

Base Board for Qseven® Rev. 2.0 module

iQ7-DB-MATX

Quick Installation Guide **Version 1.0**

Mar 11, 2019.

Package List

iQ7-DB-MATX package includes the following items:

- 1 x Qseven® Base Board
- 1 x SATA Cable (P/N: 32000-062800-RS)
- 1 x Mini Jumper Pack
- 1 x QIG (Quick Installation Guide)



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Specifications

- Form Factor:
Micro ATX form factor base board (244mm x 244mm)
- COM Express type:
Supports COM Express Compact / Basic module using connector pin out Type 10
- Display Interfaces:
1 x LVDS
1 x HDMI
1 x iDP
- Audio:
Realtek ALC662 HD Audio Codec (Line-in, Line-out, Mic)
- Internal I/O Interface:
3 x PCIe x1
1 x LPC
2 x SATA port
1 x SD card socket
- Rear IO:
3 x Audio jacks (Line-in, Line-out, Mic)
1 x USB 3.0
6 x USB 2.0 (6 by rear IO)
1 x RJ-45 connector
1 x HDMI
- Front Audio: 2 x 5-pin pin header
- TPM: 2 x 10-pin pin header
- 80 port: 2 x 7 segment display
- Front Panel: 1 x Front_Panel (Power LED, HDD LED, Speaker (Buzzer), Power Button, Reset Button)
- I2C: 1 x 4-pin wafer
- SMBus: 1 x 4-pin wafer
- LPC: 1 x LPC

- Watchdog Timer:
Software programmable support 1~255 sec. system reset
- Power Supply:
ATX / AT Power Supply
24+4 pin
- FAN connector:
1 x 4-pin / 1x 3 pin CPU module fan Connector
- Temperature: -40°C ~ 85°C
- Humidity: 5% ~95% non-condensing
- Dimensions: 243.8 mm x 243.8 mm (9.6" x 9.6")

Ordering Information

- **iQ7-DB-MATX-R10**: Base Board for Qseven® Rev. 2.0 module
- **32102-000100-200-RS**: SATA Power cable

Jumpers setting and connectors

LABEL	FUNCTION
JP3	CMOS state setting
J_VLVDS1	LVDS Voltage Selection
BIOS_SW1	Second BIOS setting
ATX_AT_SW1	Auto Power Button
J_HDMI_DP1	HDMI & DP Mode Selection
HDMI1	HDMI Connector
USB2	USB 2.0 Port Connector
CN4	USB 3.0 & USB 2.0 Port Connector
LAN2_USB1	LAN & USB2.0 Connectors
AUDIO1	Extend Audio Module Connector
CN2	Front Audio Connector
SATA1, SATA2	Serial ATA Connectors
CPU_FAN1	CPU Fan Connector
FAN1	System Fan Connector
INVERTER1	5-pin Header Inverter Connector
CN3	LVDS Panel Connector
F_PANEL1	PWR & RST Buttons and Indicators
PWR2	+12V Power Source Connector
CN1	Trusted Platform Module (TPM)
SMBUS_1	SMBUS Connector
I2C_1	I2C BUS Connector
COM1	COM Port Connector
DP1	DP interface
J1	Q7connector

JP3: CMOS state setting

PIN NO.	DESCRIPTION
Open	Normal Operation (Default)
Push	Clear CMOS Setup

J_VLVDS1: LVDS Voltage Selection	
PIN NO.	DESCRIPTION
Short A - B	+3.3 V (Default)
Short B - C	+5.0 V

BIOS_SW1: Second BIOS setting	
PIN NO.	DESCRIPTION
Short A - B	Second BIOS disable. Boot from CPU Module (Default)
Short B - C	Second BIOS enable. Boot from Carrier Board

ATX_AT_SW1: Auto Power Button	
PIN NO.	DESCRIPTION
Short A - B	ATX mode (Default)
Short B - C	AT mode

J_HDMI_DP1: HDMI & DP Mode Selection	
PIN NO.	DESCRIPTION
Short A - B	HDMI mode (Default)
Short B - C	DP mode

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

USB2: USB 2.0 Port Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	5	VCC
2	DATA-	6	DATA-
3	DATA+	7	DATA+
4	GND	8	GND

