



VDX3-6790A

Vortex86DX3 1000Mhz Evaluation Board

Quick Start-up Manual

(Version 1.1)

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Chapter 1

Introduction

VDX3-6790A is the official evaluation board for VortexDX3 CPU. It offers an easy way to evaluate the Vortex86DX3 and applies most of its build-in I/O functions.

For more details, please download the VDX3-6790A schematics, layout documents and drives from <ftp.dmp.com.tw>, username: vxdx3, password: gc301.

1.1 Packing List

Product Name	Package
VDX3-6790A	<ul style="list-style-type: none">● Vortex86DX3 CPU All-in-One Board● RS232 Cable x 4● GPIO Cable x 5

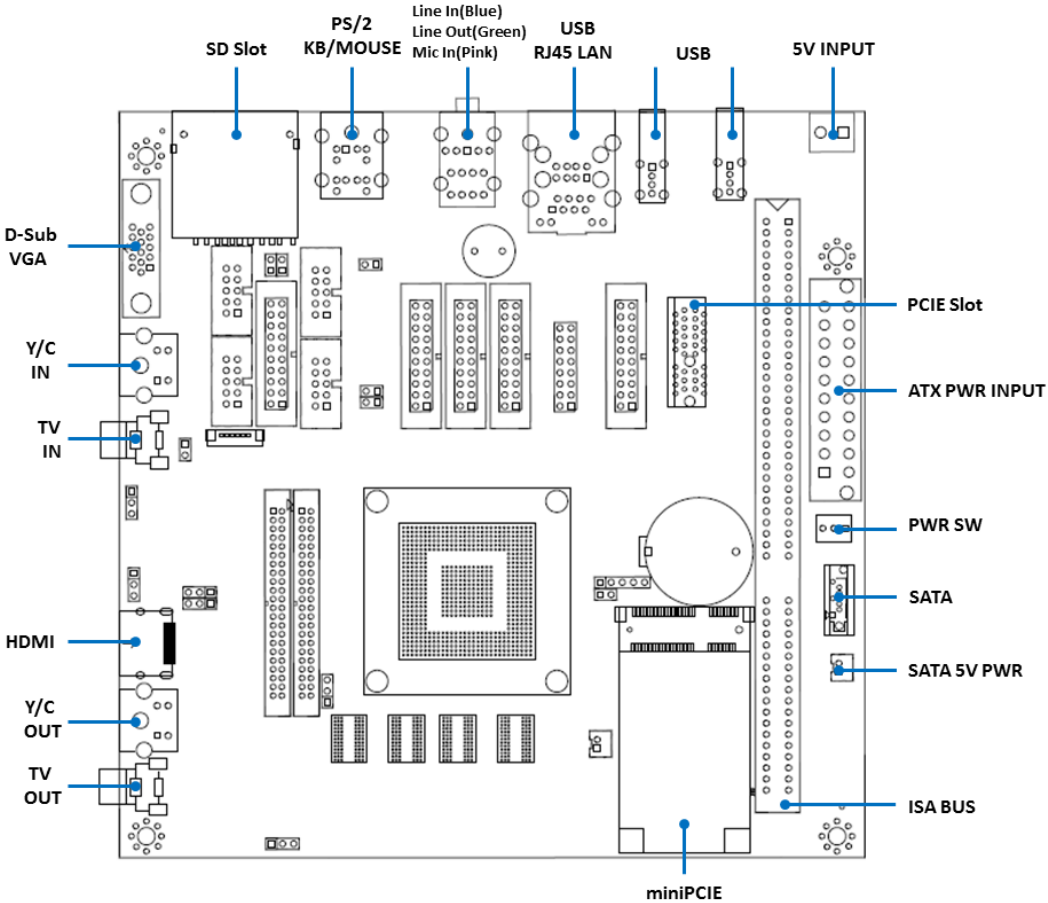
1.2 Product Specifications

Features	VDX3-6790A
CPU	DM&P Vortex86DX3 1000MHz
BIOS	AMI BIOS – Core 8
System Memory	1G DDR3 Onboard at 800MHz
Cache	L1:32K I-Cache, 32K D-Cache L2:512KB
VGA	Integrated 2D VGA chip VGA and TFT/LVDS Flat Panel Interface support Dual Display support Share system memory from16MB to 512MB
Bus Interface	PCIE Bus x 1 MiniPCIE Bus x 1 ISA Bus x 1
LAN	Build-in R6040, 10/100Mbps Ethernet Controller
Audio chip	ALC 262 (HD Audio)
I/O Interface	<ul style="list-style-type: none"> ● SATA 1.5G (1 Port) at Secondary Channel ● RS232 port x4 ● USB port x4 (USB 2.0 version) ● GPIO ports x10 ● PWM channels ● I2C bus x2 ● SPI bus x2 ● Redundancy bus ● 10/100Mbps Ethernet port x1 ● Audio, Line-out & Mic-in ● TV-IN x1 Y/C IN x1&TV-OUT x1 Y/C OUT x1 ● HDMI x1
Dimension	170mm X 170mm (6.69" x 6.69")
Power Consumption	5V @ 1220 mA
Operating Temperature	-20°C ~ +70°C

