

**Mini-ITX Motherboard with Intel® Atom™ N270 1.6GHz,
VGA/DVI/HDTV, Dual PCIe GbE, USB2.0, SATA and Audio**

KINO-945GSE

Quick Installation Guide

Version 1.2

Feb. 27, 2014

Package Contents

KINO-945GSE package includes the following items

- 1 x KINO-945GSE Single Board Computer
- 1 x Dual RS-232 cable with bracket
- 2 x SATA cable
- 1 x I/O shielding
- 1 x Mini Jumper Pack
- 1 x Utility CD
- 1 x QIG(Quick Installation Guide)



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Specifications

- CPU : Intel® Atom™ N270 1.6GHz with a 533MHz FSB
- System Chipset : Intel® 945GSE+ICH7M
- BIOS : AMI BIOS
- System Memory : One 200-pin DDR2 SO-DIMM
400/533MHz support up to 2GB
- Ethernet : Dual PCIe interface Realtek RTL8111CP GbE chipsets
- I/O Interface :
 - 3 x RS-232
 - 1 x RS-232/422/485
 - 6 x USB 2.0 (4 on bracket, 2 on board)
 - 1 x Infrared interface
 - 2 x SATA
 - 1 x IDE
 - 1 x PS/2 for KB/MS
- Display Interface :
 - VGA integrated in Intel® 945GSE
 - Support HDTV resolution up to 1080i by component interface
 - 18-bit Dual-Channel LVDS by Intel® 945GSE
 - DVI-D support by Silicon Image Sil1362
- Expansions :
 - 1 x PCI slot
 - 1 x PCIe mini card slot
- Digital I/O :
 - 8-bit digital I/O, 4-bit input/4-bit output
- Super IO : ITE IT8718F
- Audio : Realtek ALC655 AC'97 Codec
- SSD : CF Type II
- Watchdog Timer :
 - Software Programmable support 1~255 sec. System reset
- Power Supply : 5V/12V, AT/ATX support
- Power Consumption :

5V@2.89A, 12V@0.04A (Intel® Atom™ N270 with 1GB DDR2 DRAM)

- Temperature : Operation:
0°C ~ 60 °C for KINO-945GSE-N270-R11
-20 °C ~ 70 °C for KINO-945GSE-N270W-R11
- Humidity : Operation: 5% ~95% non-condensing
- Dimensions : 170mm x 170mm
- Weight : GW: 1100g / NW: 370 g

Ordering Information

KINO-945GSE-N270-R12 :

Mini-ITX SBC with Intel® Atom™ N270 1.6GHz, VGA/DVI/HDTV, Dual PCIe GbE, USB2.0, SATA and Audio

KINO-945GSE-N270W-R12 :

Mini-ITX SBC with Intel® Atom™ N270 1.6GHz, VGA/DVI/HDTV, Dual PCIe GbE, USB2.0, SATA and Audio, -20~70 °C

CB-USB02-RS :

Dual ports USB cable with bracket

HDTV CABLESET-01 :

HDTV Cable Set with S-Video, Composite and Component Interfaces

32102-000100-100/200-RS :

SATA Power cable

32200-000009-RS :

44pin 2.5" IDE cable

32200-833600-RS:

RS-422/485 cable

Connector /Jumper List

LABEL	FUNCTION
J_VLVDS1	LCD Voltage Selector jumper
J_CMOS1	CMOS state setting jumper
ATXCTL1	Power on mode setup
J_CF1	CF Card Master/Slave setting jumper
JP1	Configure COM3 Mod jumper
J_LCD_TYPE1	LVDS Panel Resolution Selection jumper
F_PANEL1	PWR · RST Buttons · Indicators and Speaker
PWR1	20Pin ATX Power Supply Connector
USB1	Internal USB Connector
DIO1	Digital I/O Connector
J2	CF Card Slot
INVERTER1	LVDS Panel Voltage Supply Connector
LVDS1	LVDS Panel Connector
COM3.4	Internal Serial Port Connectors (RS-232)
SPDIF1	SPDIF Connector
J1	CPU Fan Connector
IR1	Infrared Interface Connector
JP2	COM3 RS-422/485 connector
MINI_PCIE1	PCIe Mini Card Slot
IDE1	IDE Connector
TV1	TV Out Connector

J_VLVDS1: LCD voltage setup	
PIN NO.	DESCRIPTION
1-2 (default)	3.3V
2-3	5V

J_CMOS1: Clear CMOS Setup	
PIN NO.	DESCRIPTION
1-2 (default)	Normal Operation
2-3	Clear CMOS Setup

ATXCTL1: Power on mode setup	
	DESCRIPTION
1-2 (default)	ATX
2-3	AT

J_CF1:CF Card Master/Slave setting jumper	
	DESCRIPTION
Short	Master
Open (Default)	Slave

JP1: Configure COM3 Mode	
PIN NO.	DESCRIPTION
Short 1-2 (default)	RS - 232
Short 3-4	RS - 422
Short 5-6	RS - 485