CN4: USB 3.0 & USB 2.0 Port Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	USB_VCC	2	USB2_D0-
3	USB2_D0+	4	GND
5	USB3_RXD0-	6	USB3_RXD0+
7	GND	8	USB3_TXD0-
9	USB3_TXD0+	10	USB_VCC
11	USB2_D1-	12	USB2_D1+
13	GND		

LAN2_USB1: LAN & USB 2.0 Connectors			
USB1: External USB2.0 Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC	5	VCC
2	USB_DATA-	6	USB_DATA-
3	USB_DATA+	7	USB_DATA+
4	GND	8	GND
LAN2: RJ45 LAN Connector			
L1	TRD2P0	L5	TRD2N2
L2	TRD2N0	L6	TRD2N1
L3	TRD2P1	L7	TRD2P3
L4	TRD2P2	L8	TRD2N3

AUDIO1: Extend Audio Module Connector	
PIN NO.	DESCRIPTION
Line-in	CD/DVD or other audio source input port
Line-out	Connect this port to headphone or speaker
Microphone	Connect this port to microphone

CN2: Front Audio Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MIC_L	2	GND
3	MIC_R	4	Audio Detect
5	LINE2-R	6	GND
7	Jack Detection	8	N/C
9	LINE2-L	10	GND

SATA1, SATA2: Serial ATA Connectors			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	5	RX-
2	TX+	6	RX+
3	TX-	7	GND
4	GND		

CPU_FAN1: CPU Fan Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Ground	2	+12V
3	FANIO1	4	PWM

FAN1: System Fan Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	+12V (PWM)
3	FANIO1		

INVERTER1 : 5-pin Header Inverter Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LCD_BKLTCTL	2	GND
3	+12V	4	GND
5	BACKLIGHT ENABLE		

CN3: LVDS Panel Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	A0P_L	4	A0M_L
5	A1P_L	6	A1M_L
7	A2P_L	8	A2M_L
9	CLK1P_L	10	CLK1M_L
11	A3P_L	12	A3M_L
13	GND	14	GND
15	A4P_L	16	A4M_L
17	A5P_L	18	A5M_L
19	A6P_L	20	A6M_L
21	CLK2P_L	22	CLK2M_L
23	A7P_L	24	A7M_L
25	GND	26	GND
27	+VCC_LCD_BEAD2	28	+VCC_LCD_BEAD2
29	+VCC_LCD_BEAD2	30	+VCC_LCD_BEAD2

F_PANEL1: PWR & RST Buttons and Indicators					
	PIN	DESCRIPTION	PIN	DESCRIPTION	
PWR LED	1	+5V	2	+5V	SPKR
	3	N/C	4	N/C	
	5	GND	6	N/C	
PWR BTN	7	PWRBTN+	8	Speaker	RESET
	9	PWRBTN-	10	N/C	
HDD LED	11	+5V	12	Reset-	
	13	HDLED-	14	GND	

PWR2 : +12V Power Source Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	+12V	4	+12V

CN1: Trusted Platform Module connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	FWHPCLK	2	GND
3	LFRAME#	4	KEY
5	PCIRST#	6	VCC
7	LAD3	8	LAD2
9	VCC3	10	LAD1
11	LAD0	12	GND
13	SMBCLK	14	SMBDATA
15	3VDUAL	16	SERIRQ
17	GND	18	CLKRUN#
19	LPCPD#	20	LDRQ#

SMBUS_1: SMBUS Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	2	SMBUS CLOCK
3	SMBUS DATA	4	GND

I2C_1: I2C BUS Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V_DUAL	2	I2C CLOCK
3	I2C DATA	4	GND

CN3: COM Express GPIO Input / Output Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD	2	DSR
3	SIN	4	RST
5	SOUT	6	CTS
7	DTR	8	RI
9	GND	10	GND

DP1: DP interface			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	HPD	2	AUX+
3	GND	4	AUX-
5	CAD	6	GND
7	GND	8	Lane2+
9	Lane3+	10	Lane2-
11	Lane3-	12	GND
13	GND	14	Lane0+
15	Lane1+	16	Lane0-
17	Lane1-	18	VCC3
19	VCC5	20	N/C

