

**3.5" SBC, AMD® Geode™ LX800 Processor with  
VGA/LVDS/TTL, Dual LAN, USB 2.0, Audio and On-Board  
Memory**

# **WAFER-LX3**

## **Quick Installation Guide**

**Version 1.0**

Apr. 28, 2008

### **Package Contents**

WAFER-LX3 package includes the following items:

- 1 x WAFER-LX3 single board computer
- 1 x Mini Jumper Pack
- 1 x IDE flat cable 44p/44p
- 1 x RS-232/422/485 cable
- 1 x KB/MS Y cable
- 1 x USB cable
- 1 x Audio cable
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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## Specifications

- CPU: AMD<sup>®</sup> Geode<sup>™</sup> LX800 (500MHz) Processor
- System Chipset: AMD<sup>®</sup> Geode<sup>™</sup> LX800 + CS5536
- BIOS: AWARD BIOS
- System Memory: DDR 256MB on-board, optional 128MB
- Ethernet: Dual 10/100 Mbps Intel<sup>®</sup> 82551ER controller
- I/O

### I/O Interface

- 2 x RS-232
- 1 x RS-422/485
- 4 x USB 2.0
- 1 x IDE
- 1 x LPT
- Expansion: PC/104 (ISA Bus)
- Digital I/O: 8-bit digital I/O, 4-bit input/ 4-bit output
- Super I/O: Winbond W83627EHG
- Display Interface:
  - VGA Integrated in AMD<sup>®</sup> Geode<sup>™</sup> LX800
  - 24-bit TTL
  - 18-bit single channel LVDS
- Audio: AC'97 codec with Realtek ALC203
- SSD: CF type I/II
- WTD: Software programmable 1-255 sec. System reset
- Power Supply: AT/ATX Power
- Power Consumption:
  - 5V@1.06A

(AMD<sup>®</sup> Geode<sup>™</sup> LX800 (500MHz) CPU with 256MB on-board memory)

- Temperature
  - 0°C ~ +60°C (WAFER-LX3-800-R10 Series)
  - 20°C ~ +80°C (WAFER-LX3-800W-R10 Series)
- Humidity: 5% ~ 95%, non-condensing
- Dimension: 146mm x 102mm

- Weight: GW: 600g / NW:160g

## Ordering Information

### **WAFER-LX3-800-R10**

3.5" SBC with AMD® Geode™ LX800 (500MHz) Processor, VGA/ LVDS/ TTL, Dual LAN, USB2.0, Audio, on-board 256MB memory and operating temperature (0° ~ +60°C)

### **WAFER-LX3-800W-R10**

3.5" SBC with AMD® Geode™ LX800 (500MHz) Processor, VGA/ LVDS/ TTL, Dual LAN, USB2.0, Audio, on-board 256MB memory and wide operating temperature (-20° ~ +80°C)

### **WAFER-LX3-CE60**

Windows CE6.0 Image & BSP S/W CD, Licensed Sticker (w/o CPU board)

### **WAFER-LX3-CE50**

Windows CE5.0 Image & BSP S/W CD, Licensed Sticker (w/o CPU board)

### **WAFER-LX3-XPE**

Windows XP Embedded Image & SLD S/W CD, Licensed Sticker (w/o CPU board)

**32200-015100-RS**: LPT Cable

## Jumpers setting and Connectors

<b>JP1: LCD panel shift clock Setting</b>	
JP1	Description
1-2	Normal output
2-3	Invert output

<b>JP2: LCD Panel Voltage Select</b>	
JP2	Description
1-2	Panel Voltage 3.3V
2-3	Panel Voltage 5V

<b>JP3: AT/ATX Power Mode Select</b>	
JP3	Description
1-2	AT Mode
2-3	ATX Mode

<b>JP4: Compact Flash mode select</b>	
JP4	Description
1-2	MASTER
2-3	SLAVE

<b>JP6: RS422/485 Mode selcet</b>	
JP6	Description
1-2	RS-422
2-3	RS-485

**JP5: COM1 & COM2 Serial Port RI and Voltage selection**

JP5	Description	JP5	Description
1-3	COM1 RI PIN USE +12V	2-4	COM2 RI PIN USE +12V
3-5	COM1 RI PIN USE +5V	4-6	COM2 RI PIN USE +5V
7-9	COM1 RI PIN USE RI	8-10	COM2 RI PIN USE RI

