# **MI805**

Intel® Celeron® QC J1900 Mini-ITX Motherboard

# **USER'S MANUAL**

Version 1.1

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# Introduction

MI805 is a Mini ITX board (170mm x 170mm) that comes with the Intel Intel® Celeron® QC J1900 processor that runs at 2.0GHz and has two DDR3 SO-DIMM sockets supporting up to 8GB of system memory. It supports the Intel® Gen7 w/ 4EUs graphics engine with interface for CRT, DVI-D and 24-bit dual channel LVDS displays.

Connectivity is provided by one USB 3.0 connector at the board edge and a total of seven USB 2.0 ports with two ports also at the board edge. Two SATA II ports are included.

#### **MI805 FEATURES**

- Mini ITX form factor, 170mm x 170mm
- Onboard Intel® Celeron® QC J1900 /2MB L2 cache/2.0 GHz  $\,$
- Two DDR3 SO-DIMM sockets, DDR3L-1333, Max. 8GB
- Intel® Gen7 w/4EUs graphics for CRT, DVI-D interface
- 24-bit dual channel LVDS interface
- Dual Intel I211-AT PCIe Gigabit LAN
- 1x USB 3.0 on edge, total of 7 USB 2.0 support
- Two SATA II 2 ports, 6x COM ports
- Digital IO 4-in / 4-out, PCIe (1x) slot, 2x Mini-PCIe
- Watchdog Timer, iSMART, RoHS compliance

## Checklist

Your MI805 package should include the items listed below.

- The MI805 Mini-ITX motherboard
- This User's Manual
- 1 CD containing chipset drivers and flash memory utility
- Serial ATA cable
- I/O shield