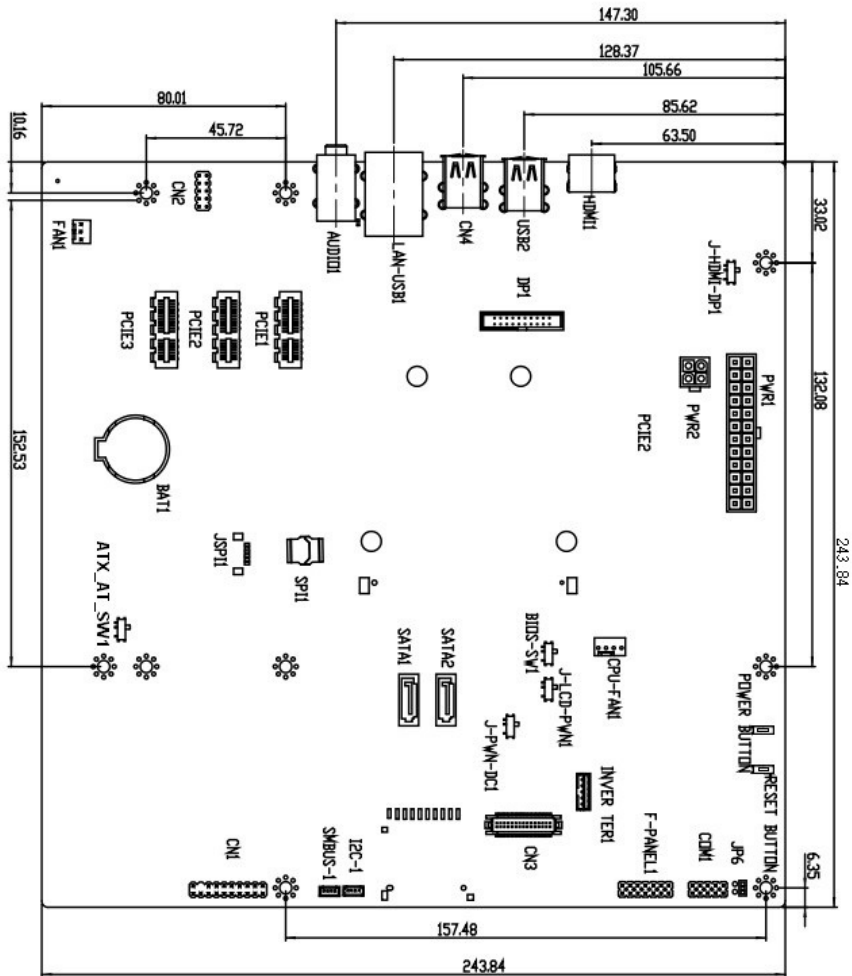
Q7: J1 Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND/1	2	GND/2
3	GBE_MDI3-	4	GBE_MDI2-
5	GBE_MDI3+	6	GBE_MDI2+
7	GBE_LINK100#	8	GBE_LINK1000#
9	GBE_MDI1-	10	GBE_MDI0-
11	GBE_MDI1+	12	GBE_MDI0+
13	GBE_LINK#	14	GBE_ACT#
15	GBE_CTREF	16	SUS_S5#
17	WAKE#	18	SUS_S3#
19	SUS_STAT#	20	PWRBTN#
21	SLP_BTN#	22	LID_BTN#
23	GND/23	24	GND/24
25	GND/25	26	PWGIN
27	BATLOW#	28	RSTBTN#
29	SATA0_TX+	30	SATA1_TX+
31	SATA0_TX-	32	SATA1_TX-
33	SATA_ACT#	34	GND/34
35	SATA0_RX+	36	SATA1_RX+
37	SATA0_RX-	38	SATA1_RX-
39	GND/39	40	GND/40
41	BIOS_DISABLE#	42	SDIO_CLK#
43	SDIO_CD#	44	SDIO_LED
45	SDIO_CMD#	46	SDIO_WP
47	SDIO_PWR#	48	SDIO_DAT1
49	SDIO_DAT0	50	SDIO_DAT3
51	SDIO_DAT2	52	SDIO_DAT5
53	SDIO_DAT4	54	SDIO_DAT7
55	SDIO_DAT6	56	RSVD/56
57	GND/57	58	GND/58
59	HDA_SYNC	60	SMB_CLK
61	HDA_RST#	62	SMB_DAT
63	HDA_BITCLK	64	SMB_ALERT#