**CN3: Inverter Connector**

PIN	Description
1	BL_ADJ
2	GND
3	+12V
4	GND
5	VDD_EN

**CN4: FAN Connector**

PIN	Description
1	FAN_SPEED
2	+12V
3	GND

**CN5: LED Connector**

PIN	Description
1	+5V
2	GND
3	POWER_LED+
4	POWER_LED-
5	HDD_LED+
6	HDD_LED-

**CN7: Battery connector**

PIN	Description
1	BATTERY+
2	GND

**CN1: Main power input Connector**

PIN	Description
1	+12V
2	GND
3	GND
4	+5V

**CN8: AUDIO Connector**

PIN	Description	PIN	Description
1	LINE_OUT_R	2	LINE_IN_R
3	GND	4	GND
5	LINE_OUT_L	6	LINE_IN_L
7	GND	8	GND
9	MIC1	10	MIC2

<b>CN10: ISA PC104 Plus Connector</b>							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
A1	IOCHCK#	B1	GND	C1	GND	D1	GND
A2	SD7	B2	RESET	C2	SBHE#	D2	MEMCS16#
A3	SD6	B3	VCC5	C3	LA23	D3	IOCS16#
A4	SD5	B4	IRQ9	C4	LA22	D4	IRQ10
A5	SD4	B5	-5V	C5	LA21	D5	IRQ11
A6	SD3	B6	DRQ2	C6	LA20	D6	IRQ12
A7	SD2	B7	-12V	C7	SA19	D7	IRQ15
A8	SD1	B8	OWS#	C8	SA18	D8	IRQ14
A9	SD0	B9	+12V	C9	SA17	D9	DACK0#
A10	IOCHRDY	B10	GND	C10	MEMR#	D10	DRQ0#
A11	AEN	B11	SMEMW#	C11	MEMW#	D11	DACK5#
A12	SA19	B12	SMEMR#	C12	SD8	D12	DRQ5#
A13	SA18	B13	IOW#	C13	SD9	D13	DACK6#
A14	SA17	B14	IOR#	C14	SD10	D14	DRQ6#
A15	SA16	B15	DACK3#	C15	SD11	D15	DACK7#
A16	SA15	B16	DRQ3	C16	SD12	D16	DRQ7#
A17	SA14	B17	DACK1#	C17	SD13	D17	VCC5
A18	SA13	B18	DRQ1	C18	SD14	D18	MASTER#
A19	SA12	B19	REFRESH#	C19	SD15	D19	GND
A20	SA11	B20	SYSCLK	C20	NC	D20	GND
A21	SA10	B21	IRQ7				
A22	SA9	B22	IRQ6				
A23	SA8	B23	IRQ5				
A24	SA7	B24	IRQ4				
A25	SA6	B25	IRQ3				
A26	SA5	B26	DACK2#				
A27	SA4	B27	TC				
A28	SA3	B28	ALE				
A29	SA2	B29	VCC5				
A30	SA1	B30	OSC				
A31	SA0	B31	GND				
A32	GND	B32	GND				

  

<b>CN2: ATX 5VSB &amp; PSON</b>	
PIN	Description
1	VCC5SB
2	NC
3	PS_ON#

<b>CN11: -5V &amp; -12V Power Input</b>	
PIN	Description
1	-5V
2	GND
3	-12V

<b>CN12: RESET Button connector</b>	
PIN	Description
1	RESET#
2	GND

<b>CN13: ATX Power button connector</b>	
PIN	Description
1	PWRBTN#
2	GND

<b>CN14: GPIO Connector</b>			
PIN	Description	PIN	Description
1	GND	2	VCC5
3	OUT0	4	OUT1
5	OUT2	6	OUT3
7	IN0	8	IN1
9	IN2	10	IN3

