

High end financial Self-service industrial machine

RA-F2308

product specification



Proposed By: Frank

Date: 06/11/2017

Checked By: Jim

Date: 06/11/2017

Changelist

Version	Date	Content of change	Author
V1.0	2017-11-06	First Release	Frank

Overview

RA-F2308 is a high end financial self-service industrial control machine developed by Realbom. The machine uses the latest H110 chipset of Intel, supporting Skylake LGA1151 i7/i5/i3/Pentium/Celeron series CPU, and can support 2 DDR4 DIMM memory. It can maximum support 32G memory, 16 COM ports, 16 USB ports (12 USB2.0,4 USB3.0), dual Gigabit Ethernet, VGA+DVI+HDMI two in three display output, 2*3.5 inch hard disk, can be widely used in various types of financial self-service equipment.

Features

1. Use Intel Skylake i7/i5/i3/Pentium/Celeron CPU
- 2.Support 2 DDR4 DIMM memory grooves, maximum support for 32G
- 3.Support 16 COM, 12 USB2.0,4 USB3.0, 2 gigabit network cards
4. Support VGA+DVI, DVI+HDMI, VGA+HDMI three kinds of dual display output

Specification

No.	Series	Item	Description
1	Platform	CPU	Intel Skylake i7/i5/i3/Pentium/Celeron
		Chipset	H110
2	Memory	Type	DDR4 2133MHz
		Slot	2X 288pin DIMM
		Capacity	Max 32G
3	Network	Interface	2X RJ45 Ports
		Chip	2X Realtek 8111F
4	Display	Graphics	HD530
		VGA	1X VGA, Maximum resolution 3840X2160
		DVI	1X DVI, Maximum resolution 3840X2160
		HDMI	1X HDMI,Maximum resolution 3840X2160
		Mode	Dual display, VGA+DVI/DVI+HDMI/HDMI+VGA
5	Storage	SATA	2X 3.5" HDD
		SSD	1X Mini-PCIE, support Msata

6	I/O Port	USB	12X USB2.0,4X USB3.0
		COM	16X COM
		LAN	2X 1000M RJ45
		PS2	1X PS/2
		Audio	1X Mic in+Line in+Line out
		Button	1X 2pin Power switch
		ODD	1X DVD
7	Power	Single power	1X 250W ATX
8	Physical parameters	Size	(279+70) mm(length)X285mm(width)X148mm(hight)
		Temperature	Working temperature: -15-50℃ ; Storage temperature: -40-70℃
		Humidity	5%-95%, non-condensing
9	OS	OS	Windows,Linux