MI805 User's Manual

# MI805 Specifications

Form Factor         Mini-ITX           SoC         Intel® Celeron® QC J1900 /2MB L2 cache/2.0 GHz [TDP=10W]           Pype/Speed         Package = FCBGA1170,Type-3, 25mmx27mm, 22nm           BIOS         AMI BIOS           Memory         2 xDDR3 SO-DIMM sockets [Horizontal type]           Maximum to DDR3L-1333@868 (Non-ECC, Unbuffered, 1.35V)           Display         Intel® Gen7 w/ 4EUs graphics engine           Supports DX 11, OGL 3.0, OCL 1.1, OGLES 2.0, CRT x1; DVI-D x1           LVDS         24-bit dual channel via NXP PTN3460 thru eDP           LAN         Intel® Atom <sup>TM</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O           Intel® Atom <sup>TM</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O           Intel® Celeron® SoC built-in USB 3.0, port           -         2 ports thru Inin PCle slot (Full-sized#1 / Half-sized)           -         2 ports thru onboard pin-header thru USB 2.0 houb (SMSC           USB2514)         -           -         1 port compatible with USB3.0 port           Audio         Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support sring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 23/422/485 transceiver for jumper-less]           -         COM #1 (RS2322 only), supports ring-in with power @500 mA (selectable for 5V or 12V), SP339EER1 23/242/485 transceiver for jumper-less]           -         COM #2 (RS232 only), s	Product Name	MI805F-D
SoC Type/Speed         Intel® Celeron® OC J1900 /2MB L2 cache/2.0 GHz [TDP=10W]           Package = FCBGA1170, Type-3, 25mmx, 27mm, 22nm         BIOS           Memory         2 xDDR3 SO-DIMM sockets [Horizontal type]           Maximum to DDR3L-1333@8GB (Non-ECC, Unbuffered, 1.35V)           Display         Intel® Gen7 wi 4EUs graphics engine           Supports DX 11, OGL 3.0, OCL 1.1, OGLES 2.0, CRT x1; DVI-D x1           LVDS         24-bit dual channel via NXP PTN3460 thru eDP           LAN         Intel® Celeron® SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports           -         2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)           -         1 port compatible with USB3.0 port           -         1 port compatible VID Codec w(lass-D speaker amplifier (2W per channel @ 5V power supply) ; support 2-channel audio out + amp           LPC I/O         Nuvoton NCT6106D /1128-pin LQFP, 14x14x1.4mm]           -         COm #1 (RS2322 only), supports ring-in with power @500 mA (selectable for 5V or 12V), With SP3243EBER           [Hardware Monitor]         Com #2 (RS232 only) with SP3243EBER	Form Factor	Mini-ITX
Type/Speed         Package = FCBGA1170,Type-3, 25mmx27mm, 22mm           BIOS         AMI BIOS           Memory         2 xDDRS SO-DIMM sockets [Horizontal type] Maximum to DDR3L-1333@806 (Non-ECC, Unbuffered, 1.35V)           Display         Intel® Gen7 w/ 4EUs graphics engine Supports DX 11, OGL 30, OCL 1.1, OGLES 2.0, CRT x1; DVI-D x1           LVDS         24-bit dual channel via NXP PTN3460 thru eDP           LAN         Intel® Celeron® Soc Duilt-in USB 2.0, soc controller, support 7 ports - 2 ports in the rear panel - 2 ports in u onboard pin-header thru USB 2.0 hub (SMSC USB2514)           Serial ATA         Intel® Atom <sup>TM</sup> SoC built-in USB 3.0, supports 2 ports           Audio         Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp - 1 port compatible with USB3.0 port           Serial ATA         Intel® Atom <sup>TM</sup> SoC built-in SATA II controller, supports 2 ports           Audio         Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp - COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) (F9339EER1 232/422/485 transceiver for jumper-less] - Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER [Hardware Monitor] 2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PWM), 1x system fan ((DC mode)           Digital IO         4-in / 4-out (User configurable)           Expansion Slots         FCle (1x) slotx 1 Full-sized Mini-PCle x 2 [Mounting holes for full-si	SoC	Intel® Celeron® QC J1900 /2MB L2 cache/2.0 GHz [TDP=10W]
