

3.5" SBC with Intel® Atom™ Z650/Z670 processor, DDR2 1GB Memory on board, HDMI/LVDS, 10/100 LAN, USB2.0, SATA 6Gb/s, Audio, RoHS

WAFER-OT-Z670/Z650

Quick Installation Guide

Version 1.0

May. 15, 2012

Package Contents

WAFER-OT-Z650/Z670 package includes the following items:

- 1 x WAFER- OT-Z650/Z670 Single Board Computer
- 1 x USB Cable
- 3 x RS-232 Cable
- 1 x Audio Cable
- 1 x SATA with 5V output Cable Kit
- 1 x Mini Jumper Pack
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



©2012 Copyright by IEI Technology corp.
All rights reserved.

Specifications

- CPU
 - Intel® Atom™ Z650 processor 1.2GHz
 - Intel® Atom™ Z670 processor 1.5GHz
- System Chipset: Intel® SM35
- BIOS: UEFI BIOS
- Memory: On board DDR2 800MHz 1GB SDRAM
- Graphic
 - GMA600 Graphic Core Speed 400MHz
- Display interface:
 - HDMI 1.3a support up to 1080p
 - Single Channel 18 bits LVDS, Resolution support up to 1366x768
- Ethernet:
 - USB interface 10/100 LAN by AX88772A
- I/O Interface:
 - 4 x RS-232
 - 1 x SATA II with 5V power
 - 1 x SD card
 - 7 x USB2.0/1.1
- Audio: On board Realtek ALC662 HD codec
- Power Supply:
 - 12V input only
 - AT/ATX mode select
 - 2x2-pin power connector
 - 1x2-pin power adaptor input
- Power Consumption:
 - 12V@0.95A (1.5GHz Intel® Z670 with 1GB DDR2 800MHz)
 - 12V@0.93A (1.2GHz Intel® Z650 with 1GB DDR2 800MHz)
- Temperature: Operating : -10~60
- Humidity: 5% ~ 95%, non-condensing
- Dimensions: 146mm x 102mm
- Weight: GW:450g / NW:130g

Ordering Information

WAFER-OT-Z670-R10: 3.5" SBC with Intel® Atom™ Z670 1.5HGz Processor, DDR2 1GB Memory on board, HDMI/LVDS, 10/100 LAN, USB2.0 and SATA II, Audio, RoHS

WAFER-OT-Z650-R10: 3.5" SBC with Intel® Atom™ Z650 1.2HGz Processor, DDR2 1GB Memory on board, HDMI/LVDS, 10/100 LAN, USB2.0 and SATA II, Audio, RoHS

63000-FSP036RAB608-RS: 36W/12V power adaptor 90~264VAC

Jumpers Setting

Table of Jumpers

LABEL	FUNCTION
SW1	AT/ATX Power Mode Setting
JP2	LCD Voltage Selector

SW1 : AT/ATX Power Mode setting	
PIN NO.	DESCRIPTION
1-2 (default)	ATX Power Mode
2-3	AT Power Mode

JP2 : LCD Voltage Selector	
PIN NO	DESCRIPTION
Short 1-2 (default)	LCDVCC = +3.3V (Normal Operation)
Short 2-3	LCDVCC = +5V

Table of Connectors

LABEL	FUNCTION
LAN1	LAN1 Connectors
FP_USB1, FP_USB2	External USB Connectors
USB2	Internal USB pin header
COM1	External DB9 COM
COM2~4	Internal Serial Port Connector
AUDIO1	HD Audio Connector
SATA1	Serial ATA Connectors
SATA_PWR1	SATA Power Connector
CN1	Power & HDD LED Connector
RST_BTN	Reset Button Connector
PWR_BTN	Power Button Connector
PWR_CON1	Power Source Connector
LVDS1	LVDS Connector
INV1	Inverter Connector
CN2	12V Power Connector

LAN1: RJ45 LAN Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LAN1_MDI0+	7	LAN1_MDI2+
2	LAN1_MDI0-	8	LAN1_MDI2-
3.	LAN1_MDI1+	9	LAN1_MDI3+
4.	LAN1_MDI1-	10	LAN1_MDI3-

FP_USB1, FP_USB2 : External USB Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	USB_VCC	2	USB_VCC
3	DATA-	4	DATA-
5	DATA+	6	DATA+
7	GND	8	GND

USB2 : Internal USB Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	USB_VCC	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	USB_VCC

COM1 : External Serial Port Connectors		
PIN	DESCRIPTION	
1	DATA CARRIER DETECT	(DCD)
2	RECEIVE DATA	(RXD)
3	TRANSMIT DATA	(TXD)
4	DATA TERMINAL READY	(DTR)
5	GND	
6	DATA SET READY	(DSR)
7	REQUEST TO SEND	(RTS)
8	CLEAR TO SEND	(CTS)
9	RING INDICATOR	(RI)

COM2, COM3, COM4 : Internal Serial Port Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI
9	GND	10	GND

AUDIO1 : Audio Line-In/Out MIC Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Line-out_R	2	Line-in_R
3	AUD_GND	4	AUD_GND
5	Line-out_L	6	Line-in_L
7	AUD_GND	8	AUD_GND
9	MIC1_R	10	MIC1_L

SATA1 : Serial ATA Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	5	RX-
2	TX+	6	RX+
3	TX-	7	GND
4	GND	8	N/C

SATA_PWR1: SATA Power Connector	
PIN NO.	DESCRIPTION
1	+5VGround
2	Ground

CN1 : PWR & HDD LED Connector		
	PIN	DESCRIPTION
+5V	1	VCC
	2	GND
Power LED	3	PWR_LED+
	4	PWR_LED-
HDD LED	5	HDD_LED+
	6	HDD_LED-

RST_BTN1 : Reset Button Connector		
	PIN	DESCRIPTION
RESET	1	RESET+
	2	RESET-

PWR_CON1 : Main Power Input	
PIN NO.	DESCRIPTION
1	+12V
2	GND
3	GND

PWR_BTN1: Power Button Connector		
	PIN	DESCRIPTION
PWRBTN	1	PWR_BTN+
	2	PWR_BTN-

CN2 : +12V Power Connector	
PIN	DESCRIPTION
1	GND
2	GND
3	+12V
4	+12V

INV1 : 5-pin Header Inverter Connector	
PIN	DESCRIPTION
1	LCD_BKLTCTL
2	GROUND
3	VCC12
4	GROUND
5	LCD_BKLEN

LVDS1: LVDS LCD Interface Connector			
PIN NO.	Description	PIN NO.	Description
2	GND	1	GND
4	AY0-	3	AY0+
6	AY1-	5	AY1+
8	AY2-	7	AY2+
10	AYCLK-	9	AYCLK+
12	AY3-	11	AY3+
14	GND	13	GND
16	NC	15	NC
18	LCDVCC	17	LCDVCC
20	LCDVCC	19	LCDVCC

Board Layout: Jumper and Connector Locations