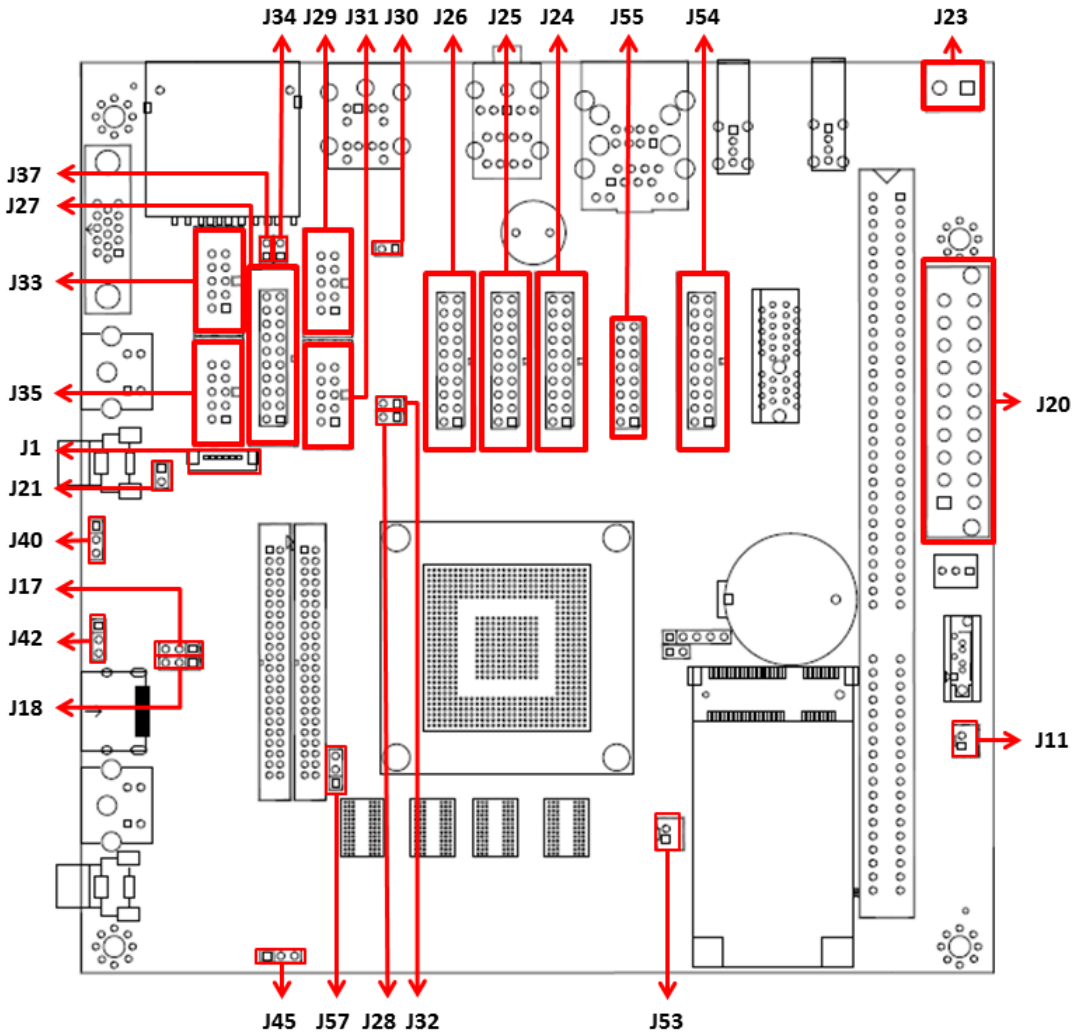
Chapter 2

Hardware Installation

2.1 Board Outline



2.2 Connectors & Jumpers Summary

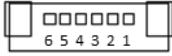


2.3 Summary Table

Nbr	Description	Note
J1	JTAG INTERFACE	Debug &Flash BIOS
J11	5V OUTPUT	SATA DOM 5V supply
J17	DSP1	DSP1 Disable/Enable selection
J18	DSP2	DSP2 Disable/Enable selection
J20	ATX PWR INPUT	Power input 5V for system
J21	RESET	System reset
J23	5V PWR INPUT	Power input 5V for system
J24	P0/P1	MUX P0/P1
J25	P2/P3	MUX P2/P3
J26	P4/P5	MUX P4/P5
J27	P6/P7	MUX P6/P7
J28	SPI FLASH HOLD	SPI Flash write protected
J29	COM1	MUX P4 selects to COM port
J30	COM1 ON/OFF	COM1 Disable /Enable selection
J31	COM2	MUX P5 selects to COM port
J32	COM2 ON/OFF	COM2 Disable /Enable selection
J33	COM3	MUX P6 selects to COM port
J34	COM3 ON/OFF	COM3 Disable /Enable selection
J35	COM4	MUX P7 selects to COM port
J37	COM4 ON/OFF	COM4 Disable /Enable selection
J40	TV-IN ON/OFF	TV-IN Disable/Enable selection
J42	HDMI ON/OFF	HDMI Disable/Enable selection
J45	TV-OUT ON/OFF	TV-OUT Disable/Enable selection
J53	5V OUTPUT	CPU Fan 5V supply
J54	P8/P9	MUX P8/P9
J55	A/D 8CH	Analog to Digital Converter
J57	LEVEL SHIFT	1.8V / 3.3V LCD Level Shift Selection

