

**PICO-ITX SBC with AMD® G-Series SoC Processor,
DDR3, DVI-I/LVDS, GbE, USB 3.0,
SATA 6Gb/s, Audio and RoHS**

HYPER-KBN

Quick Installation Guide

Version 1.0

Sep 10, 2013.

Package List

HYPER-KBN package includes the following items:

- 1 x HYPER-KBN Single Board Computer
- 1 x Specific Heatsink
- 1 x Audio Cable (P/N: 32000-072100-RS)
- 1 x SATA with 5V Output Cable Kit (P/N: 32801-000201-100-RS)
- 1 x RS-232 cable (P/N: 32200-000049-RS)
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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Specifications

- SoC:
AMD® G-Series SoC processor
- Memory:
One 204-pin 1600/1333 single-channel DDR3 SO-DIMM supported (system max. 8GB)
- BIOS: UEFI BIOS
- Ethernet:
1 x PCIe GbE by Realtek RTL8111E with ASF 2.0 support
- Graphics:
GPU frequency 300MHz (Radeon™ HD 8310E),
DirectX® 11.1, UVD4.2, HDMI™ 1.4a, DisplayPort 1.2
- Display Output:
Dual display support
1 x DVI-I (1920x1200@60Hz)
1 x 18-bit single channel LVDS (1600x900@60Hz)
- UART IC: Fintek F81216AD
- Audio:
Realtek ALC662 HD Audio codec
- I/O Interface:
1 x 6-pin header for KB/MS
2 x USB3.0 on rear I/O
2 x USB2.0 by 8-pin header
1 x SATA 6Gb/s with 5V SATA power connector (NO RAID)
- Watchdog Timer:
Software programmable support 1~255 sec. System reset
- FAN:
1 x 4-pin system Fan Connector
- Power supply:
12V DC power input only, AT/ATX supported
1 x External DC power jack

- Operation Temperature: -10°C ~ 60°C
- Storage Temperature: -20°C ~ 85°C
- Operation Humidity: 5% ~ 95%, non-condensing
- Dimensions: 100mm x 72mm
- Weight GW/NW: 600g / 250g

Ordering Information

- **HYPER-KBN-4201-R10:**
PICO-ITX SBC with AMD® G-Series GX-420CA SoC processor, DDR3, DVI-I/LVDS, GbE, USB 3.0, SATA 6GB/s, Audio and RoHS
- **HYPER-KBN-4151-R10:**
PICO-ITX SBC with AMD® G-Series GX-415GA SoC processor, DDR3, DVI-I/LVDS, GbE, USB 3.0, SATA 6GB/s, Audio and RoHS
- **HYPER-KBN-2171-R10:**
PICO-ITX SBC with AMD® G-Series GX-217GA SoC processor, DDR3, DVI-I/LVDS, GbE, USB 3.0, SATA 6GB/s, Audio and RoHS
- **HYPER-KBN-2101-R10:**
PICO-ITX SBC with AMD® G-Series GX-210HA SoC processor, DDR3, DVI-I/LVDS, GbE, USB 3.0, SATA 6GB/s, Audio and RoHS
- **32000-070301-RS:** Dual-port USB cable without bracket

Jumpers setting and connectors

LABEL	FUNCTION
J_ATX_AT1	AT/ATX mode select switch
AUDIO1	Audio connector
BAT1	Battery connector
CN3	Buzzer connector
J_CMOS1	Clear CMOS button
DIMM1	DDR3 SO-DIMM slot
CN2	Front panel connector
CN1	LAN LED connector
LVDS1	LVDS LCD connector
INV1	LVDS backlight inverter connector
PWR_BTN1	Power button connector
RST_BTN1	Reset button connector
COM1	RS-232 serial port connector
SATA1	SATA 6Gb/s drive connector
SATA_PWR1	SATA power connector
SPI1	SPI Flash connector
FAN1	System fan connector
USB2	USB connector
DVI_1	DVI connector
LAN1	LAN connector
PWR_CON1	Power connector
USB1	USB connector

J_ATX_AT1: AT/ATX mode select switch	
PIN NO.	DESCRIPTION
Short 1 - 2	AT Mode
Short 2 - 3	ATX Mode (default)

AUDIO1: Audio connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LINEOUT1R	2	LINE1R
3	GND_AUDIO	4	GND_AUDIO
5	LINEOUT1L	6	LINE1L
7	GND_AUDIO	8	GND_AUDIO
9	FMIC1R	10	FMIC1L

