

EmCORE-i9457

3.5" Embedded Board

Quick Installation Guide

Version 1.3

Form Factor
<i>3.5" Embedded Board</i>

CPU
<i>mPGA 478 Socket for Intel® Core™ 2 Duo, Core™ Duo, Celeron M</i>

Chipset
<i>Intel® 945GME Intel® ICH7M</i>

I/O
<i>CF II/ Mini-PCI/ USB/ IDE/ COM/ LPT/ FDD</i>

LAN
<i>1 x Realtek RTL8111 PCIe GbE</i>

Audio
<i>ALC655 AC97 codec, Line-in/out, Mic-in</i>

Video
<i>Dual Channels LVDS/ Analog RGB</i>

◆ Technical Support

If you have any technical difficulties, please consult the user's manual first at:
<ftp://ftp.arbor.com.tw/pub/manual>

Please do not hesitate to call or e-mail our customer service when you still can not find out the answer.

<http://www.arbor.com.tw>

E-mail: info@arbor.com.tw

Declaration of Conformity

FCC Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



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4041945700130P

Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:



1 x EmCORE-i9457 3.5" Embedded Board



1 x Driver CD
1 x Quick Installation Guide



1 x CPU Cooler
90 x 66 x 27.8mm (W x L X H)



1 x ATX Power cable
ATX main power connector (2x10-pin) to EmCORE-i9457 power connector (2x5-pin)

If any of the above items is damaged or missing, contact your vendor immediately.

Ordering Information

EmCORE-i9457VLG	3.5" Intel 65nm μ FC-PGA Core™ Duo/Core™ 2 Duo/Celeron M Embedded Board
CBK-08-9457-00	<ul style="list-style-type: none"> 1 x Audio Cable 1 x COM Port Cable 1 x LPT to FDD Cable 1 x IDE Cable 1 x LPT Cable 1 x Keyboard & Mouse Cable 1 x SATA Cable 2 x USB Cables

The Installation Paths of CD Driver

Windows 2000 & XP

Driver	Path
CHIPSET	\CHIPSET\INTEL\INF 9.11
VGA	\GRAPHICS\INTEL_2K_XP_32\1432
LAN	\ETHERNET\REALTEK\8111_WINXP_5764
AUDIO	\AUDIO\REALTEK_AC97\WINDOWS_A401\98_2K_XP