I/O Ports

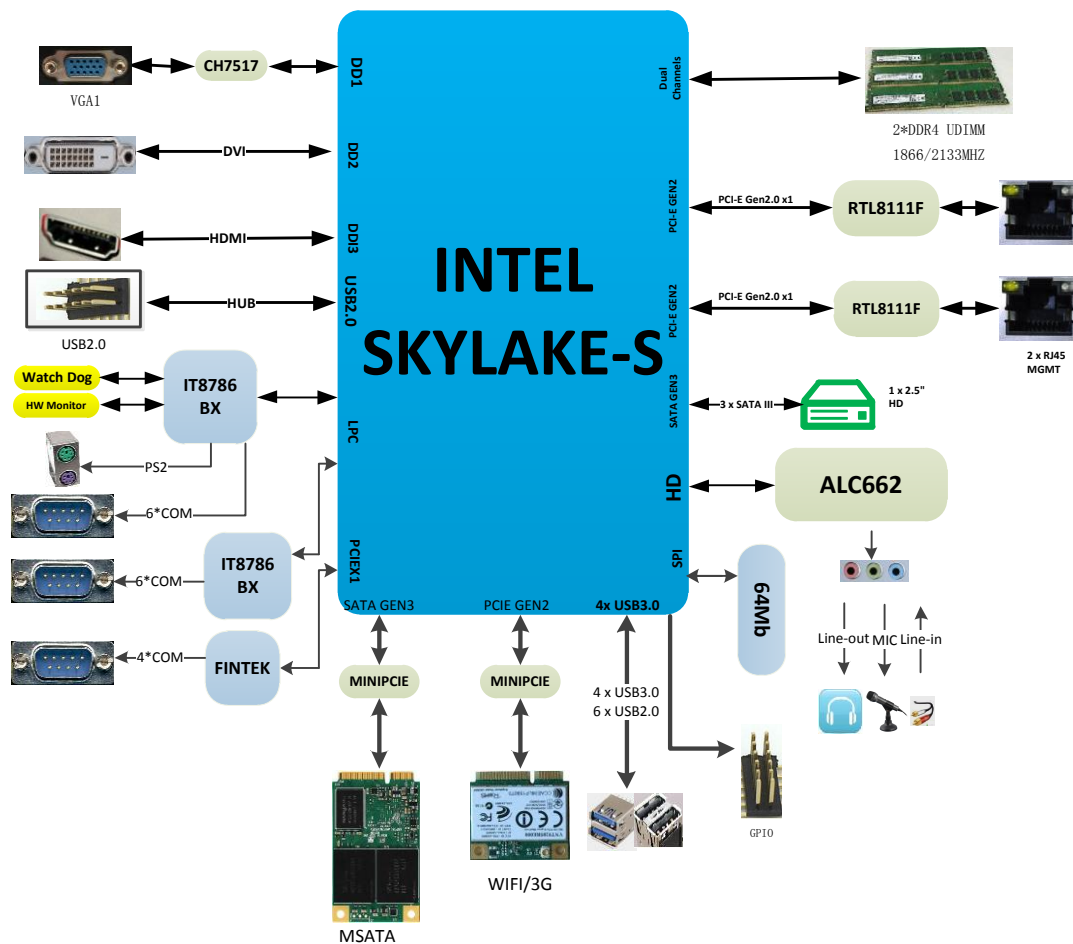
Ordering Information

Product name	Description
RA-F2308	Industrial control chassis, RB-F210RS, 220W ATX, 16XCOM,16XUSB

