

**3.5" SBC AMD Geode™ LX800 with CRT, LCD/LVDS/TTL, Dual LAN  
and SATA**

# **WAFER-LX-800**

## **Quick Installation Guide**

Version 1.2

June. 02, 2008

### **Package Contents**

WAFER-LX-800 package includes the following items:

- 1 x WAFER-LX-800 Single Board Computer
- 1 x IDE Cable 44p/44p
- 1 x SATA Power Cable
- 2 x SATA Cable
- 1 x Audio Cable
- 1 x PS/2 KB/MS Y Cable
- 1 x USB cable
- 1 x RS232/422/485 Cable
- 1 x Mini Jumper Pack
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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## Specifications

- CPU: On board AMD Geode™ LX800 (500MHz) processor
- Chipset: AMD Geode™ LX800 + AMD CS5536
- BIOS: Award BIOS
- System memory: One 200-pin 400/333MHz DDR SDRAM SO-DIMM supported (System max. 1GB)
- Ethernet: 10/100Mbps Dual Realtek RTL8100C Ethernet chipset
- I/O Interface:
  - 4 x USB2.0
  - 2 x SATA with VIA® VT6421A RAID 0, 1 function support
  - 1 x LPT
  - 1 x CF Type II
  - 2 x RS-232
  - 1 x RS-422/485
  - 1 x PS/2 for KB/MS
  - 1 x IDE
- Expansion: 1 x PC/104 (ISA Bus)
- Display:
  - VGA integrated in AMD Geode™ LX800
  - 24-bit TTL
  - 18-bit single channel LVDS
- Super I/O: Winbond W83627EHG
- Digital I/O: 8-bit digital I/O, 4-bit input/ 4-bit output by super I/O
- Audio: Realtek ALC203 with AC'97 Codec
- Watchdog Timer: software programmable supports 1~255 sec. system reset
- Power Supply: 5V only, AT/ATX power support
- Power Consumption: 5V@2.5A (AMD LX800 with DDR 400MHz/ 1GB)
- Temperature: Operating: 0° to 60°C
- Humidity: Operating: 5% to 95%, non-condensing
- Dimension: 146mm x 102mm
- Weight: GW: 670g, NW: 230g

## Ordering Information:

**WAFER-LX-800-R20**: 3.5" SBC AMD Geode™ LX800 with CRT, LCD/ LVDS/ TTL, Dual LAN and SATA

**WAFER-LX-CE060**: Windows® CE6.0 Image & BSP S/W CD, Licensed Sticker

**WAFER-LX-CE050**: Windows® CE5.0 Image & BSP S/W CD, Licensed Sticker

**WAFER-LX-XPE**: Windows® XP Embedded Image

**WAFER-LX-CLIENT-XPE**: Windows® XP Embedded Image and Thin Client Package

**WAFER-LX-CLIENT-CENET050**: Windows® CE 5.0 Image and Thin Client Package

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

## Jumper Setting and Connectors

<b>JP1: AT Power select jumper</b>	
Short	Use AT Power (if use ATX Power will be auto power on)
Default	Power will be auto power on)
Open	Use ATX Power

<b>JP4: LCD VCC select</b>	
1-2	LCD_VCC is +3.3V
Default	
2-3	LCD_VCC is +5V

<b>JP2: COM3 RS-422/485 function select jumper</b>	
1-2	RS-422
2-3	RS-485
Default	RS-485

<b>JP5: Compact Flash function select</b>	
1-2	Slave
Default	
2-3	Master

<b>JP6: TFT LCD type FPCLK/#FPCLK select</b>	
1-2	FPCLK
Default	
2-3	#FPCLK

<b>JP3: COM1, COM2 RI Pin signal select</b>			
Pin	Description	Pin	Description
1-3	COM1 Pin-9 is +12V Output	2-4	COM2 Pin-9 is +12V Output
3-5	COM1 Pin-9 is +5V Output	4-6	COM2 Pin-9 is +5V Output
5-7		6-8	
7-9	COM1 Pin-9 is RI signal input	8-10	COM2 Pin-9 is RI signal input
Default		Default	

<b>CN1: Main power input connector</b>	
Pin	Description
1	+12V
2	GND
3	GND
4	+5V

<b>CN2: Suspend power input &amp; AT-Power select jumper connector</b>	
Pin	Description
1	+5VSB
2	NC
3	PSOEN#

<b>CN3: LCD Invert connector</b>	
Pin	Description
1	BL_ADJ (Def: GND)
2	GND
3	+12V
4	GND
5	BL_EN

<b>CN4: System FAN connector</b>	
Pin	Description
1	CPUFAN_OUT
2	+12V
3	GND

<b>CN5: LED Connector</b>	
Pin	Description
1	+5V
2	GND
3	Power LED+
4	Power LED-
5	HDD LED+
6	HDD LED-

<b>CN8: Audio connector</b>			
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	MIC IN	10	N/C

<b>CN11: PC104 -5V/-12V power input connector</b>	
Pin	Description
1	-5V
2	GND
3	-12V

<b>CN12: Reset button connector</b>	
Pin	Description
1	GND
2	RESET#

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

<b>CN14: DIO (GPIO) connector</b>			
Pin	Description	Pin	Description
1	GND	2	+5V
3	GPO0	4	GPO1
5	GPO2	6	GPO3
7	GPI0	8	GPI1
9	GPI2	10	GPI3

<b>CN15: Print port 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	SLCT	26	NC