BAT1: Battery Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+VBAT	2	GND

CN3: Buzzer Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	SPKR+	2	SPKR-

J_CMOS1: Clear CMOS button	
PIN NO.	DESCRIPTION
Open	Normal Operation (default)
Push	Clear CMOS Setup

CN2: Front Panel Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	2	GND
3	PWR LED+	4	PWR LED-
5	HDD LED+	6	HDD LED-

CN1: LAN LED connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LAN1_AVDD33	2	LAN1_LED0_LINK_ACT#

INV1: LVDS Backlight Inverter connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	BRIGHTNESS	2	GND
3	BKL_PWR	4	GND
5	ENABKL		

LVDS1: LVDS LCD connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	DP0_TX0P	4	DP0_TX0N
5	DP0_TX1P	6	DP0_TX1N
7	DP0_TX2P	8	DP0_TX2N
9	DP0_TX3P	10	DP0_TX3N
11	NC	12	NC
13	GND	14	GND
15	DP0_AUXN	16	DP0_AUXP
17	VCC_LCD	18	VCC_LCD
19	VCC_LCD	20	VCC_LCD

PWR_BTN1: Power button connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PWR_BTN+	2	PWR_BTN-

RST_BTN1: Reset button connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RESET+	2	RESET-

COM1: RS-232 serial port connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	NDCD1	2	NDSR1
3	NRX1	4	NRTS1
5	NTX1	6	NCTS1
7	NDTR1	8	NRI1
9	GND	10	GND

SATA_PWR1: SATA power connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	2	GND

SPI1: SPI Programming connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	SPI_POWER	2	SPI_CS#
3	SPI_DATAIN	4	SPI_CLK
5	SPI_DATAOUT	6	GND

FAN1: System Fan connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	+12V
3	APU_FANTACH0	4	APU_FANOUT0

USB2: USB connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	USBV0L	2	GND
3	DATA0_N	4	DATA1_P
5	DATA0_P	6	DATA1_N
7	GND	8	USBV0L

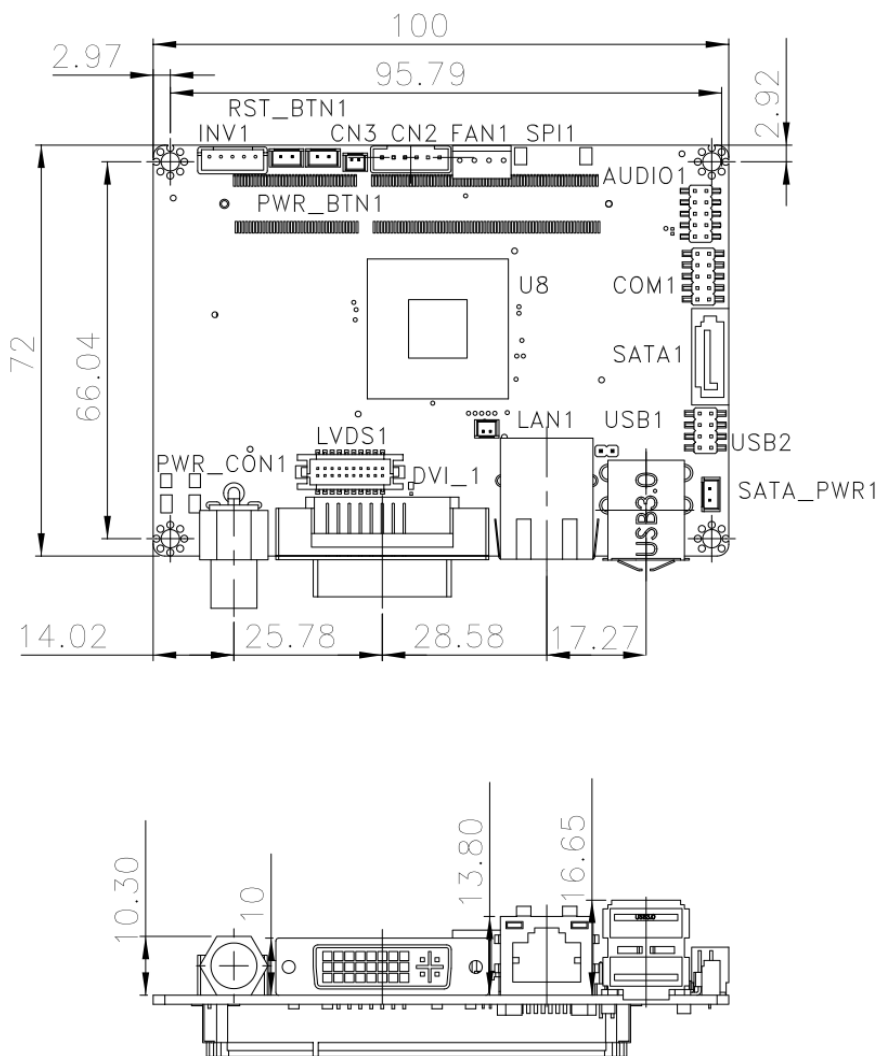
DVI_1: DVI connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	DDI2_LANE_N0	14	+5V_DVI
2	DDI2_LANE_P0	15	GND
3	GND	16	CON_DP1_HPD
4	NC	17	DDI2_LANE_N2
5	NC	18	DDI2_LANE_P2
6	CON_DP1_AUXP	19	GND
7	CON_DP1_AUXN	20	NC
8	VGA_VSYNC	21	NC
9	DDI2_LANE_N1	22	GND
10	DDI2_LANE_P1	23	DDI2_LANE_P3
11	GND	24	DDI2_LANE_N3
12	NC	25	GND_DVI-I
13	NC	26	GND_DVI-I
C1	RED	C2	GREEN
C3	BLUE	C4	VGA_HSYNC
C5	GND_VGA		

