VSX-2812S

PC/104+ VGA/LCD Module

User's Manual

(Revision 1.0A)

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Introduction

1.1   Packing List

Product Name	Package
VSX-2812S	🔴 VSX-2812S PC/104+ VGA/ LCD Module 🔴 Screw Kit x 1

1.2　Specifications

Features	VSX-2812S
Chipset	Volari Z9s Chipset 32-bit PCI bus Support 12-bit, 18-bit, and dual 12-bit Digital Interface Support VGA, TFT Flat Panel Display
BIOS	VGA BIOS
Video Memory	Onboard 32MB DDRII Resolution up to 1600x1200@16M colors
Bus Interface	PC/104+ standard compliant
Connectors	● 2.54mm 4-pin header for +12V, -12V, -5V DC-in x1 ● 2.0mm 44-pin box header for LCD x1 ● External 15-pin D-Sub female connector for VGA x1
Power Requirement	Single Voltage +5V@200mA
Dimension	90 X 96mm (3.54 x 3.77 inches)
Weight	77g
Operating Temperature	-20°C ~ +70°C -40°C ~ +85°C (Optional)

1.3   Board Dimension
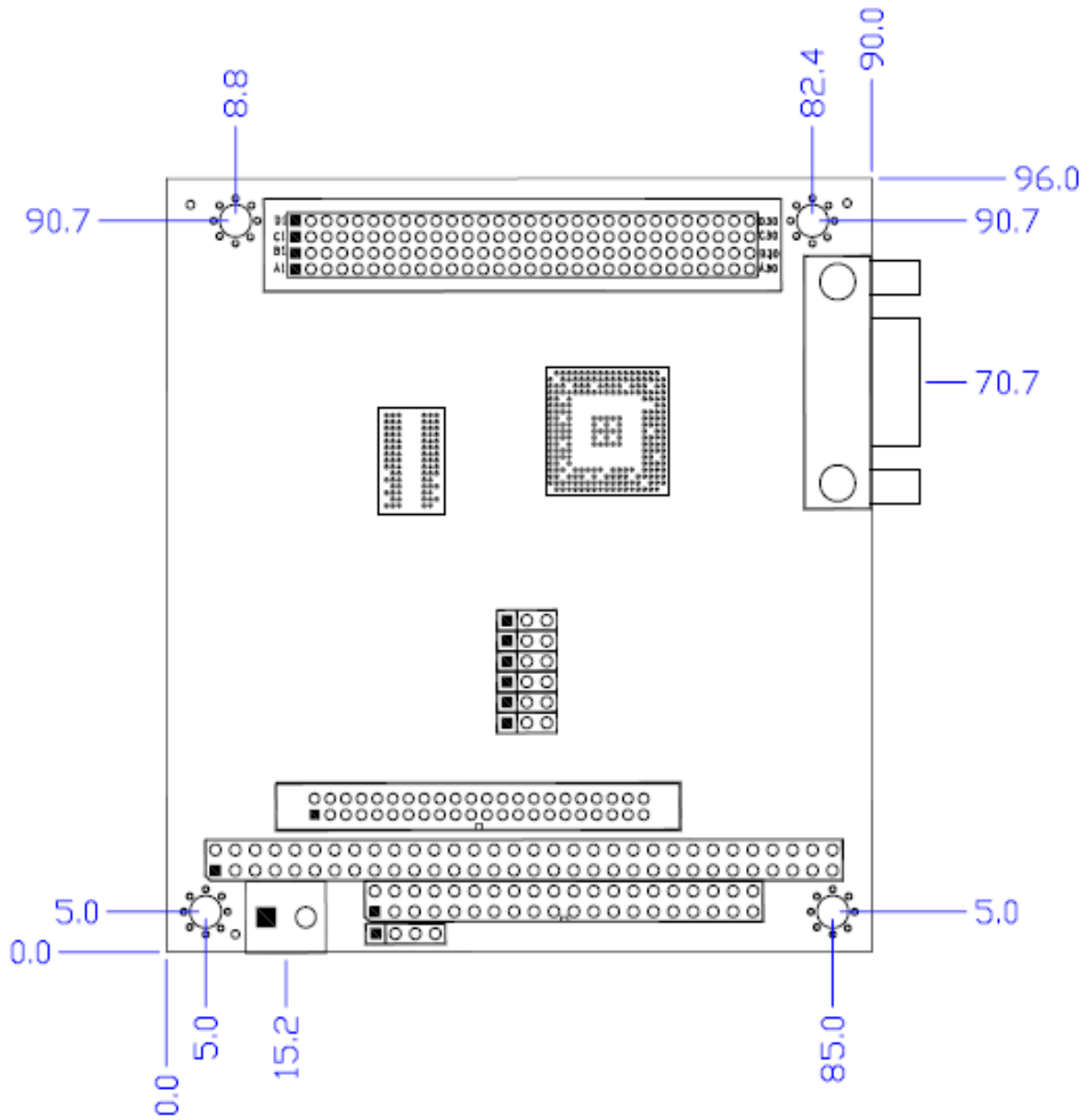
Chapter 2

Installation

2.1 Connectors & Jumpers Location

Connectors
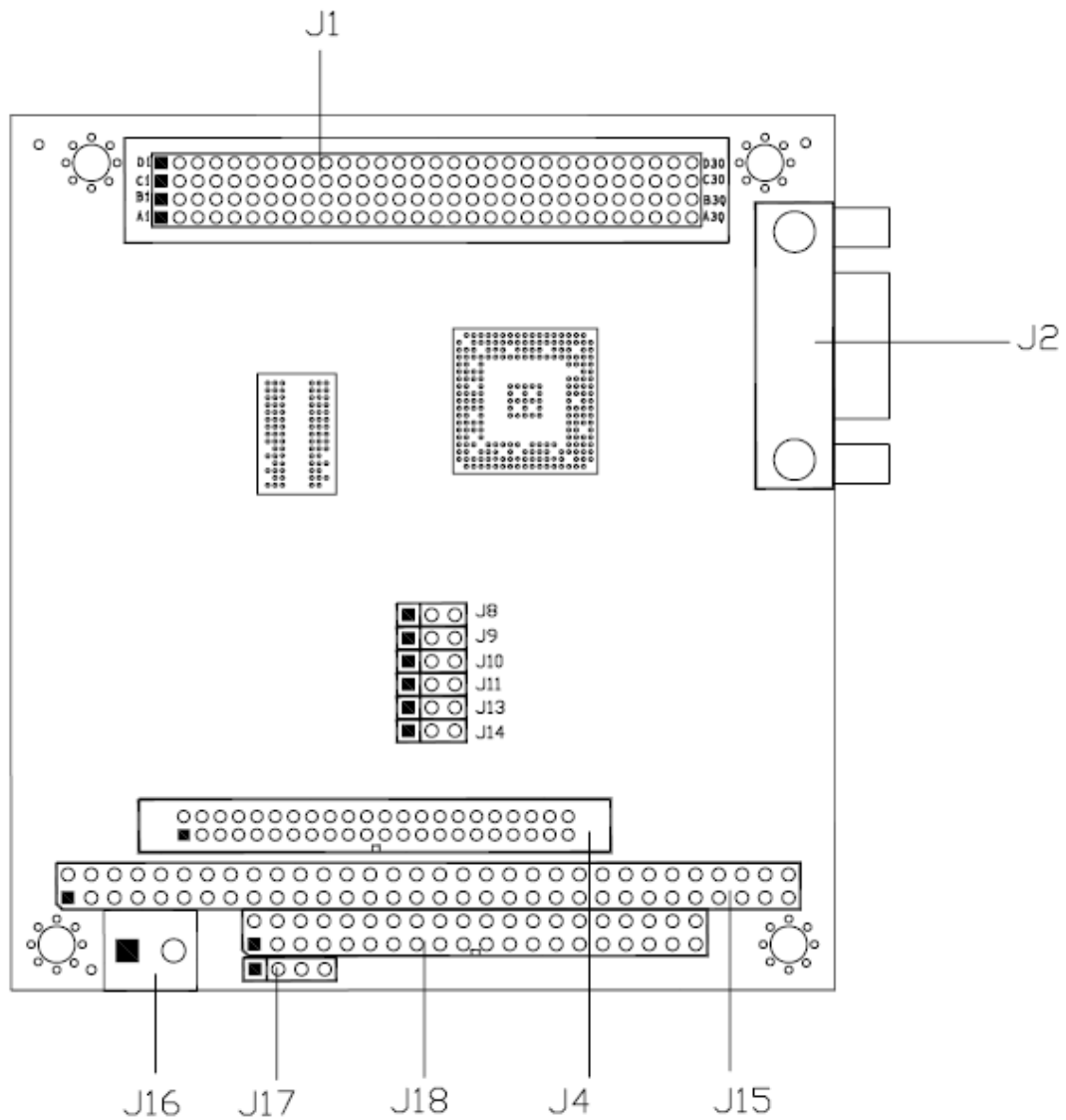
2.2   Connectors & Jumpers Summary