Windows 7

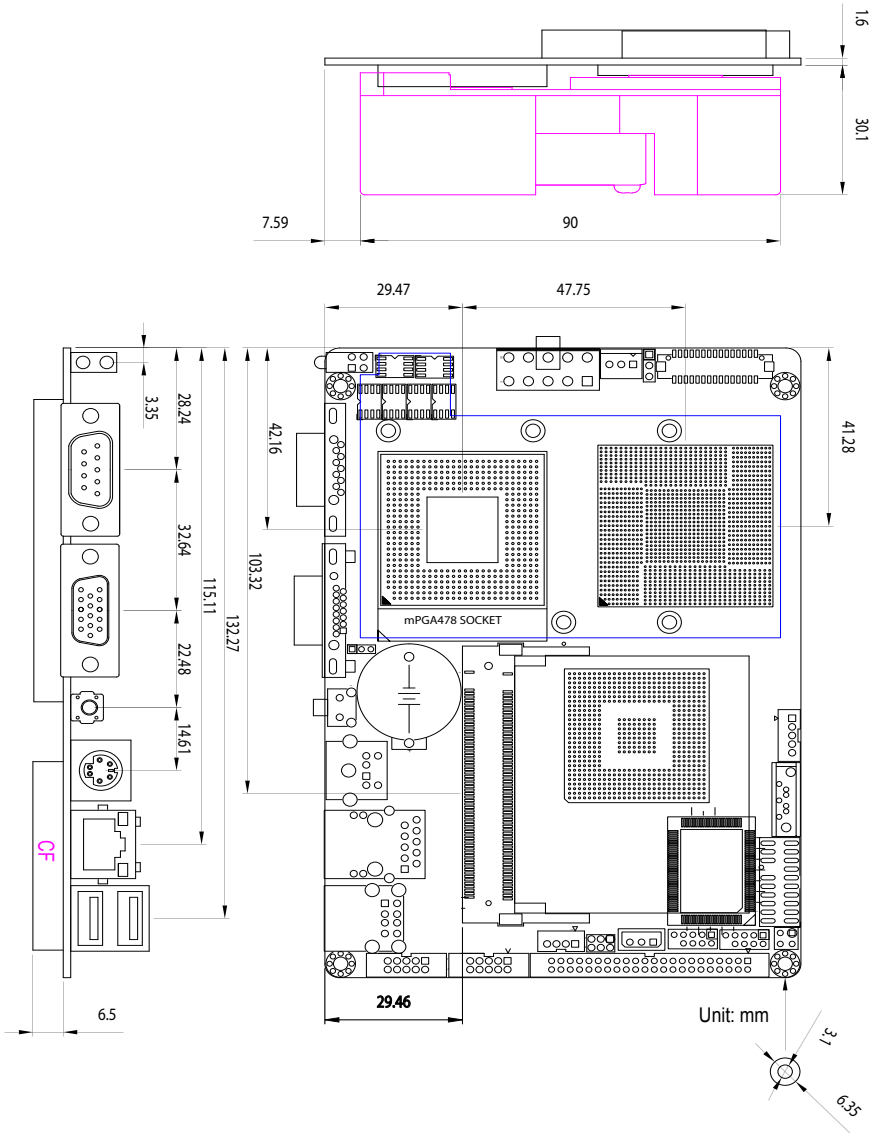
CHIPSET	\CHIPSET\INTEL\INF 9.1.1.1004
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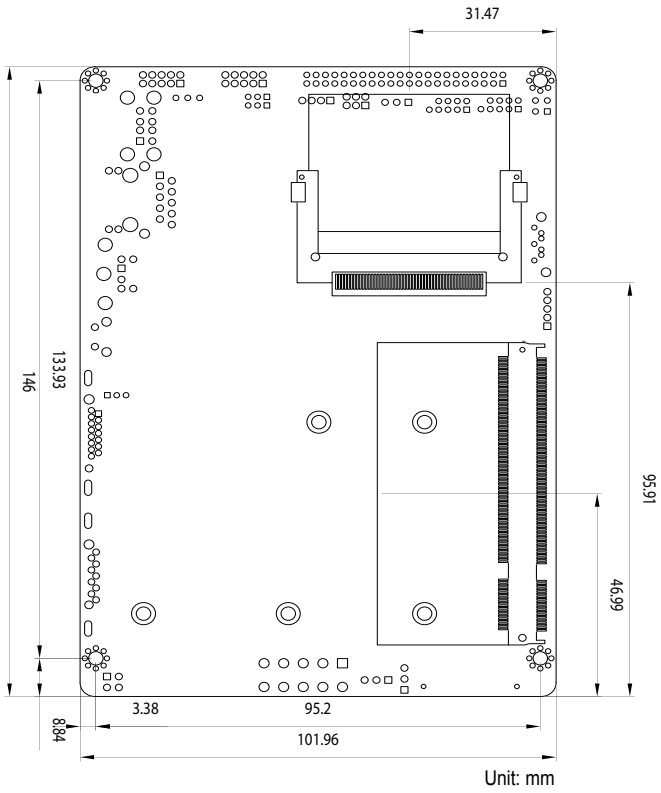
VGA	\\GRAPHICS\\INTEL_WIN7_32\\1930
LAN	Windows 7 built-in LAN driver
AUDIO	\\AUDIO\\REALTEK_AC97\\Win7_32_64_6305