BIOS       AMI BIOS         Memory       2 xDDR3 SO-DIMM sockets [Horizontal type]         Maximum to DDR3L-1333@8GB (Non-ECC, Unbuffered, 1.35V)         Display       Intel® Cen7 w/ 4EUs graphics engine         Supports DX 11, OGL 30, OCL 1.1, OGLES 2.0, CRT x1; DVI-D x1         LVDS       24-bit dual channel via NXP PTN3460 thru eDP         LAN       Intel® Caleron® SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports         -       2 ports in the rear panel         -       2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)         -       1 port compatible with USB3.0 port         Serial ATA       Intel® Atom <sup>™</sup> SoC built-in SATA II controller, supports 2 ports         Audio       Realtek ALC2680HD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         -       COM #1 (RS232 201y), supports ring-in with power @500 mA (selectable for 5V or 12V), With SP3243EBER         -       COM #3 - COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]       2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in /4-out (User configurable)         Zx fan header, 1x CPU fan (PWM), 1x system fan (DC mode)       DUB ack x 1(refer to 18902, C1213512DCS03000P) <tr< th=""><th>Type/Speed</th><th>Package = FCBGA1170,Type-3, 25mmx27mm, 22nm</th></tr<>	Type/Speed	Package = FCBGA1170,Type-3, 25mmx27mm, 22nm
Memory         2 xDDR3 SO-DIMM sockets [Horizontal type] Maximum to DDR3L-1333@8GB (Non-ECC, Unbuffered, 1.35V)           Display         Intel® Gen7 W / 4EUs graphics engine Supports DX 11, OCL 3.0, OCL 1.1, OGLES 2.0, CRT x1; DVI-D x1           LVDS         24-bit dual channel via NXP PTN3460 thru eDP           LAN         Intel® Atom <sup>™</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports - 2 ports in the rear panel           -         2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)           -         1 port compatible with USB3.0 port           Serial ATA         Intel® Atom <sup>™</sup> SoC built-in SATA II controller, support 2 ports           Audio         Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp channel @ 5V power supply); support 2-channel audio out + amp commercients           LPC I/O         Nuvcton NCT6106D / [128-pin LQFP, 14x14x1.4mm]           -	BIOS	AMI BIOS
Maximum to DDR3L-1333@8GB (Non-ECC, Unbuffered, 1.35V)           Display         Intel® Gen7 w/ 4EUs graphics engine Supports DX 11, OGL 3.0, OCL 1.1, OGLES 2.0, CRT X1; DVI-D x1           12VDS         24-bit dual channel via NXP PTN3460 thru eDP           LAN         Intel® Clarmine via NXP PTN3460 thru eDP           LAN         Intel® Atom <sup>TM</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports           -         2 ports in the rear panel           -         2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)           -         1 port compatible with USB3.0 port           Serial ATA         Intel® Atom <sup>TM</sup> SoC built-in SATA II controller, supports 2 ports           Audio         Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp           LPC I/O         Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]           -         COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]           -         Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V) [With SP3243EBER           -         COM #3 (RES232 only) with SP3243EBER           -         COM #4 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V) [With SP3243EBER           -         COM #4 (RS232 only) with SP3243EBER	Memory	2 xDDR3 SO-DIMM sockets [Horizontal type]
Display         Intel® Gen7 w/ 4EUs graphics engine Supports DX 11, OGL 3.0, OCL 1.1, OGLES 2.0, CRT x1; DVI-D x1           LVDS         24-bit dual channel via NXP PTN3460 thru eDP           LAN         Intel I211-AT PCIe Gigabit LAN x 2           USB         Intel® Atom <sup>TM</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports - 2 ports in the rear panel - 2 ports thru wini PCIe slot (Full-sized#1 / Half-sized) - 2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514) - 1 port compatible with USB3.0 port           Serial ATA         Intel® Atom <sup>TM</sup> SoC built-in SATA II controller, supports 2 ports           Audio         Realter ALC 2680HD Codec widass-D speaker amplifier (2W per channel @ 5V power supply) ; support 2-channel audio out + amp channel @ 5V power supply) ; support ing-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less] - CoM #1 (RS2322 dnly), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER - COM #3~COM #6 (RS232 only) with SP3243EBER (Hardware Monitor] 2x fan header, 1x CPU fan (PVM), 1x system fan (DC mode)           Digital IO         4-in / 4-out (User configurable)           Expansion Slots         FUI-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)] MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)           Edge DC Jack x 1(refer to IB902, C1213512DCSC03000P) Dual DB3 Stack connector x 1 for CM#1 / COM#2 DB15 + DVI-D stack connector x 1 for CM#1 / COM#2 DB15 + DVI-D stack connector x 1 for CM#1, PVI-D Dual USB + RJ45 stack connector x 1 for CM#1, PVI-D Dual USB + RJ45 stack co		Maximum to DDR3L-1333@8GB (Non-ECC, Unbuffered, 1.35V)