J_LCD_TYPE1: LVDS Panel Resolution Selection jumper				
1-2	3-4	5-6	7-8	
OPEN	OPEN	OPEN	OPEN	640x480 18bit
SHORT	OPEN	OPEN	OPEN	800x480 18bit
OPEN	SHORT	OPEN	OPEN	800x600 18bit (Default)
SHORT	SHORT	OPEN	OPEN	1024x768 18bit
OPEN	OPEN	SHORT	OPEN	1280x1024 36bit
SHORT	OPEN	SHORT	OPEN	1400x1050 36bit
OPEN	SHORT	SHORT	OPEN	1400x900 36bit
SHORT	SHORT	SHORT	OPEN	1600x1200 36bit

F_PANEL1 : External Switches and Indicators panel					
	PIN	DESCRIPTION	PIN	DESCRIPTION	
Power LED	1	PWR_LED+	2	Speaker+	Speaker
	3	N/C	4	N/C	
	5	PWR_LED-	6	N/C	
PWRBTN	7	PWRBTN+	8	Speaker-	RESET
	9	PWRBTN-	10	N/C	
HDDLED	11	HDLED+	12	Reset+	
	13	HDLED-	14	Reset-	

PWR1: 20Pin ATX Power Supply Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	NC	11	NC
2	NC	12	-12Vdc
3	GND	13	GND
4	+5Vdc	14	PS-ON
5	GND	15	GND
6	+5Vdc	16	GND
7	GND	17	GND
8	PWR-OK	18	NC
9	+5VSby	19	+5Vdc
10	+12Vdc	20	+5Vdc

USB1: Internal USB Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC(+5V)	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC(+5V)

DIO1: 8-bit GPIO Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	VCC5
3	GPO3	4	GPO2
5	GPO1	6	GPO0
7	GPI3	8	GPI2
9	GPI1	10	GPI0

J2: Compact Flash Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GROUND	26	N/C
2	DATA 3	27	DATA 11
3	DATA 4	28	DATA 12
4	DATA 5	29	DATA 13
5	DATA 6	30	DATA 14
6	DATA 7	31	DATA 15
7	HDC_CS0#	32	HDC_CS1
8	N/C	33	N/C
9	GROUND	34	IOR#
10	N/C	35	IOW#
11	N/C	36	VCC_5V
12	N/C	37	IRQ14
13	VCC_5V	38	VCC_5V
14	N/C	39	CSEL
15	N/C	40	N/C
16	N/C	41	HDD_RESET
17	N/C	42	IORDY
18	SA2	43	SDREQ
19	SA1	44	SDACK#
20	SA0	45	HDD_ACTIVE#
21	DATA 0	46	66DET
22	DATA 1	47	DATA 8
23	DATA 2	48	DATA 9
24	N/C	49	DATA 10
25	N/C	50	GROUND

INVERTER1 :	
5-pin Header Inverter Connector	
PIN	DESCRIPTION
1	LCD_BKLTCTL
2	GROUND
3	+12V
4	GROUND
5	BACKLIGHT ENABLE

LVDS1: LVDS Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	GND
3	LVDS DAP0	4	LVDS DAN0
5	LVDS DAP1	6	LVDS DAN1
7	LVDS DAP2	8	LVDS DAN2
9	LVDS CLKA+	10	LVDS CLKA-
11	NC	12	NC
13	GND	14	GND
15	LVDS DBP0	16	LVDS DBN0
17	LVDS DBP1	18	LVDS DBN1
19	LVDS DBP2	20	LVDS DBN2-
21	LVDS CLKB+	22	LVDS CLKB-
23	NC	24	NC
25	GND	26	GND
27	LCDVCC	28	LCDVCC
29	LCDVCC	30	LCDVCC

COM3,COM4: Internal Serial Port Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	DCD#	2	DSR#
3	RXD	4	RTS#
5	TXD	6	CTS#
7	DTR#	8	RI#
9	GND	10	NC

SPDIF1 : SPDIF CONNECTOR	
PIN NO.	DESCRIPTION
1	AVDD5
2	NC
3	SPDIF_OUT
4	GND
5	SPDIF_IN

J1 : Fan Connector	
PIN NO.	DESCRIPTION
1	Fan Speed Detect
2	+12V
3	GND

IR1: Infrared Interface connector	
PIN NO.	DESCRIPTION
1	VCC5(+5V)
2	NC
3	IR-RX
4	GND
5	IR-TX

JP2: COM3 RS-422/485 connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	TX_422-	2	RX_422-
3	TX_422+	4	RX_422+
5	D_485+	6	D_485-

MINI_PCIE1: PCIe Mini Card Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PCIE_WAKE#	2	VCC3
3	N/C	4	GND
5	N/C	6	1.5V
7	CLKREQ#	8	N/C
9	GND	10	N/C
11	CLK-	12	N/C
13	CLK+	14	N/C
15	GND	16	N/C
17	N/C	18	GND
19	N/C	20	N/C
21	GND	22	N/C
23	PERN2	24	3VDual
25	PERP2	26	GND
27	GND	28	1.5V
29	GND	30	SMBCLK
31	PETN2	32	SMBDATA
33	PETP2	34	GND
35	GND	36	USB D-
37	N/C	38	USB D+
39	N/C	40	GND
41	N/C	42	N/C
43	N/C	44	N/C
45	N/C	46	N/C
47	N/C	48	1.5V
49	N/C	50	GND
51	N/C	52	VCC3

IDE1 : IDE Interface Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
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

TV1: Video output for television			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	AGREEN_Y
3	GND	4	ARED_C
5	GND	6	ABLUE_CVBS

Board Layout: Connector Locations