Specifications

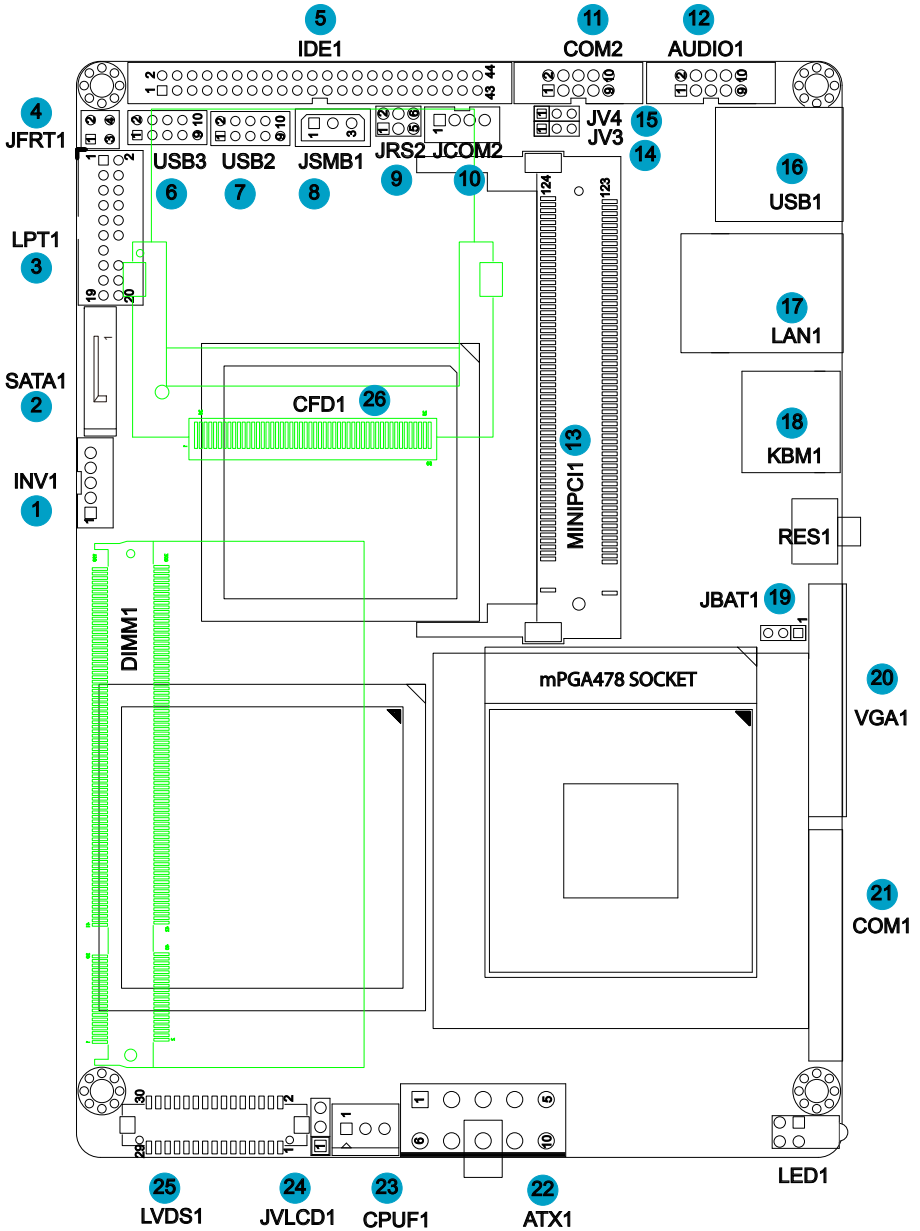
Form Factor	3.5" Embedded Board
CPU	Supports socket mPGA 478 for Intel® Core™ 2 Duo/ Core™ Duo/ Celeron M
Chipset	Intel® 945GME + Intel® ICH7M
System Memory	1 x 200-pin SO-DIMM socket up to 2GB DDR2 533/667 SDRAM
VGA/ LCD Controller	Intel® Graphics Media Accelerator 950 graphics core w/ Analog RGB/ Dual Channels LVDS (Dual independent display)
Ethernet	1 x RTL8111 PCIe GbE Controller
I/O Chips	WINBOND W83627HG
BIOS	Phoenix-Award PnP Flash BIOS
Audio	ALC655 AC'97 Codec, Line-in/out, Mic-in
IDE Interface	1 x IDE (Ultra ATA 33), support 2 IDE devices
SATA	1 x Serial ATA with 150MB/s HDD transfer rate
Serial Port	2 x COM ports (1 x RS232, 1x RS232/422/485 selectable)
Parallel Port/ Floppy	1 x SPP/EPP/ECP mode 1 x Floppy connector, shared with Parallel Port
KBMS	Standard PS/2 Keyboard and Mouse (via Y-cable)
Universal Serial Bus	6 x USB 2.0 ports
LCD	Dual Channels LVDS
Expansion Interface	1 x CF II socket, 1 x Mini-PCI socket
Hardware Monitor Chip	Integrated in W83627HG
Operation Temp.	-20°C ~ 70°C (-4°F ~ 158°F)
Watchdog Timer	255-level Reset
Dimension (L x W)	146 x 102 mm (5.7" x 4")

Board Dimension





Jumpers & Connectors



Jumpers/ Connectors Quick Reference

Jumpers

Label	Function
JRS2	COM2 RS-232/422/485 Selection
JV3, JV4	COM2 Power source special Support
JBAT1	Clear CMOS Setting
JVLCD1	LCD Panel Voltage Selection