Supports DX 11, OGL 3.0, OCL 1.1, OGLES 2.0, CRT X1; DVI-D X1         LVDS       24-bit dual channel via NXP PTN3460 thru eDP         LAN       Intel® Atom <sup>TM</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports - 2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)         Berial ATA       Intel® Atom <sup>TM</sup> SoC built-in USB 3.0 port         Serial ATA       Intel® Atom <sup>TM</sup> SoC built-in SATA II controller, supports 2 ports         Audio       Realtek ALC269QHD Codec w(class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out+ amp channel @ 5V power supply); support 2-channel audio out+ amp channel @ 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         - COM #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         - COM #3-COM #6 (RS232 only) with SP3243EBER [Hardware Monitor] 2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion Slots       PCle (1x) slot x 1 Single RJ-45 connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 Single RJ-45 connector x 1 for COM # 3-# 6 DF2D socket connector x 1 for CAT + DVI-D Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 Single RJ-45 connector x 1 for CAT + DVI-D Dual USB + RJ45 stack connector x 1 for CAT + DVI-D Dual USB + RJ45 stack connector x	Display	Intel® Gen7 w/ 4EUs graphics engine
LVDS       24-bit dual channel via NXP PTN3460 thru eDP         LAN       Intel® Atom™ SoC built-in USB 3.0, supports 1 port, Edge I/O         Intel® Atom™ SoC built-in USB 3.0, supports 1 port, Edge I/O         Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports         -       2 ports in the rear panel         -       2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)         -       1 port compatible with USB3.0 port         Serial ATA       Intel® Atom™ SoC built-in SATA II controller, supports 2 ports         Audio       Reattek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         -       COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         -       COM #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         -       COM #3- COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]       2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PVMM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)       Expansion         Slots       FUII-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         MiniPCle #1 support PCle(1x)/US		Supports DX 11, OGL 3.0, OCL 1.1, OGLES 2.0,
LVDS       24-bit dual channel via NAP P1N3400 thru eDP         LAN       Intel 211-AT PCIe Gigabit LAN x2         USB       Intel® Atom <sup>™</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports - 2 ports thru mini PCIe slot (Full-sized#1 / Half-sized) - 2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)         Serial ATA       Intel® Atom <sup>™</sup> SoC built-in SATA II controller, supports 2 ports         Audio       Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / 1128-pin LOFP. 14x14x1.4mm]         -       COM #1 (RS232/422/485) support ing-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/486 transceiver for jumper-less]         -       Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         -       COM #3 - COM #6 (RS232 only) with SP3243EBER         -       COM #3 - COM #6 (RS232 only) with SP3243EBER         -       COM #1 (User configurable)         Expansion       PCIcl (1x) slot x 1         Slots       Full-sized Mini-PCIe x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         Mini-PCIe #1 support PCle(1x)/USB signal Mini-PCIe #2 support mSATA only (Share with SATA #1)         Edge       DC Jaak x 1 (refer to IB902, C1213512DCSC03000P)         Dual USB + RJ45 stack connector x 1 for CRT + DVI-D Dual USB	11/20	CRT X1; DVI-D X1
LAN       Intel I211-A1 PCIe Gigabit LAN X 2         USB       Intel® Atom™ SoC built-in USB 3.0, supports 1 port, Edge I/O Intel® Celeron® SoC built-in USB 2.0 host controller, support 7 ports <ul> <li>2 ports in the rear panel</li> <li>2 ports thru Mini PCIe slot (Full-sized#1 / Half-sized)</li> <li>2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)</li> <li>1 port compatible with USB3.0 port</li> </ul> <li>Serial ATA</li> <li>Intel® Atom™ SoC built-in SATA II controller, supports 2 ports</li> <li>Audio</li> <li>Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp</li> <li>COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/42/485 transceiver for jumper-less]</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER</li> <li>COM #3~COM #6 (RS232 only) with SP3243EBER</li> <li>COM #3~COM #6 (RS232 only) with SP3243EBER</li> <li>IHardware Monitor]</li> <li>2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> <li>Digital IO</li> <li>4-in / 4-out (User configurable)</li> <li>Expansion</li> <li>PCIe (1x) slot x 1</li> <li>Slots</li> <li>Full-sized Mini-PCIe x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]</li> <li>Mini-PCIe #2 support PCIe(1x)/USB signal Mini-PCIe #2 support PCIe(1x)/USB signal Mini-PCIe #2 support x1 for COM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x1 for COM#1 / CM#2</li> <li>DB15 + DVI-D stack connector x1 for CM#1 / Edge</li> <li>Connector</li> <li>Dual UBS + RA45 stack connector x1 for CM#1 / Edge</li> <li>Audio 3-port connector x1 for COM#1 / CM#2</li> <li>DB15 + DVI-D stack connector x1 for CM#1 / CM#2</li> <li>DB15 + DVI-D stack connector x1 for</li>	LVDS	