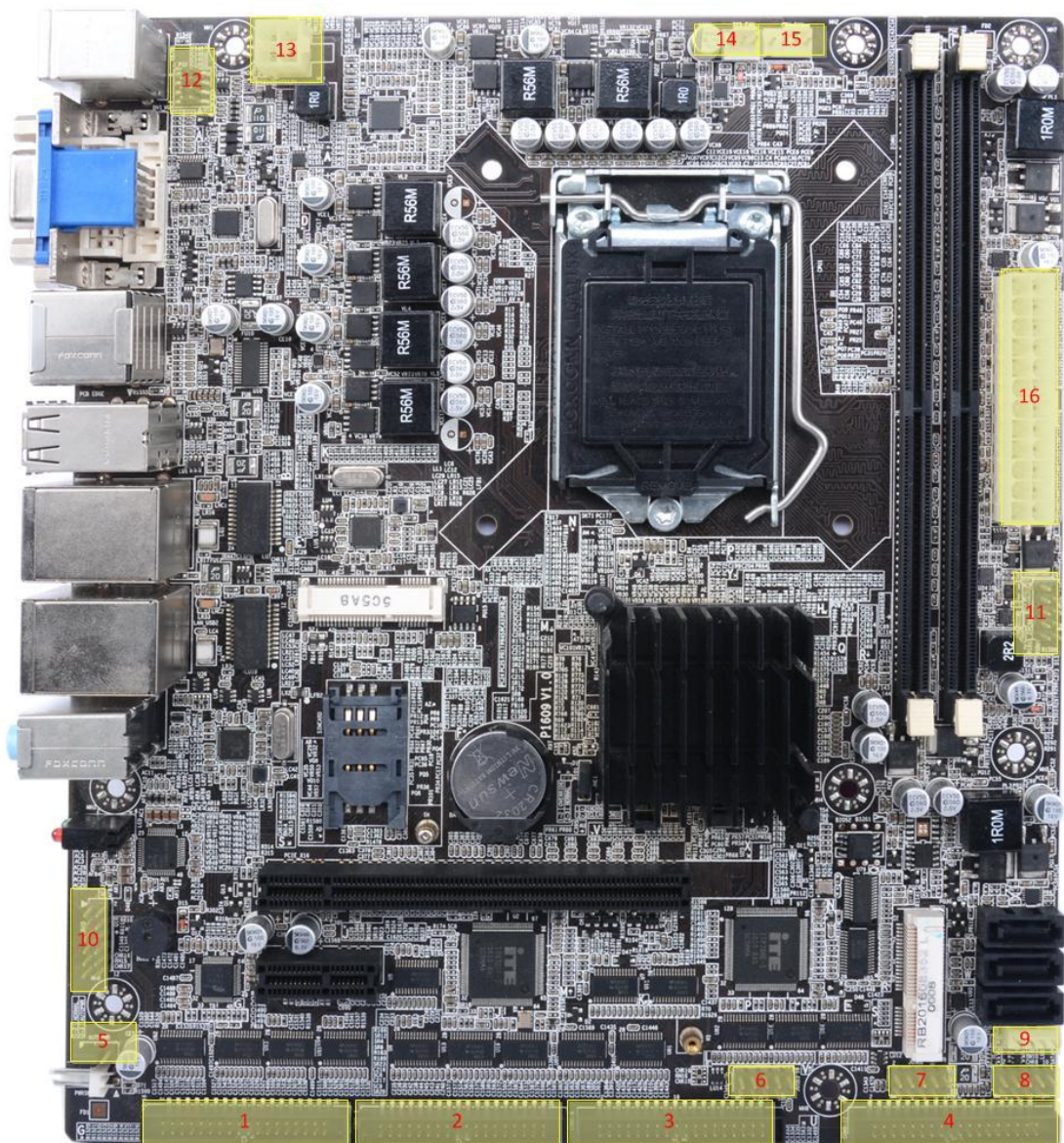
Accessories

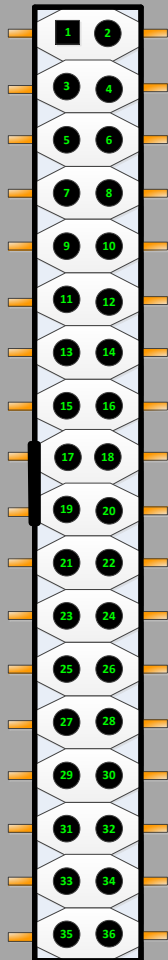
Category	Model	Specifications
Processor	I7-6700	4 core 8 threads, 3.4GHz,65W
	I5-6500	4 core 4 threads, 3.2GHz,65W
	I5-6400	4 core 4 threads, 2.7GHz,65W
	I3-6100	2 core 4 threads, 3.7GHz,51W

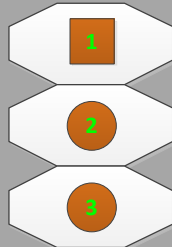
Block Diagram

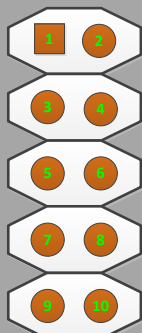


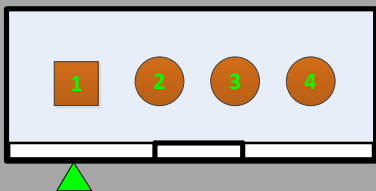
Motherboard Definition

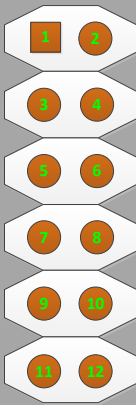


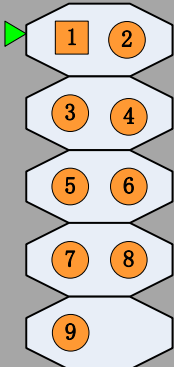
COM	COM(1-16) (① ② ③ ④)			
PIN Define				
	1	DCD1	2	RXD1
	3	TXD1	4	DTR1
	5	GND	6	DSR1
	7	RTS1	8	CTS1
	9	RI1	10	DCD2
	11	RXD2	12	TXD2
	13	DTR2	14	GND
	15	DSR2	16	RTS2
	17	CTS2	18	RI2
	19	DCD3	20	RXD3
	21	TXD3	22	DTR3
	23	GND	24	DSR3
	25	RTS3	26	CTS3
	27	RI3	28	DCD2
	29	RXD4	30	TXD2
	31	DTR4	32	GND
	33	DSR4	34	RTS2
35	CTS4	36	RI2	
Type	2x20 Header Box, PH=2.54mm			