Connectors

Label	Function
INV1	LCD Inverter Connector
SATA1	SATA Connector
LPT1	Parallel/FDD Port Connector
JFRT1	Switches and Indicator Connector
IDE1	IDE Connector
USB2, USB3	USB Connectors
JSMB1	External SMBus Connector
JCOM2	RS-422/485 Output Connector
COM2	Serial Port Connectors
AUDIO1	Audio Interface Connector
MINIPCI1	MiniPCI Slot
USB1	Double stack USB connector
LAN1	RJ-45 connector
KBM1	PS/2 Keyboard and Mouse connector
VGA1	CRT Connector
COM1	Serial Port Connector
ATX1	ATX Power Connector
CPUF1	CPU Fan Connector
LVDS1	LVDS LCD Connector
CFD1	CompactFlash Type II Socket

Switch & indicators

LED1: Power/ HDD indicators

LED	Mode
Green	Power ON/ Standby
Yellow	HDD activity

RES1: Reset Button

Jumpers

JRS2: COM2 RS-232/422/485 Selection (9)

Connector type: 2.54mm pitch 2x3-pin headers.

Mode	RS-232 (Default)	RS-422	RS-485
1-2	Short	Open	Open
3-4	Open	Short	Open
5-6	Open	Open	Short



JV3, JV4: COM2 Power source Special Support (14), (15)

Connector type: 2.54mm pitch 2x3-pin headers.

Setup JV3/JV4

POS: +5V on pin 1



POS: +12V on pin 9



POS: +5V on pin 1 and +12V on pin 9



JBAT1: Clear CMOS Setting (19)

Connector type: 2.54mm pitch 1x3-pin headers

Pin	Mode
1-2	Keep CMOS (Default)
2-3	Clear CMOS



JVLCD1: LCD Panel Voltage Selection (24)

The voltage of LCD panel could be selected by JVLCD1 in +5V or +3.3V.

Connector type: 2.54mm pitch 1x3-pin headers.

Pin	Voltage
1-2	+5V
2-3	+3.3V (Default)



Connectors

INV1: LCD Inverter Connector (1)

Connector type: 2.00mm pitch 1x5-pin box wafer connector.

Pin	Description
1	+12V
2	GND
3	Backlight on/off
4	Brightness control
5	GND



SATA1: Serial ATA Connector (2)

High speed transfer rates (150MB/s).

Pin	Description
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

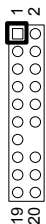


LPT1: Parallel Port Connector (3)

It can be selected by LPT or FDD mode via BIOS.

Connector type: 2.54mm pitch 2x10-pin headers.

Pin	Desc.	Pin	Desc.
1	STROBE	2	AFD
3	PTD0	4	ERROR
5	PTD1	6	INIT
7	PTD2	8	SLIN
9	PTD3	10	GND
11	PTD4	12	GND
13	PTD5	14	N/C
15	PTD6	16	BUSY
17	PTD7	18	PE
19	ACK	20	SELECT



Parallel port connector is shared w/ FDD.

Pin	Desc.	Pin	Desc.
1	N/C	2	RWC-
3	RINDEX-	4	HEAD-
5	TRAK0-	6	DIR-
7	WP-	8	STEP-
9	RDATA-	10	GND
11	DSKCHG-	12	GND
13	N/C	14	N/C
15	N/C	16	MOB-
17	N/C	18	WD-
19	DSB-	20	WE-

JFRT1: Switches and Indicators (4)

It provides connectors for system indicators that provides light indication of the computer activities and switches to change the computer status.

Connector type: 2.54mm pitch 2x2-pin headers.

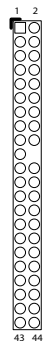
Pin	Description	Pin	Description
1	PWRBTN+	2	PWRBTN-
3	RESET+	4	RESET-



IDE1: Primary IDE Connector (5)

Connector type: 2.00mm pitch 2x24 box headers.

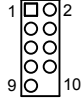
Pin	Description	Pin	Description
1	IDE RESET	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N/C (Key)
21	REQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	IO READY	28	IDESEL
29	DACK	30	GND
31	IRQ14	32	N/C
33	ADDR1	34	ATA66 DETECT
35	ADDR0	36	ADDR2
37	CS2#	38	CS3#
39	IDEACTP	40	GND
41	VCC (+5V)	42	VCC (+5V)
43	GND	44	N/C



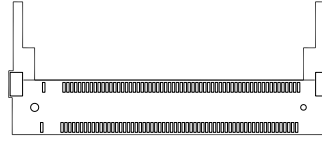
USB2, USB3: USB ConnectorS (6), (7)

Each one connector supports two USB 2.0 by pin headers.