2.4 Pin Assignments & Jumpers Setting

J1: JTAG



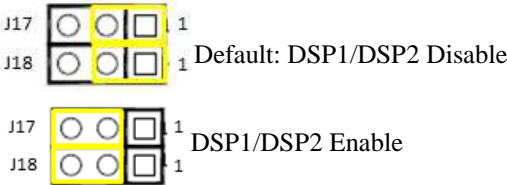
Pin#	Signal name	Pin#	Signal name
1	VCC	2	GND
3	TCK	4	TD0
5	TD1	6	TMS

J11: 5V OUTPUT J53: 5V OUTPUT

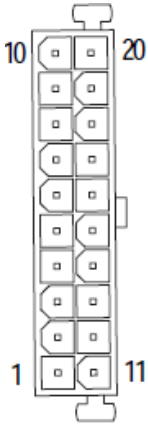


Pin#	Signal name	Pin#	Signal name
1	+5V OUTPUT	2	GND

J17: DSP1 J18 : DSP2 DSP ON/OFF



J20: ATX PWR INPUT



Pin#	Signal name	Pin#	Signal name
1	3.3V	2	3.3V
3	GND	4	VCC
5	GND	6	VCC
7	GND	8	NC
9	SB5V	10	+12V
11	3.3V	12	-12V
13	GND	14	PS ON-
15	GND	16	GND
17	GND	18	NC
19	VCC	20	VCC

J21: RESET

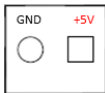


OPEN: Normal



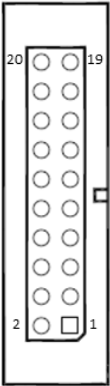
SHORT: System Reset

J23: 5V PWR INPUT



Pin#	Signal name	Pin#	Signal name
1	+5V INPUT	2	GND

J24: P0/P1 J25: P2/P3 J26: P4/P5 J27: P6/P6 J54: P8/P9



Pin#	Signal name	Pin#	Signal name
1	GND	2	VCC
3	GPIO	4	GPIO
5	GPIO	6	GPIO
7	GPIO	8	GPIO
9	GPIO	10	GPIO
11	GPIO	12	GPIO
13	GPIO	14	GPIO
15	GPIO	16	GPIO
17	GPIO	18	GPIO
19	VCC	20	GND

J28: SPI FLASH HOLD

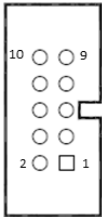


J28 OPEN: Normal
(Default)



SHORT: Write Protected

J29: COM1 J31: COM2



Pin#	Signal name	Pin#	Signal name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	TXDEN

J30: COM1 ON/OFF J32: COM2 ON/OFF



J30 OPEN: Enable COM
(Default)

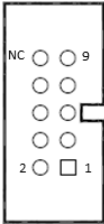


SHORT: Disable COM



J32

J33: COM3 J35: COM4



Pin#	Signal name	Pin#	Signal name
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

J34: COM1 ON/OFF J37: COM2 ON/OFF

J37 J34



OPEN: Enable COM
(Default)



SHORT: Disable COM

J40: TV-IN ON/OFF

J40



Disable TV-IN
(Default)



Enable TV-IN

J42: HDMI ON/OFF

J42



Disable HDMI
(Default)



Enable HDMI

J45: TV-OUT ON/OFF

1

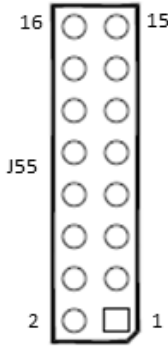


Disable TV-OUT
(Default)



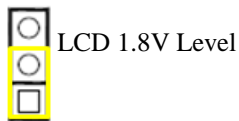
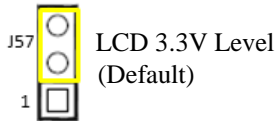
Enable TV-OUT

J55: A/D 8CH



Pin#	Signal name	Pin#	Signal name
1	ADC_0	2	GND
3	ADC_1	4	GND
5	ADC_2	6	GND
7	ADC_3	8	GND
9	ADC_4	10	GND
11	ADC_5	12	GND
13	ADC_6	14	GND
15	ADC_7	16	GND

J57: LEVEL SHIFT



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.