Summary Table			
Nbr	**Description**	**Type of Connections**	**Pin nbrs.**
J1	PC/104 +	Box Header, 2.0∅ , 30x4	120-pin
J2	VGA	D-Sub Female	15-pin
J4	LCD	Box Header,2.0∅ ,22x2	44-pin
J8	Display type Setup	Pin Header, 2.54∅ , 3x1	3-pin
J14			
J15	PC104 Connector – 64 pin	Box Header, 2.54∅ 32x2	64-pin
J16	Power Connector	Terminal Block 5.0∅,2x1	2-pin
J17	4P Power Source (Interconnect to PC/104 – **J15**)	Pin Header, 2.54∅ , 4x1	4-pin
J18	PC104 Connector – 40 pin	Box Header, 2.54∅ 20x2	40-pin

2.3 Pin Assignments & Jumper Settings

J1: PC/104+

Pin #	A	B	C	D
1	GND	NC	VCC	AD0
2	VCC	AD2	AD1	VCC
3	AD5	GND	AD4	AD3
4	CBE-0	AD7	GND	AD6
5	GND	AD9	AD8	GND
6	AD11	VCC	AD10	GND
7	AD14	AD13	GND	AD12
8	VCC3	CBE-1	AD15	VCC3
9	SERR-	GND	NC	PAR
10	GND	PERR-	VCC3	NC
11	STOP-	VCC3	PLOCK-	GND
12	VCC3	TRDY-	GND	DEVSEL-
13	FRAME-	GND	IRDY-	VCC3
14	GND	AD16	VCC3	CBE-2
15	AD18	VCC3	AD17	GND
16	AD21	AD20	GND	AD19
17	VCC3	AD23	AD22	VCC3
18	AD20	GND	AD14	AD15
19	AD24	CBE-3	VCC	AD23
20	GND	AD26	AD25	GND
21	AD29	VCC	AD28	AD27
22	VCC	AD30	GND	AD31
23	PREQ-0	GND	PREQ-1	VCC
24	GND	PREQ-2	VCC	PGNT-0
25	PGNT-1	VCC	PGNT-2	GND
26	VCC	PCICLK3	GND	PCICLK4
27	PCICLK3	VCC	PCICLK4	GND
28	GND	INT-D	VCC	PCIRST-
29	+12V	INT-A	INT-B	INT-C
30	-12V	NC	NC	GND

J2: VGA

Pin #	Signal Name	Pin #	Signal Name
1	R OUT	2	G OUT
3	B OUT	4	NC
5	GND	6	GND
7	GND	8	GND
9	VCC	10	GND
11	NC	12	DDCDAT
13	HSYNC	14	VSYNC
15	DDCCLK		

J4: LCD (DVO) Connector

Pin #	Signal Name	Pin #	Signal Name
1	VCC3	2	VCC3
3	LG2	4	LG3
5	LG4	6	LG5
7	NC	8	NC
9	LR0	10	LR1
11	LR2	12	LR3
13	LR4	14	LR5
15	GND	16	NC
17	NC	18	NC
19	NC	20	GND
21	NC	22	NC
23	LB0	24	LB1
25	LB2	26	LB3
27	LB4	28	LB5
29	NC	30	NC
31	LG0	32	LG1
33	GND	34	GND
35	NC	36	LCLK
37	NC	38	LDE
39	NC	40	LHSYNC
41	NC	42	LVSYNC
43	LBACKL	44	LVDDEN

(Please refer to Appendix A, for TFT Flat Panel Data

J8~J14: Display type setup (CRT /LCD)

Connector	Pin #	Signal Name
J8	1	VCC
	2	GPIOA
	3	GND
J9	1	VCC
	2	GPIOB
	3	GND
J10	1	VCC
	2	GPIOC
	3	GND
J11	1	VCC
	2	GPIOD
	3	GND
J13	1	VCC
	2	GPIOE
	3	GND
J14	1	VCC
	2	GPIOF
	3	GND

(Please refer to Appendix C, for Display type setup)

J15: PC104 Connector – 64pin

Pin #	Signal Name	Pin #	Signal Name
1	IOCHCHK *	2	GND
3	SD7	4	RESETDRV
5	SD6	6	VCC
7	SD5	8	IRQ9
9	SD4	10	-5V
11	SD3	12	DRQ2
13	SD2	14	-12V
15	SD1	16	OWS
17	SD0	18	+12V
19	IOCHRDY	20	GND
21	AEN	22	SMEMW *
23	SA19	24	SMEMR *
25	SA18	26	IOW *
27	SA17	28	IOR *
29	SA16	30	DACK3 *
31	SA15	32	DRQ3
33	SA14	34	DACK1 *
35	SA13	36	DRQ1
37	SA12	38	REFRESH *
39	SA11	40	SYSCLK
41	SA10	42	IRQ7
43	SA9	44	IRQ6
45	SA8	46	IRQ5
47	SA7	48	IRQ4
49	SA6	50	IRQ3
51	SA5	52	DACK2 *
53	SA4	54	TC
55	SA3	56	BALE
57	SA2	58	VCC
59	SA1	60	OSC
61	SA0	62	GND
63	GND	64	GND