USB       Intel® Acom™ Soc built-in USB 3.0, supports 1 port, Edge 10 Intel® Celeron® Soc built-in USB 2.0 host controller, support 7 ports <ul> <li>2 ports in the rear panel</li> <li>2 ports thru Mini PCIe slot (Full-sized#1 / Half-sized)</li> <li>2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)</li> <li>1 port compatible with USB3.0 port</li> </ul> <li>Serial ATA</li> <li>Intel® Atom™ Soc built-in SATA II controller, supports 2 ports</li> <li>Audio</li> <li>Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp</li> <li>LPC I/O</li> <li>Nuvcoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]</li> <li>COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER</li> <li>Hardware Monitor]</li> <li>2x thermal inputs; 2 x Voltage monitoring</li>		Intel 1211-AT POIe Gigabit LAN X 2
<ul> <li>Initele Celefolds Stoc built-II OSS 2.0 flost controllet, support 7 poins</li> <li>2 ports thru Mini PCle slot (Full-sized#1 / Half-sized)</li> <li>2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)</li> <li>1 port compatible with USB3.0 port</li> <li>Serial ATA</li> <li>Intel® Atom<sup>TM</sup> SoC built-in SATA II controller, supports 2 ports</li> <li>Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp</li> <li>LPC I/O</li> <li>Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]</li> <li>COM #1 (RS232/422/485) support ing-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP32435EBER</li> <li>COM #3~COM #6 (RS232 only) with SP32435EBER</li> <li>COM #3~COM #6 (RS232 only) with SP32435EBER</li> <li>COM #3~COM #6 (RS232 only) with SP32435EBER</li> <li>PCIe (1x) slot x 1</li> <li>Slots</li> <li>Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]</li> <li>MiniPCle #1 support PCle(1x)/USB signal</li> <li>Mini-PCle #2 support mSATA only (Share with SATA #1)</li> <li>DC Jack x 1 (refer to 1B902, C1213512DCSC0300P)</li> <li>Dual DB9 Stack connector x 1 for CRT + DVI-D</li> <li>Dual DB9 Stack connector x 1 for USB2.0 + LAN</li> <li>USB 3.0 vertical connector x 1</li> <li>Single RJ-45 stock connector x 1 for USB2.0 + LAN</li> <li>USB 3.0 vertical connector x 1 for CRT + DVI-D</li> <li>Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN</li> <li>USB 3.0 vertical connector x 1 for CRT + DVI-D</li> <li>Dual USB + rDVI-D stack connector x 1 for CRT + DVI-D</li> <li>Dual USB + rLy45 stack for COM # 3-# 6</li> <li>DF20 socket connector x 2 for SATA 4 povice</li> <li>2x 6 pins header x1 for fornt audio (2.54 pitch type)</li> <li>SATA connector x2 for S</li></ul>	USB	Intel® Atom <sup>™</sup> SoC built-in USB 3.0, supports 1 port, Edge I/O
-       2 ports thru Mini PCIe slot (Full-sized#1 / Half-sized)         -       2 ports thru onboard pin-header thru USB 2.0 hub (SMSC USB2514)         -       1 port compatible with USB3.0 port         Serial ATA       Intel® Atom <sup>™</sup> SoC built-in SATA II controller, supports 2 ports         Audio       Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         -       COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) (SP339EER1 232/422/485 transceiver for jumper-less]         -       Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         -       Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         -       Com #2 (RS232 only) with SP3243EBER         -       CoM #3 - COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]       2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PVWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion       PCIe (1x) slot x 1         Slots       PCIe (1x) slot x 1         Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         Mini-PCle #1 support PCle(1x/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)		2 ports in the rear panel