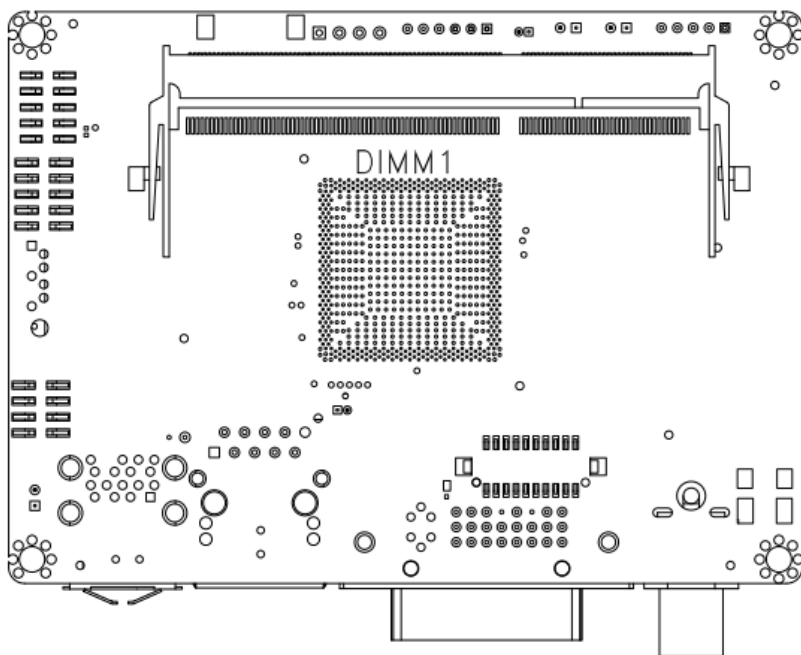
LAN1: LAN connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDIA3-	5	MDIA1+
2	MDIA3+	6	MDIA2+
3	MDIA2-	7	MDIA0-
4	MDIA1-	8	MDIA0+

PWR_CON1: Power connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	12VIN	2	GND
3	GND		

USB1: USB connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	USB_3P0_VCC1	10	USB_3P0_VCC2
2	USB2P8_DM0_L	11	USB2P9_DM1_L
3	USB2P8_DP0_L	12	USB2P9_DP1_L
4	GND	13	GND
5	USB3P0_RXDN0_C	14	USB3P0_RXDN1_C
6	USB3P0_RXDP0_C	15	USB3P0_RXDP1_C
7	GND	16	GND
8	USB3P0_TXDN0_C	17	USB3P0_TXDN1_C
9	USB3P0_TXDP0_C	18	USB3P0_TXDP1_C

Board Layout: Jumper and Connector Locations





(Unit: mm)