 TFA [VSA [VSA BFA [BFA]	D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] 0 0	D2 0 D2 0	D1 0 D1 1 D1 0	D0 0 1 1 D0 0	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 WRX ↑ ↑ ↑ ↑ ↑ ↑	D [23:8]	D7 0 D7 0 D7 0 D7	D6 0 D6 0	D5 D5 1	[23:0] (23:0] [23:0] D4 1 SR [1 SR [ER [1 TFA [VSA [VSA BFA [BFA] D4 1	D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] D3 0 D3	D2 0 D2 0	D1 0 D1 1 D1 0 D1 D1	D0 0 1 1 D0 0 D0 D0	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function Tearing Effect Line OFF	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 WRX 1 1 1 WRX 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D [23:8]	D7 0 D7 0 D7 0 D7 0	D6 0 D6 0	D5 1 D5 1 D5 1 D5 1	[23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0) (D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] D3 0 D3 0	D2 0 0 D2 0	D1 0 D1 1 D1 0 D1 0	D0 0 1 D0 0 D0 1	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function Tearing Effect Line OFF Command Function Tearing Effect Line ON	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D [23:8]	D7 0 D7 0 D7 0 D7 0	D6 0 0 D6 0 D6 0	D5 1 D5 1 D5 1 D5 1 D5 1	[23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0) (D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] 0 D3 0 D3 0	D2 0 0 D2 0 0	D1 0	D0 0 1 D0 D0 1 M M	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function Tearing Effect Line OFF Command Function Tearing Effect Line ON Command Function	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 WRX 1 1 1 WRX 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D [23:8] XX XX XX XX XX D [23:8] XX XX XX XX XX XX XX XX XX	D7 0 D7 0 D7 0 D7 0 D7	D6 0 D6 0 D6 0 D6	D5 1 D5 1 D5 1 D5 1 D5 1 D5 1 D5	[23:0] (D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] D3 0 D3 0 D3	D2 0 0 D2 0 0	D1 0	D0 0 1 D0 0 D0 1 M D0 D0 D0 D0 D0 D0 D0	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function Tearing Effect Line OFF Command Function Tearing Effect Line ON	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D [23:8]	D7 0 D7 0 D7 0 D7 0 D7 0	D6 0 D6 0 D6 0 D6 0 D6	D5 1 D5 1 D5 1 D5 1 D5 1 D5 1	[23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0] (23:0) (D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] 0 D3 0 D3 0 D3 0	D2 0 0 D2 0 1 D2 1 0 D2 1 0	D1 0	D0 0 1 D0 0 D0 1 M D0 0	XX	
Command Function Partial Area Command Function Vertical Scrolling Definition Command Function Tearing Effect Line OFF Command Function Tearing Effect Line ON Command Function	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D [23:8] XX XX XX XX XX D [23:8] XX XX XX XX XX XX XX XX XX	D7 0 D7 0 D7 0 D7 0 D7	D6 0 D6 0 D6 0 D6	D5 1 D5 1 D5 1 D5 1 D5 1 D5 1 D5	[23:0] (D3 0 5:8] 7:0] 5:8] 7:0] D3 0 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] 15:8] [7:0] D3 0 D3 0 D3	D2 0 0 D2 0 0	D1 0	D0 0 1 D0 0 D0 1 M D0 D0 D0 D0 D0 D0 D0	XX	

The information contained herein is the exclusive property of ILI Technology Corp. and shall not be distributed, reproduced, or disclosed in whole or in part without prior written permission of ILI Technology Corp.

Page 141 of 339

Version:





