

Mini-ITX SBC with Socket G1 for Intel® mobile Arrandale CPU,
VGA/Dual HDMI/LVDS, PCIe GbE, USB2.0, PCIe mini, SATAII and
Audio

KINO-QM57A

Quick Installation Guide

Version 1.0

April 16, 2010

Package Contents

KINO-QM57A package includes the following items:

- 1 x KINO-QM57A Single Board Computer
- 1 x Dual Ports RS-232 Cable with Bracket
- 3 x SATA +5V power Output Cable kit
- 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: Socket G1 (rPGA988A) Intel® 32nm Core 2 Duo™ processor with 1066/800MHz FSB (Arrandale Core)
- System Chipset: Intel® QM57
- BIOS: AMI BIOS, 8Mbit BIOS FHW Flash ROM
- System memory: 2 x 204-pins 1066/1333MHz DDR3 SDRAM SO-DIMM supported (System max. 4GB)
- Ethernet:
 - 1 x Intel® 82577LM PCIe GbE Controller (PCIe x1 Interface) with iAMT 6.0 supported by iEZman software UI
 - 1 x Intel® 82574L PCIe GbE Controller (PCIe x1 Interface)
- I/O Interface:
 - 6 x SATA II (3 x SATA +12V & +5V Power output by 1x4pin wafer-header)
 - 8 x USB 2.0 (4 on rear side, 4 by pin-header)
 - 3 x RS-232 (1 on rear side, 2 by pin-header)
 - 1 x RS-232/422/485 (by pin-header)
 - 1 x PS/2 KB/MS (by 1x6 pins wafer-header)
- Expansion:
 - 1 x PCIe mini card slot
 - 1 x PCIe x16 slot
- Audio: Realtek ALC888 HD Audio codec
 - SPDIF by 1x5pin pin-header
 - Line-out & MIC-in Audio Jack on rear side
 - Front Audio by 2x5pin pin-header
- Digital I/O: 8-bit digital I/O, 4-bit input/ 4-bit output by Super I/O Fintek F81865F
- Infrared Interface: 1 x Infrared Interface by Super I/O Fintek F81865F
- Super I/O : Fintek F81865F
- Display Interface:
 - VGA integrated in the Intel® QM57 support Hot-Plug
 - 18/24-bit dual-channel LVDS
 - Two HDMI by connector on rear side (HDMI signal from SDVO by

Chrontel CH7813C)

- Watchdog timer:
Software programmable supports 1~255 sec. system reset by First Super I/O: Fintek F81865F
- Power Supply:
Single Voltage +12V DC Input, AT/ATX Mode support
1 x Main Power Input 4-pin DC Jack on rear side
1 x internal 4-pin (2x2pin) +12V Main Power Input Connector
- Power Consumption:
12V@5.27A (Intel® Core i7 620M 2.26GHz FSB 1066MHz with 2* 2GB 1333MHz DDR3 SO-DIMM DRAM)
- FAN: 1 x 4-pin CPU FAN Connector
1 x 3-pin System FAN Connector
- Operating Humidity: 5% ~ 95%, non-condensing
- Operating Temperature: 0 ~ 60°C(32 ~ 140°F)
- Dimension: 170 mm x 170 mm
- Weight: GW: 1000g; NW: 350g

Ordering Information

KINO-QM57A-R10:

Mini-ITX SBC with Socket G1 for Intel® mobile Arrandale CPU, VGA/Dual HDMI/LVDS, PCIe GbE, USB2.0, PCIe mini, SATAII and Audio

SAIDE-KIT01-R10: SATA to IDE/CF Converter board

WMPCIE-V01-R10: PCIe Mini card wireless LAN Module

WMUSB-V01-R10: USB Mini card wireless LAN Module

63000-FSP096AHB-RS: 96W/12V Power Adaptor 90VAC~260VAC, DIN 4 PIN

CB-USB02-RS: Dual ports USB cable with Bracket

32200-026500-RS: RS-232/422/485 cable

32200-000049-RS: Single Port RS-232 cable

32100-192900-RS: One 4-pin(2x2) to one 4-pin(1x4) DC power cable with terminal block