<ul> <li>2 ports thru oboard pin-header thru USB 2.0 hub (SMSC USB2514)         <ul> <li>1 port compatible with USB3.0 port</li> </ul> </li> <li>Serial ATA Intel® Atom<sup>TM</sup> SoC built-in SATA II controller, supports 2 ports</li> <li>Audio Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp</li> <li>LPC I/O Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         <ul> <li>COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER</li> <li>COM #3-COM #6 (RS232 only) with SP3243EBER</li> <li>Hardware Monitor]</li> <li>2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> </ul> </li> <li>Digital IO 4-in / 4-out (User configurable)</li> <li>Expansion Slots Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)] MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)</li> <li>Edge DC Jack x 1(refer to IB902, C1213512DCSC03000P) Dual DB9 Stack connector x 1 for CRT + DVI-D Dual USB + RJ45 stack connector x 1 for CRT + DVI-D Dual USB + RJ45 stack connector x 1 for CRT + DVI-D Dual USB + RJ45 stack connector x 1 for CM#2 (SB 3.0 vertical connector x 1 for CM # 3-4 6 DF20 socket connector x 1 for 12018 # 3-901 (2.54 pitch type) 2x4 pins header x1 for for thaudio (2.54 pitch type) 2x6 pins header x1 for for thaudio (2.54 pitch type) 4-pin header x1 for front audio (2.54 pitch type) 4-pin header x1 for front 42 for COM # 3-# 6 DF20 socket connector x 2 for SATA II device 4-pin power connector x 2 for SATA I device 2x5 pins header x1 for front 42 for COM # 3-# 6 DF20 socket connector x 2 for SATA II device 4-pin power connector x 2 for SATA I dev</li></ul>		- 2 ports thru Mini PCIe slot (Full-sized#1 / Half-sized)
USB2514)       -       1 port compatible with USB3.0 port         Serial ATA       Intel® Atom <sup>™</sup> SoC built-in SATA II controller, supports 2 ports         Audio       Realtex ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         -       COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         -       Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         -       COM #3-COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]       2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion       PCle (1x) slot x 1         Slots       PCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1(refer to IB902, C1213512DCSC03000P)         Connector       Dual DB9 Stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x1 for CRT + DVI-D Loual USB + RJ45 stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x1 for CB4 pitch type)         Onboard       2x4 pins header x1 for TOLB 4 ports (2.54 pitch type)         DF11-10 pins box header x4 for COM #3 -# 6 DF20 socket co		- 2 ports thru onboard pin-header thru USB 2.0 hub (SMSC
<ul> <li>1 port compatible with USB3.0 port</li> <li>Serial ATA</li> <li>Intel® Atom<sup>TM</sup> SoC built-in SATA II controller, supports 2 ports</li> <li>Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp</li> <li>LPC I/O</li> <li>Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]</li> <li>COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER</li> <li>Com #2 (RS232 only), with SP3243EBER</li> <li>COM #3-COM #6 (RS232 only) with SP3243EBER</li> <li>[Hardware Monitor]</li> <li>2x thermal inputs; 2 x Voltage monitoring</li> <li>2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> <li>Digital IO</li> <li>4-in / 4-out (User configurable)</li> <li>Expansion</li> <li>Slots</li> <li>PCle (1x) slot x 1</li> <li>Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]</li> <li>Minii-PCle #1 support PCle(1x)/USB signal</li> <li>Minii-PCle #1 support PCle(1x)/USB signal</li> <li>Minii-PCle #2 support mSATA only (Share with SATA #1)</li> <li>Edge</li> <li>DC Jack x 1(refer to IB902, C1213512DCSC03000P)</li> <li>Dual USB + RJ45 stack connector x 1 for COM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x 1 for CM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1</li> <li>Single RJ-45 connector x 1 for CM#1 / COM#2</li> <li>DD141 USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 for CM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 1 for CM#1 / COM#2</li> <li>DD141 USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x 2 for SATA</li></ul>		USB2514)
Serial ATA       Intel® Atom <sup>™</sup> SoC built-in SATA II controller, supports 2 ports         Audio       Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply) ; support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D /[128-pin LQFP, 14x14x1.4mm]         - COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         - Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         - COM #3-COM #6 (RS232 only) with SP3243EBER         - Hardware Monitor]         2x thermal inputs; 2 x Voltage monitoring         2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion       PCIe (1x) slot x 1         Slots       Full-sized Mini-PCIe x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         Mini-PCIe #1 support PCIe(1x)/USB signal       Mini-PCIe #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1(refer to IB902, C1213512DCSC03000P)         Dual DB9 Stack connector x1 for COM#1 / COM#2       DB15 + DVI-D stack connector x1 for CSB2.0 + LAN         USB 3.0 vertical connector x1       Single RJ-45 connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811RJ4514401P)       Audio 3-port connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811R		- 1 port compatible with USB3.0 port