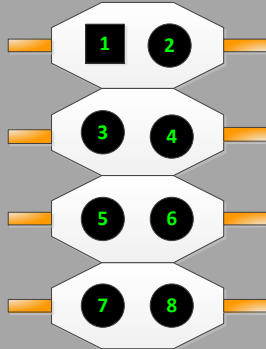
AUTOPWR	Auto Power On (⑤)				
PIN Define	 <table border="1"> <tr> <td>1-2</td><td>Normal</td></tr> <tr> <td>2-3</td><td>AutoPwr</td></tr> </table>	1-2	Normal	2-3	AutoPwr
1-2	Normal				
2-3	AutoPwr				
Type	1X4 DuPont Header, PH=2.54mm				
Memo	Default Setting: Jautopwr(1-2)				

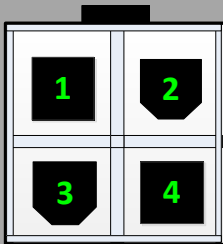
USB	USB Pin Define (⑥ ⑦ ⑧)																				
PIN Define	 <table><tr><td>1</td><td>+V5S</td><td>2</td><td>+V5S</td></tr><tr><td>3</td><td>Data0-</td><td>4</td><td>Data1-</td></tr><tr><td>5</td><td>Data0+</td><td>6</td><td>Data1+</td></tr><tr><td>7</td><td>GND</td><td>8</td><td>GND</td></tr><tr><td>9</td><td>NC</td><td>10</td><td>GND</td></tr></table>	1	+V5S	2	+V5S	3	Data0-	4	Data1-	5	Data0+	6	Data1+	7	GND	8	GND	9	NC	10	GND
1	+V5S	2	+V5S																		
3	Data0-	4	Data1-																		
5	Data0+	6	Data1+																		
7	GND	8	GND																		
9	NC	10	GND																		
Type	2x6 DuPont Header, PH=2.54mm																				

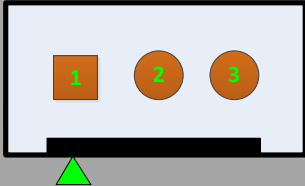
SATAPWR1	SATA POWER(⑨)								
PIN Define	 <table border="1"> <tr> <td>1</td><td>+V12S</td></tr> <tr> <td>2</td><td>GND</td></tr> <tr> <td>3</td><td>GND</td></tr> <tr> <td>4</td><td>+V5S</td></tr> </table>	1	+V12S	2	GND	3	GND	4	+V5S
1	+V12S								
2	GND								
3	GND								
4	+V5S								
Type	1X4 DuPont Header, PH=2.54mm								

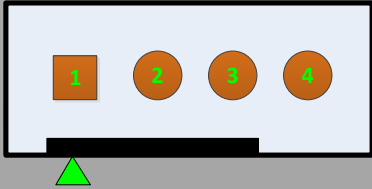
GPIO	GPIO Pin Define (10)																								
PIN Define	 <table><tr><td>1</td><td>+V5S</td><td>2</td><td>+V12S</td></tr><tr><td>3</td><td>GPIO1</td><td>4</td><td>GPIO5</td></tr><tr><td>5</td><td>GPIO2</td><td>6</td><td>GPIO6</td></tr><tr><td>7</td><td>GPIO3</td><td>8</td><td>GPIO7</td></tr><tr><td>9</td><td>GPIO4</td><td>10</td><td>GPIO8</td></tr><tr><td>11</td><td>GND</td><td>12</td><td>GND</td></tr></table>	1	+V5S	2	+V12S	3	GPIO1	4	GPIO5	5	GPIO2	6	GPIO6	7	GPIO3	8	GPIO7	9	GPIO4	10	GPIO8	11	GND	12	GND
1	+V5S	2	+V12S																						
3	GPIO1	4	GPIO5																						
5	GPIO2	6	GPIO6																						
7	GPIO3	8	GPIO7																						
9	GPIO4	10	GPIO8																						
11	GND	12	GND																						
Type	2x6 DuPont Header, PH=2.54mm																								