CF-989A-RS: Copper CPU Cooler

CF-989B-RS: Aluminum CPU Cooler

32100-088600-RS/32102-00100-100-RS/32102-000100-200-RS: SATA Power cable

Jumpers Setting

LABEL	FUNCTION
J_CMOS1	Clear CMOS Setup
J_VLVDS1	LVDS1 Voltage Selection
J_ATXCTL1	AT/ATX Power Mode Setting
J_SPI	SPI Program Selection
J_ME_RTC1	Enable iAMT Selection
JP2	COM4 RS232 or RS-422 or RS-485 Type Select
J_PID1	LVDS1 Panel Resolution type select

J_CMOS1: Clear CMOS Setup	
J_CMOS1	DESCRIPTION
Short 1-2 (default)	Keep CMOS Setup (Normal Operation)
Short 2-3	Clear CMOS Setup

J_VLVDS1: LVDS1 Voltage Selection	
J_VLVDS1	DESCRIPTION
1-2 (default)	+3.3V LVDS
2-3	+5V LVDS

J_ATXCTL1: AT/ATX Power Mode Setting	
ATXCTL1	DESCRIPTION
Short 1-2 (default)	ATX Power Mode
Short 2-3	AT Power Mode

J_SPI: SPI Program Selection	
J_SPI	DESCRIPTION
1-2 (default)	Program SPI0
2-3	Program SPI1

J_ME_RTC1: Enable iAMT Selection	
J_ME_RTC1	DESCRIPTION
1-2 (default)	Save ME RTC registers (Normal Operation)
2-3	Clear ME RTC registers

JP2: COM4 RS232 or RS-422 or RS-485 Type Select	
J2	DESCRIPTION
1-2 (default)	RS-232
3-4	RS-422
5-6	RS-485
5-6 7-8	RS-485 with RTS Control

J_PID1: LVDS Panel Resolution type select				Panel Resolution
7-8	5-6	3-4	1-2	
Open	Open	Open	Open	800x600 (18-bit)
Open	Open	Open	Short	1024X768 (18-bit)
Open	Open	Short	Open	1024X768 (24-bit) (default)
Open	Open	Short	Short	1280 X 800 (18-bit)
Open	Short	Open	Open	1280 X 1024 (48-bit)
Open	Short	Open	Short	1366 X 768 (18-bit)
Open	Short	Short	Open	1400 X 1050 (48-bit)
Open	Short	Short	Short	1440 X 900 (48-bit)
Short	Open	Open	Open	1600 X 900 (48-bit)
Short	Open	Open	Short	1600 X 1200 (48-bit)
Short	Open	Short	Open	1680 X 1050 (48-bit)
Short	Open	Short	Short	1920 X 1080 (48-bit)
Short	Short	Open	Open	1920 X 1200 (48-bit)
Short	Short	Open	Short	2048 X 1536 (48-bit)

Table of Connectors

LABEL	FUNCTION
LAN1_USB1 LAN2_USB2	External 2 Ports USB & RJ-45 LAN Connectors
S_ATA1~S_ATA6	Serial ATA Connectors
CN1, CN2, CN4	Serial ATA Power Output Connectors
CRT1	D-sub 15-pin VGA Female Connector
COM1	External Serial Port D-sub Connector (RS-232)
COM2 COM3	Internal Serial Port Connectors (RS-232)
COM4	Internal Serial Port Connector (RS-232/422/485)
FRONT-PANEL1	Audio Connector
AUDIO_CV1	Audio Line-out & MIC-in Connector
SPDIF1	SPDIF Connector
CPU_FAN1	CPU Fan Connector
SYS_FAN1	System Fan Connector
BAT1	+3V Battery Connector
LVDS1	24-bit dual-channel LVDS Panel Connector
INVERTER1	LVDS1 Panel Backlight +12V Main Power Source connector
PWR1	Adapter DC +12V Main Power Input connector
PWR2	Power Supply DC +12V Main Power Input Connector
JSPI1	Flash BIOS SPI ROM Connector
USB1, USB2	Internal 2 ports USB Connectors
IR1	Infrared Interface connector
DIO1	Digital I/O Connector
KB_MS1	PS/2 Keyboard & Mouse Connector
HDMI1, HDMI2	HDMI Connector
CN3	PCIe Mini Card Slot
F_APANEL1	Power button, Rest, HDD & Power LED Indicators Connector
80PORT1	80 PORT Connector (For Bios debug only)
CONN1	PCIe x16 slot
DIMM1 DIMM2	DDR2 SO-DIMM slot