<b>CN15: PRINT Connector</b>			
PIN	Description	PIN	Description
1	STB#	2	AFD#
3	PD0	4	ERR#
5	PD1	6	INIT#
7	PD2	8	SLIN#
9	PD3	10	GND
11	PD4	12	GND
13	PD5	14	GND
15	PD6	16	GND
17	PD7	18	GND
19	ACK#	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SCLT	26	NC

<b>CN35: LPC GPIO KIT (Optional)</b>	
PIN	Description
1	CLK
2	PCI_RESET
3	LFRAME#
4	LPC_LAD0
5	LPC_LAD1
6	LPC_LAD2
7	LPC_LAD3
8	GND
9	GND
10	SERIRQ
11	CLKRUN#
12	LPCPD#
13	GND
14	VCC5
15	VCC3SB
16	VCC3

<b>CN16: RS-232/RS-422/RS-485 Connector</b>			
PIN	Description	PIN	Description
1	DCD2	2	DSR2
3	RXD2	4	RTS2
5	TXD2	6	CTS2
7	DTR2	8	RI2
9	GND	10	GND
11	TXD485+	12	TXD485#
13	RXD485+	14	RXD485#

<b>CN17: 6-pin Header Keyboard/Mouse Connector</b>	
PIN	Description
1	VCC5
2	MOUSE DATA
3	MOUSE CLOCK
4	KEYBOARD DATA
5	KEYBOARD CLOCK
6	GND

<b>CN24: USB Connector</b>			
PIN	Description	PIN	Description
1	VCC5	2	GND
3	USB3-	4	USB4+
5	USB3+	6	USB4-
7	GND	8	VCC5

<b>CN31: Floppy Slim Type 26pin Connector(Optional)</b>			
PIN	Description	PIN	Description
1	VCC5	14	STEP#
2	INDEX#	15	GND
3	VCC5	16	WDTAT#
4	DSA#	17	GND
5	VCC5	18	WGATE3
6	DSKCHG#	19	GND
7	NC	20	TRACK0#
8	NC	21	GND
9	NC	22	WP#
10	MOT0#	23	GND
11	NC	24	RDATA#
12	DIR#	25	GND
13	NC	26	HDSE#

<b>CN29: panel Single Channel LVDS Connector (Hirose DF13-20DP-1.25V)</b>			
PIN	Description	PIN	Description
2	GND	1	GND
4	LVDS_0-	3	LVDS_0+
6	LVDS_1-	5	LVDS_1+
8	LVDS_2-	7	LVDS_2+
10	LVDS_CLK-	9	LVDS_CLK+
12	NC	11	NC
14	GND	13	GND
16	I_SCL	15	I_SDA
18	VCC_LVDS	17	VCC_LVDS
20	VCC_LVDS	19	VCC_LVDS

<b>CN28: Flat Panel TTL Connector (Hirose DF13-40DP-1.25V)</b>			
PIN	Description	PIN	Description
2	VCC_FP	1	VCC_FP
4	GND	3	GND
6	VCC_FP	5	VCC_FP
8	GND	7	I_SDA
10	B1	9	B0
12	B3	11	B2
14	B5	13	B4
16	B7	15	B6
18	G1	17	G0
20	G3	19	G2
22	G5	21	G4
24	G7	23	G6
26	R1	25	R0
28	R3	27	R2
30	R5	29	R4
32	R7	31	R6
34	GND	33	GND
36	FP_VS	35	FP_CLK
38	FP_HS	37	FP_DE
40	FP_DISPEN	39	I_SCL



<b>CN30: IDE Connector (IDE44)</b>			
PIN	Description	PIN	Description
1	RESET	2	GND
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	GND	20	
21	DRQ	22	GND
23	IOW	24	GND
25	IOR	26	GND
27	RDY	28	GND
29	ACK	30	GND
31	INTR	32	NC
33	A1	34	CABLE_ID
35	A0	36	A2
37	HD_SELECT 0	38	HD_SELECT 1
39	ACTIVE#	40	GND
41	VCC5	42	VCC5
43	GND	44	NC

# Board Layout: Jumper and Connector Locations