Pin	Desc.	Pin	Desc.
1	+5V	2	+5V
3	USBD1-	4	USBD2-
5	USBD1+	6	USBD2+
7	GND	8	GND
9	GND	10	N/C (Key)



MINIPCI1: MiniPCI slot (13)



JSMB1: External SMBUS Connector (8)

Connector type: 2.00mm pitch 1x3-pin box wafer connector.

Pin	Description
1	Data
2	Clock
3	GND



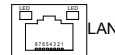
USB1: USB Connector (16)

USB1 supports two USB 2.0 connectors w/ 480MB/s. Connector type: Double stack USB type A.



LAN1: LAN Connector (17)

LAN1 supports one 10/100/1000 base-T Ethernet. Connector type: RJ-45.



JCOM2: RS-422/485 Output Connector (10)

Connector type: 2.54mm pitch 1x4-pin box wafer connector.

Pin	RS-422	RS-485
1	TX+	DATA+
2	TX-	DATA-
3	RX+	N/C
4	RX-	N/C



KBM1: Keyboard & Mouse (18)

Mini-Din Keyboard & Mouse connector

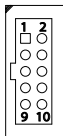
Pin	Description
1	KB Data
2	MS Data
3	GND
4	+5V
5	KB Clock
6	MS Clock



COM2: Serial port Connector (11)

Connector type: 2.54mm pitch 2x5-pin box headers.

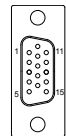
Pin	Desc.	Pin	Desc.
1	DCD#	2	RXD
3	TXD	4	DTR#
5	GND	6	DSR#
7	RTS#	8	CTS#
9	RI#	10	N/C



VGA1: CRT Connector (20)

Connector type: D-Sub 15-pin female.

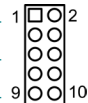
Pin	Desc.	Pin	Desc.
1	RED	9	VCC
2	GREEN	10	GND
3	BLUE	11	N/C
4	N/C	12	D-DATA
5	GND	13	H-SYNC
6	GND	14	V-SYNC
7	GND	15	D-DCLK
8	GND		



AUDIO1: Audio Interface Connector (12)

Connector type: 2.00mm pitch 2x5-pin headers

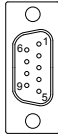
Pin	Desc.	Pin	Desc.
1	Line Left in	2	Line Right in
3	GND	4	GND
5	MIC1	6	MIC2
7	GND	8	GND
9	Line Out Left	10	Line Out Right



COM1: RS-232 Connector (21)

Connector type: D-Sub 9-pin male.

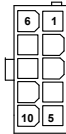
Pin	Desc.	Pin	Desc.
1	DCD#	6	DSR#
2	RXD	7	RTS#
3	TXD	8	CTS#
4	DTR#	9	RI#
5	GND		



ATX1: ATX Power Connector (22)

Pin Description Pin Description

Pin	Description	Pin	Description
6	+5VSB	1	PS_ON
7	+5V	2	GND
8	+5V	3	GND
9	N/C	4	+12V
10	GND	5	+3.3V



CPUF1: CPU FAN Connector (23)

The fan must be a +12V fan.

Connector type: 2.54mm pitch 1x3-pin wafer one wall connector.

Pin	Description
1	GND
2	+12V
3	Fan_Detect



LVDS1: LVDS LCD Connector (25)

Connector type: DF-13-30DP-1.25V connector.

Pin	Desc.	Pin	Desc.
2	VDD	1	VDD
4	TX2CLK+	3	TX1CLK+
6	TX2CLK-	5	TX1CLK-
8	GND	7	GND
10	TX2D0+	9	TX1D0+
12	TX2D0-	11	TX1D0-
14	GND	13	GND
16	TX2D1+	15	TX1D1+
18	TX2D1-	17	TX1D1-
20	GND	19	GND
22	TX2D2+	21	TX1D2+
24	TX2D2-	23	TX1D2-
26	GND	25	GND
28	TX2D3+	27	TX1D3+
30	TX2D3-	29	TX1D3-



CFD1: CompactFlash Type II Socket (26)

After hot-swapping CF II, you must restart your system for device detecting.
Default setting: IDE Master.