LAN1_USB1, LAN2_USB2: External 2 ports USB Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC (+5V)	5	VCC (+5V)
2	DATA-	6	DATA-
3	DATA+	7	DATA+
4	GND	8	GND

LAN1_USB1, LAN2_USB2: RJ-45 LAN Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDIA3-	5	MDIA1+
2	MDIA3+	6	MDIA2+-
3.	MDIA2-	7	MDIA0-
4.	MDIA1-	8	MDIA0+

S_ATA1 ~ S_ATA6: Serial ATA Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	5	RX-
2	TX+	6	RX+
3.	TX-	7	GND
4.	GND	8	N/C

CN1, CN2, CN4 : Serial ATA Power Output Connectors	
PIN NO.	DESCRIPTION
1	+5V
2	GND
3	GND
4	+12V

CRT1: D-sub 15-pin VGA Female Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	CRT_PLUG#
7	GND	8	GND
9	VCC (+5V)	10	GND
11	NC	12	DCCDAT
13	HSYNC	14	VSYNC
15	DDCCLK		

COM1: External Serial Port D-sub Connector (RS-232)		
PIN NO.	DESCRIPTION	
1	DATA CARRIER DETECT	(DCD#)
2	RECEIVE DATA	(RXD)
3	TRANSMIT DATA	(TXD)
4	DATA TERMINAL READY	(DTR#)
5	GND	(GND)
6	DATA SET READY	(DSR#)
7	REQUEST TO SEND	(RTS#)
8	CLEAR TO SEND	(CTS#)
9	RING INDICATOR	(RI#)

COM2, COM3 : Internal Serial Port Connectors (RS-232)			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD#)	2	DATA SET READY (DSR#)
3	RECEIVE DATA (RXD)	4	REQUEST TO SEND (RTS#)
5	TRANSMIT DATA (TXD)	6	CLEAR TO SEND (CTS#)
7	DATA TERMINAL READY (DTR#)	8	RING INDICATOR (RI#)
9	GND	10	N/C

COM4 : Internal Serial Port Connector (RS-232/422/485)			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD#)	2	DATA SET READY (DSR#)
3	RECEIVE DATA (RXD)	4	REQUEST TO SEND (RTS#)
5	TRANSMIT DATA (TXD)	6	CLEAR TO SEND (CTS#)
7	DATA TERMINAL READY (DTR#)	8	RING INDICATOR (RI#)
9	GND	10	GND
11	TXD485+	12	TXD485#
13	RXD485+	14	RXD485#

FRONT-PANEL1 : Audio Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MIC-L	2	ANALOG GND
3	MIC-R	4	PRESENCE#
5	LINE-R	6	MIC-JD
7	FRONT-IO	8	NC
9	LINE-L	10	INE-JD

AUDIO_CV1 : Audio Line-out & MIC-in Connector	
PIN NO.	DESCRIPTION
1	Line-out (Green)
2	MIC-in (Pink)