FPANEL	FPANEL(11)				
PIN Define		1	PWBTN+	2	HDD_LED+
		3	PWBTN-	4	HDD_LED-
		5	RESET+	6	PWR_LED+
		7	RESET-	8	PWR_LED-
		9	NULL	10	NC
Type	2X5 Dupont Header PH=2.54 mm NC PIN10				

J_PS2	Ps2 header(12)																
PIN Define	 <table><tr><td>1</td><td>KB_DATA</td><td>2</td><td>MS_DATA</td></tr><tr><td>3</td><td>KB_CLK</td><td>4</td><td>MS_CLK</td></tr><tr><td>5</td><td>GND</td><td>6</td><td>GND</td></tr><tr><td>7</td><td>+V5S</td><td>8</td><td>+V5S</td></tr></table>	1	KB_DATA	2	MS_DATA	3	KB_CLK	4	MS_CLK	5	GND	6	GND	7	+V5S	8	+V5S
1	KB_DATA	2	MS_DATA														
3	KB_CLK	4	MS_CLK														
5	GND	6	GND														
7	+V5S	8	+V5S														
Type	2x4 DuPont Header, PH=2.0mm																

DC-PWR	ATX 4Pin (13)				
PIN Define	 <table border="1"> <tr> <td>1-2</td><td>DC+</td></tr> <tr> <td>3-4</td><td>DC-</td></tr> </table>	1-2	DC+	3-4	DC-
1-2	DC+				
3-4	DC-				
Type	ATX Standard 4 pin connector				

SYS_FAN	System Fan Power and sense(14)						
PIN Define	 <table border="1"> <tr> <td>1</td><td>GND</td></tr> <tr> <td>2</td><td>+V12S</td></tr> <tr> <td>3</td><td>FAN_TAC</td></tr> </table>	1	GND	2	+V12S	3	FAN_TAC
1	GND						
2	+V12S						
3	FAN_TAC						
Type	1X3 DuPont Header, PH=2.54mm						

CPU_FAN	CPU FAN Power and Control(15)								
PIN Define	 <table border="1"> <tr><td>1</td><td>GND</td></tr> <tr><td>2</td><td>+V12S</td></tr> <tr><td>3</td><td>FAN_TAC</td></tr> <tr><td>4</td><td>FAN_CTL</td></tr> </table>	1	GND	2	+V12S	3	FAN_TAC	4	FAN_CTL
1	GND								
2	+V12S								
3	FAN_TAC								
4	FAN_CTL								
Type	1X4 DuPont Header, PH=2.54mm								

ATXP WR	ATXPWR (16)																																																
PIN Define	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 <table><tr><td>1</td><td>NULL</td><td>13</td><td>NULL</td></tr><tr><td>2</td><td>NULL</td><td>14</td><td>NULL</td></tr><tr><td>3</td><td>GND</td><td>15</td><td>GND</td></tr><tr><td>4</td><td>NULL</td><td>16</td><td>PSON</td></tr><tr><td>5</td><td>GND</td><td>17</td><td>GND</td></tr><tr><td>6</td><td>NULL</td><td>18</td><td>GND</td></tr><tr><td>7</td><td>GND</td><td>19</td><td>NULL</td></tr><tr><td>8</td><td>PG</td><td>20</td><td>NULL</td></tr><tr><td>9</td><td>5VSB</td><td>21</td><td>NULL</td></tr><tr><td>10</td><td>+V12S</td><td>22</td><td>NULL</td></tr><tr><td>11</td><td>NULL</td><td>23</td><td>NULL</td></tr><tr><td>12</td><td>NULL</td><td>24</td><td>GND</td></tr></table>	1	NULL	13	NULL	2	NULL	14	NULL	3	GND	15	GND	4	NULL	16	PSON	5	GND	17	GND	6	NULL	18	GND	7	GND	19	NULL	8	PG	20	NULL	9	5VSB	21	NULL	10	+V12S	22	NULL	11	NULL	23	NULL	12	NULL	24	GND
	1	NULL	13	NULL																																													
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5	GND	17	GND																																														
6	NULL	18	GND																																														
7	GND	19	NULL																																														
8	PG	20	NULL																																														
9	5VSB	21	NULL																																														
10	+V12S	22	NULL																																														
11	NULL	23	NULL																																														
12	NULL	24	GND																																														
Type	ATX Customized 24 pin connector																																																
Memo	Support standard ATX Power																																																