65	HDA_SDI	66	GPO_I2C_CLK
67	HDA_SDO	68	GPO_I2C_DAT
69	THRM#	70	WDTRIG#
71	THERMTRIP#	72	WDOUT
73	GND/73	74	GND/74
75	USB_P7-/SSTX0-	76	USB_P6-/SSRX0-
77	USB_P7+/SSTX0+	78	USB_P6+/SSRX0+
79	USB_6_7_OC#	80	USB_4_5_OC#
81	USB_P5-/SSTX1-	82	USB_P4-/SSRX1-
83	USB_P5+/SSTX1+	84	USB_P4+/SSRX1+
85	USB_2_3_OC#	86	USB_0_1_OC#
87	USB_P3-	88	USB_P2-
89	USB_P3+	90	USB_P2+
91	USB_CC	92	USB_ID
93	USB_P1-	94	USB_P0-
95	USB_P1+	96	USB_P0+
97	GND/97	98	GND/98
99	LVDS_A0+	100	LVDS_B0+
101	LVDS_A0-	102	LVDS_B0-
103	LVDS_A1+	104	LVDS_B1+
105	LVDS_A1-	106	LVDS_B1-
107	LVDS_A2+	108	LVDS_B2+
109	LVDS_A2-	110	LVDS_B2-
111	LVDS_PPEN	112	LVDS_BLEN
113	LVDS_A3+	114	LVDS_B3+
115	LVDS_A3-	116	LVDS_B3-
117	GND/117	118	GND/118
119	LVDS_A_CLK+	120	LVDS_B_CLK+
121	LVDS_A_CLK-	122	LVDS_B_CLK-
123	LVDS_BLT_CTRL	124	GP_1-WIRE_BUS
125	LVDS_DID_DAT	126	LVDS_BLC_DAT
127	LVDS_DID_CLK	128	LVDS_BLC_CLK
129	CAN0_TX	130	CAN0_RX
131	DP_L3+/TM_CLK+	132	RSVD132

133	DP_L3-/TM_CLK-	134	RSVD134
135	GND/135	136	GND/136
137	DP_L1+/TM_L1+	138	DP_AUX+
139	DP_L1-/TM_L1-	140	DP_AUX-
141	GND/141	142	GND/142
143	DP_L0+/TM_L0+	144	RSVD/144
145	DP_L0-/TM_L0-	146	RSVD/146
147	GND/147	148	GND/148
149	DP_L2+/TM_L2+	150	HDMI_CTRL_DAT
151	DP_L2-/TM_L2-	152	HDMI_CTRL_CLK
153	DP_HDMI_HPD#	154	RSVD/154
155	PCIE_CLK_REF+	156	PCIE_WAKE#
157	PCIE_CLK_REF-	158	PCIE_RST#
159	GND/159	160	GND/160
161	PCIE3_TX+	162	PCIE3_RX+
163	PCIE3_TX-	164	PCIE3_RX-
165	GND/165	166	GND/166
167	PCIE2_TX+	168	PCIE2_RX+
169	PCIE2_TX-	170	PCIE2_RX-
171	UART0_TX	172	UART0_RTS#
173	PCIE1_TX+	174	PCIE1_RX+
175	PCIE1_TX-	176	PCIE1_RX-
177	UART0_RX	178	UART_CTS#
179	PCIE0_TX+	180	PCIE0_RX+
181	PCIE0_TX-	182	PCIE0_RX-
183	GND/183	184	GND/184
185	LPC_AD0	186	LPC_AD1
187	LPC_AD2	188	LPC_AD3
189	LPC_CLK	190	LPC_FRAME#
191	SERIRQ	192	LPC_LDRQ#
193	VCC_RTC	194	SPKR
195	FAN_TACHOIN	196	FAN_PWMOUT
197	GND/197	198	GND/198
199	SPI_MOSI	200	SPI_CS0#

201	SPI_MISO	202	SPI_CS1#
203	SPI_SCK	204	MFG_NC4
205	VCC_5VSB/205	206	VCC_5VSB/206
207	MFG_NC0	208	MFG_NC2
209	NFG_NC1	210	MFG_NC3
211	VCC/211	212	VCC/212
213	VCC/213	214	VCC/214
215	VCC/215	216	VCC/216
217	VCC/217	218	VCC/218
219	VCC/219	220	VCC/220
221	VCC/221	222	VCC/222
223	VCC/223	224	VCC/224
225	VCC/225	226	VCC/226
227	VCC/227	228	VCC/228
229	VCC/229	230	VCC/230
231	SOCKET1	232	SOCKET2

Board Layout: Jumper and Connector Locations



(Unit: mm)