SPDIF1 : SPDIF Connector	
PIN NO.	DESCRIPTION
1	+5V
2	N/C
3	SPDIF_OUT
4	GND
5	SPDIF_IN

CPU_FAN1 : CPU Fan Connector	
PIN NO.	DESCRIPTION
1	GND
2	+12V
3	CPUFANIN
4	CPUFANOUT

SYS_FAN1 : System Fan Connector	
PIN NO.	DESCRIPTION
1	SYSFANIN0
2	+12V
3	GND

BAT1: +3V Battery Connector	
PIN NO.	DESCRIPTION
1	BAT (+3.3V)
2	GND

LVDS1: 24-bit dual-channel LVDS Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	A_Y0	4	A_Y0#
5	A_Y1	6	A_Y1#
7	A_Y2	8	A_Y2#
9	A_CK	10	A_CK#
11	A_Y3	12	A_Y3#
13	GND	14	GND
15	B_Y0	16	B_Y0#
17	B_Y1	18	B_Y1#
19	B_Y2	20	B_Y2#
21	B_CK	22	B_CK#
23	B_Y3	24	B_Y3#
25	GND	26	GND
27	VCC_LCD	28	VCC_LCD
29	VCC_LCD	30	VCC_LCD

INVERTER1: LVDS1 Panel Backlight +12V Power Source connector	
PIN NO.	DESCRIPTION
1	LCD_BKLTCTL
2	GND
3	+12V
4	GND
5	BACKLIGHT ENABLE

PWR1: Adapter DC +12V Main Power Input connector	
CN7	DESCRIPTION
1	+12V
2	GND
3	+12V
4	GND
5	GND

PWR2: Power Supply DC +12V Main Power Input Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	+12V	8	+12V

JSPI1: Flash BIOS SPI ROM Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	SPI_VCC (+3.3V)	2	GND
3	SPI_CS#0	4	SPI_CLK
5	SPI_SO0	6	SPI_SI
7	N/C	8	N/C

USB1, USB2: Internal 2 ports USB Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC (+5V)	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC (+5V)

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

DIO1 : Digital Input / Output Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	VCC (+5V)
3	Output 3	4	Output 2
5	Output 1	6	Output 0
7	Input 3	8	Input 2
9	Input 1	10	Input 0

KB_MS1: PS/2 Keyboard/Mouse Connector	
PIN NO.	DESCRIPTION
1	VCC (+5V)
2	Mouse Data
3	Mouse Clock
4	Keyboard Data
5	Keyboard Clock
6	GND

HDMI1, HDMI2: HDMI Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	HDMI_DATA2	13	N/C
2	GND	14	N/C
3	HDMI_DATA2#	15	HDMI_SCL
4	HDMI_DATA1	16	HDMI_SDA
5	GND	17	GND
6	HDMI_DATA1#	18	+5V
7	HDMI_DATA0	19	HDMI_HPD
8	GND	20	HDMI_GND
9	HDMI_DATA0#	21	HDMI_GND
10	HDMI_CLK	22	HDMI_GND
11	GND	23	HDMI_GND
12	HDMI_CLK#		

CN3: PCIe Mini Card Slot			
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	LFRAME#
9	GND	10	LAD3
11	CLK-	12	LAD2
13	CLK+	14	LAD1
15	GND	16	LAD0
17	PCIRST#	18	GND
19	LPC	20	VCC3
21	GND	22	PCIRST#
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-
37	N/C	38	USB+
39	N/C	40	GND
41	N/C	42	N/C
43	N/C	44	RF_LINK#
45	N/C	46	BLUELED#
47	N/C	48	1.5V
49	N/C	50	GND
51	N/C	52	VCC3

F_PANEL1 : Power button, Rest, HDD & Power LED Indicators Connector		
	PIN NO.	DESCRIPTION
	1	NC
PWRBTN	2	PWR_BTN+
	3	PWR_BTN-
HDD LED	4	HDD_LED+
	5	HDD_LED-
Power LED	6	PWR_LED+
	7	PWR_LED+
	8	PWR_LED-
RESET	9	RESET+
	10	RESET-

80PORT1 : 80 PORT Connector (For Bios debug only)			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	CLK_PCI_TPM	2	GND
3	LPC_FRAME#	4	N/C
5	BUF_PLT_RST#	6	+5V
7	LPC_AD3	8	LPC_AD2
9	+3.3V	10	LPC_AD1
11	LPC_AD0	12	GND

Board Layout: Jumper and Connector Locations