	I 0			VV			1 4	_					071-
Vertical Scrolling Start Address	0	1		XX	0	0	1	1 VSP [0 15:81	1	1	1	37h XX
Vertical corolling start ridaress	1	1	1	XX				VSP					XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Idle Mode OFF	0	1	1	XX	0	0	1	1	1	0	0	0	38h
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Idle Mode ON	0	1	1	XX	0	0	1	1	1	0	0	1	39h
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Interface Pixel Format	1	1		XX	0	0	1 DPI [6:4]	1	0	0	1 DBI [2:0]	0	3Ah XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D1 1[0.4]	D4	D3	D2	D1	D0	Hex
Oommand 1 driction	0	1	1	XX	0	0	1	1	1	1	0	0	3Ch
Memory Write Continue	1	1	1		•		D1	[23:0]	•				XX
Wichiory write continue	1	1	1					([23:0]					XX
	1	1	<u></u>		I			n [23:0]	I	T			XX
Command Function	D/CX 0	RDX	WRX	D [23:8] XX	D7 0	D6 0	D5 1	D4 1	D3 1	D2 1	D1 1	D0 0	Hex 3Eh
	1	1	1	XX	X	X	X	X	X	X	X	X	XX
Memory Read Continue	1	1	1		I	ı		[23:0]	I	1			XX
	1	1	1					([23:0]					XX
	1	1	1			ı	Dr	n [23:0]					XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Write Tear Scan line	0	1		XX	0	1	0	0 N [1:	0 5:81	1	0	0	44h XX
Wille real coal inte	1	1	1	XX				N [7					XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Read Tear Scan Line	0	1	1	XX	0	1	0	0	0	1	0	1	45h
	1	1	1	XX	Х	Χ	Х	Χ	Х	Х	X	Χ	XX
	1	1	1	XX	N [15:8] X N [7:0] X								
Command Function	D/CX	RDX	WRX		D7	De	DE	D4		Do	D1	D0	XX
	0	1	VV H.A.	D [23:8] XX	0	D6 1	D5 0	1	D3 0	D2 0	0	1	Hex 51h
Write Display Brightness value	1	1	1	XX				DBV	[7:0]				XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	1	0	1	0	0	1	0	52h
Read Display Brightness Value	1	<u> </u>	1	XX	Х	Х	Х	X	X [7.0]	Х	Х	X	XX
0 15 "	1	DDV	1	XX	D7	Do	DE	DBV		Do		Do	XX
Command Function	D/CX 0	RDX 1	WRX	D [23:8] XX	D7 0	D6 1	D5 0	D4 1	D3 0	D2 0	D1 1	D0	Hex 53h
Write CTRL Display value	1	1	†	XX	0	0	BCTRL	0	DD	BL	0	0	XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	0	1	0	1	0	1	0	0	54h
Read CTRL Display value	1	↑	1	XX	Х	Х	X	Х	X	X	Х	Х	XX
	1	_ ^	1	XX	0	0	BCTRL	0	DD	BL	0	0	XX
Command Function Write Content Adaptive	D/CX	RDX	WRX	D [23:8] XX	D7 0	D6	D5 0	D4 1	D3 0	D2	D1 0	D0	Hex
Write Content Adaptive Brightness Control value	1	1	<u> </u>	XX	0	0	0	0	0	0	C [1		55h XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	†	XX	0	1	0	1	0	1	1	0	56h
Read Content Adaptive Brightness Control value	1	1	1	XX	X	Х	X	Χ	X	Х	X	X	XX
Drighthoss Sontrol value	1	1	1	XX	0	0	0	0	0	0	C [1	:0]	XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
Write CABC Minimum	0	1	<u></u>	XX	0	1	0	1 CMB	1	1	1	0	5Eh
Brightness Common de Function	1	1	MEN	XX	57	Do	D.F.	CMB		D0	D.	D.C.	XX
Command Function	D/CX	RDX 1	WRX	D [23:8] XX	D7 0	D6 1	D5 0	D4 1	D3 1	D2 1	D1 1	D0	Hex 5Fh
	I 0			$\Lambda\Lambda$	U		U				1 1	1 '	+
Read CABC Minimum	0	<u> </u>	1										
Read CABC Minimum Brightness		↑ ↑	1	XX		Х	Х	X CMB		X	Х	Х	XX
	1	↑ ↑ RDX		XX		X D6	X D5			X D2	X D1	X D0	

The information contained herein is the exclusive property of ILI Technology Corp. and shall not be distributed, reproduced, or disclosed in whole or in part without prior written permission of ILI Technology Corp.

Page 142 of 339

Version: 0





control self-diagnostic result	1	1	1	XX	Х	Х	Х	Х	Х	Х	Х	Х	XX
	1	1	1	XX	D [7:6]	0	0	0	0	0	0	XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	1	1	0	1	1	0	1	0	DAh
Read ID1	1	1	1	XX	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	XX
	1	1	1	XX				ID1 [7:0]				XX
Command Function	D/CX	RDX	WRX	D [23:8]	D7	D6	D5	D4	D3	D2	D1	D0	Hex
	0	1	1	XX	1	1	0	1	1	0	1	1	DBh
Read ID2	1	1	1	XX	Χ	Χ	Х	X	X	Χ	X	Х	XX
	1	1	1	XX	ID2 [7:0]								XX
Command Function	D/CX	RDX	WRX	D [23:8]	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0	Hex
	0	1	1	XX	1	1	0	1	1	1	0	0	DCh
Read ID3	1	1	1	XX	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X	XX
	1	1	1	XX				ID3 [7:0]		•	·	XX