J16: Power Connector (Terminal Block 5.0mm)

Pin #	Signal Name
1	+5V
2	GND

J17: 4P Power Source (Interconnect to PC/104 – J15)

Pin #	Signal Name
1	+12V
2	-12V
3	-5V
4	GND

J18: PC104 Connector – 40pin

Pin #	Signal Name	Pin #	Signal Name
1	GND	2	GND
3	MEMCS16 *	4	SBHE *
5	IOCS16 *	6	SA23
7	IRQ10	8	SA22
9	IRQ11	10	SA21
11	IRQ12	12	SA20
13	IRQ15	14	SA19
15	IRQ14	16	SA18
17	DACK0 *	18	SA17
19	DRQ0	20	MEMR *
21	DACK5 *	22	MEMW *
23	DRQ5	24	SD8
25	DACK6 *	26	SD9
27	DRQ6	28	SD10
29	DACK7 *	30	SD11
31	DRQ7	32	SD12
33	VCC	34	SD13
35	MASTER *	36	SD14
37	GND	38	SD15
39	GND	40	NC

Chapter 3

Driver Installation

VGA

VSX-2812S use Display chip ""Volari™ Z9s" which is an ultra low powered graphics chipset with total power consumption at around 1-1.5 W. It is capable in providing VGA display output upto 1600x1200. With DVO interface, developers could easily connect flat Panel to support TFT and LVDS output.

For more information about ""Volari™ Z9s" Driver, this can be downloaded from:

http://www.xgitech.com/sd/sd_download.asp

Appendix

A.   TFT Flat Panel Data Output

Vortex86SX	Pin Name	TFT LCD 18 Bit
1	VCC3	VDD
2	VCC3	VDD
3	LG2	G2
4	LG3	G3
5	LG4	G4
6	LG5	G5
7	NC	/
8	NC	/
9	LR0	R0
10	LR1	R1
11	LR2	R2
12	LR3	R3
13	LR4	R4
14	LR5	R5
15	GND	VSS
16	NC	/
17	NC	/
18	NC	/
19	NC	/
20	GND	VSS
21	NC	/
22	NC	/
23	LB0	B0
24	LB1	B1
25	LB2	B2
26	LB3	B3
27	LB4	B4
28	LB5	B5
29	NC	/
30	NC	/
31	LG0	G0
32	LG1	G1
33	GND	VSS
34	GND	VSS
35	NC	/
36	LCLK	XCLK
37	NC	/
38	LDE	DEN
39	NC	/
40	LHSYNC	HSYNC
41	NC	/
42	LVSYNC	VSYNC
43	LBACKL	/
44	LVDDEN	VDDEN

B. TFT Flat Panel Support List

Size	Brand	Resolution	Model No.
5.7″	Data image	640x480	FG050710DSSWJG01
5.7″	Data image	640x480	FG050720DSSWDG01
5.7″	Ampire	640x480	AM-640480GTMQW-T00H
5.7″	Sharp	640x480	LQ057V3DG01
6.4″	LG-PHILIPS	640x480	LB064V02
6.4″	PVI	640x480	PD064VT4
6.4″	PVI	640x480	PD064VT5
7″	Data image	800x480	FG0700A0DSSWBG01
8″	Sharp	640x480	LQ080V3DG01
10.4″	Sharp	640x480	LQ10d368
10.4″	Sharp	640x480	LQ104V1DG61

C. Flat Panel Hardware Setting:

The VSX-2812S offers the Hardware setting for the various TFT LCD Flat Panels support and please make sure the jumper setting (J8~J14) before you connect the LCD.

Display type setup

Connector	LCD	
	1-2	2-3
J8		C
J9		C
J10	O	O
J11	O	O
J13	C	
J14		C

Note: "C" means close; "O" means open

D. Flat Panel Wiring and Lighting

■ **Hardware**

Before you connect the TFT LCD Flat Panel with VSX-2812S, please make sure that the input Voltage of LCD is 3.3V or Not

■ **BIOS**

Please contact or e-mail our regional sales to get the special BIOS for the any TFT LCD Flat Panels.

■ **Wiring LCD Cable**

Please refer to Page 7 (J4: LCD connector) and Page 13~15. Or for more LCD lighting and integration service, please contact our regional sales or mail to info@icop.com.tw ,if you have any questions.

Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, originality to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.