<b>CN16: COM2/3 connector</b>			
Pin	Description	Pin	Description
1	DCD#	2	DSR#
3	RxD	4	RTS#
5	TxD	6	CTS#
7	DTR#	8	RI# / Vout
9	GND	10	GND
11	TxD485+	12	TxD485-
13	RxD485+	14	RxD485-

<b>CN17: PS2 Keyboard / Mouse connector</b>	
Pin	Description
1	+5V
2	MSDATA
3	MSCLK
4	KBDATA
5	KBCLK
6	GND

<b>CN28: TFT LCD TTL output connector (DF13 40pin)</b>			
Pin	Description	Pin	Description
2	LCD_VCC	1	LCD_VCC
4	GND	3	GND
6	LCD_VCC	5	LCD_VCC
8	GND	7	NC
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	VSYNC	35	CLK
38	HSYNC	37	LCD_EN
40	DISP_EN	39	NC

<b>CN7: Battery connector (Wafer 2pin 1.25mm)</b>	
Pin	Description
1	Battery+
2	Battery-

<b>CN18: PS2 Keyboard/Mouse MINI-DIN connector (Optional)</b>	
Pin	Description
1	KBDATA
2	MSDATA
3	GND
4	+5V
5	KBCLK
6	MSCLK

<b>CN20, CN21: RJ45 LAN Connector</b>			
<b>PIN NO</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	TX+	5	NC
2	NC	6	RX-
3.	TX-	7	NC
4.	RX-	8	NC

<b>CN19, CN24: Internal USB Connector</b>			
<b>PIN</b>	<b>DESCRIPTION</b>	<b>PIN</b>	<b>DESCRIPTION</b>
1	+5V	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	+5V

<b>CN22: COM 1 DB9 connector</b>			
<b>Pin</b>	<b>Description</b>	<b>Pin</b>	<b>Description</b>
1	DCD#	6	DSR#
2	RxD	7	RTS#
3	TxD	8	CTS#
4	DTR#	9	RI# /Vout
5	GND		

<b>CN23, CN25: S-ATA HDD connector</b>	
<b>Pin</b>	<b>Description</b>
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

<b>CN33: LPC connector</b>	
<b>Pin</b>	<b>Description</b>
1	GND
2	CLK_LPC_FWH
3	PCI_RST1#
4	LFRAME#
5	LPC_LAD0
6	LPC_LAD1
7	LPC_LAD2
8	LPC_LAD3
9	SERIRQ
10	GND
11	VCC3 (+3.3V)
12	VCC5 (+5V)
13	GND
14	GND

<b>CN31: FDD connector (FPC) (Optional)</b>	
<b>Pin</b>	<b>Description</b>
1	+5V
2	INDEX#
3	+5V
4	DSA#
5	+5V
6	DSKCHG#
7	NC
8	NC
9	NC
10	MOTO0#
11	NC
12	DIR#
13	NC
14	STEP#
15	GND
16	WDATA#
17	GND
18	WGATE#
19	GND
20	TRACK0#
21	GND
22	WP#
23	GND
24	RDATA#
25	GND
26	HEAD#

<b>CN30: IDE Interface Connector</b>			
<b>PIN</b>	<b>DESCRIPTION</b>	<b>PIN</b>	<b>DESCRIPTION</b>
1	RESET#	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	GND	20	N/C
21	IDE DRQ	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	IDE CHRDY	28	BALE – DEFAULT
29	IDE DACK	30	GND
31	INTERRUPT	32	N/C
33	SA1	34	PDIAG#
35	SA0	36	SA2
37	HDC CS0#	38	HDC CS1#
39	HDD ACTIVE#	40	GND
41	VCC	42	VCC
43	GND	44	N/C

<b>CN29: TFT LCD LVDS output connector (DF14 20pin)</b>			
<b>Pin</b>	<b>Description</b>	<b>Pin</b>	<b>Description</b>
2	GND	1	GND
4	D0-	3	D0+
6	D1-	5	D1+
8	D2-	7	D2+
10	CLK-	9	CLK+
12	NC	11	NC
14	GND	13	GND
16	NC	15	NC
18	LCD_VCC	17	LCD_VCC
20	LCD_VCC	19	LCD_VCC

<b>CN32: CF Card Interface Slot</b>			
<b>PIN</b>	<b>DESCRIPTION</b>	<b>PIN</b>	<b>DESCRIPTION</b>
1	GND	26	CD1#
2	D3	27	D11
3	D4	28	D12
4	D5	29	D13
5	D6	30	D14
6	D7	31	D15
7	CE#	32	CE2#
8	A10	33	VS1#
9	OE#	34	IOR#
10	A9	35	IOW#
11	A8	36	WE#
12	A7	37	IRQ
13	VCC	38	VCC
14	A6	39	CSEL#
15	A5	40	VS2#
16	A4	41	RESET#
17	A3	42	WAIT#
18	A2	43	INPACK#
19	A1	44	REG#
20	A0	45	BVD2
21	D0	46	BVD1
22	D1	47	D8
23	D2	48	D9
24	IOCS16#	49	D10
25	CD2#	50	GND2

<b>CN26: VGA connector (DB15)</b>			
<b>Pin</b>	<b>Description</b>	<b>Pin</b>	<b>Description</b>
1	Red	9	NC
2	Green	10	GND
3	Blue	11	NC
4	NC	12	SDA
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	SCL
8	GND		



# Board Layout: Jumper and Connector Locations