Audio       Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per channel @ 5V power supply); support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         - COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         - Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         - COM #3~COM #6 (RS232 only) with SP3243EBER         - Hardware Monitor]         2x thermal inputs; 2x Voltage monitoring         2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion         Slots       PCIe (1x) slot x 1         Full-sized Mini-PCIe x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         Mini-PCIe #1 support PCIe(1x)/USB signal         Mini-PCIe #1 support PCIe(1x)/USB signal         Mini-PCIe #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1(refer to IB902, C1213512DCSC03000P)         Connector       Dual DB9 Stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN       USB 3.0 vertical connector x 1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811RJ4514401P)       Audio 3-port connector x 1 (C1213811RJ4514401P)         Audio 3-port connector x1 (front audio (2.54 pitch type)	Serial ATA	Intel® Atom <sup>™</sup> SoC built-in SATA II controller, supports 2 ports
channel @ 5V power supply) ; support 2-channel audio out + amp         LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x114x114m]]         - COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         - Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         - COM #3~COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]         2x thermal inputs; 2 x Voltage monitoring         2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         PCle (1x) slot x 1         Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         MiniPCle #1 support PCle(1x)/USB signal         Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1(refer to IB902, C1213512DCSC03000P)         Dual DB9 Stack connector x1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for CDM#2         DF11-10 pins box header x1 for front audio (2.54 pitch type)         2x4 pins header x1 for front audio (2.54 pitch type)         DF20 socket connector x 2 for 24-bit dual channel LVDS	Audio	Realtek ALC269QHD Codec w/class-D speaker amplifier (2W per
LPC I/O       Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]         - COM #1 (RS232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]         - Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         - COM #3~COM #6 (RS232 only) with SP3243EBER         - COM #3~COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]         2x thermal inputs; 2 x Voltage monitoring         2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion         Slots       PCIe (1x) slot x 1         Full-sized Mini-PCIe x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         Mini-PCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1 (refer to IB902, C1213512DCSC03000P)         Dual DB9 Stack connector x 1 for COM#1 / COM#2         DB15 + DVI-D stack connector x 1 for CSUB + DVI-D         Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN         USB 3.0 vertical connector x1         USB 3.0 vertical connector x1 (C1213811RJ4514401P)         Audio 3-port connector x2 for USB 4 ports (2.54 pitch type)         DF11-10 pins box header x4 for COM # 3-#6         DF20 socket connector x 2 for SATA Hi device         4 pin sheader x1 fo		channel @ 5V power supply) ; support 2-channel audio out + amp
<ul> <li>COM #1 (R5232/422/485) support ring-in with power @500 mA (selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for jumper-less]</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER</li> <li>COM #3~COM #6 (RS232 only) with SP3243EBER</li> <li>IHardware Monitor]</li> <li>2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> <li>Digital IO</li> <li>4-in / 4-out (User configurable)</li> <li>PCle (1x) slot x 1</li> <li>Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]</li> <li>MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)</li> <li>Edge</li> <li>DC Jack x 1(refer to IB902, C1213512DCSC03000P)</li> <li>Dual DB9 Stack connector x1 for COM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x 1 for CRT + DVI-D</li> <li>Dual USB + RJ45 stack connector x 1 for CRT + DVI-D</li> <li>Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN</li> <li>USB 3.0 vertical connector x1 (C1213811RJ4514401P)</li> <li>Audio 3-port connector x1 (C1213811RJ4514401P)</li> <li>Audio 3-port connector x 1 for COM # 3~# 6</li> <li>DF20 socket connector x 2 for SATA device</li> <li>2x6 pins header x1 for front audio (2.54 pitch type)</li> <li>SATA connector x2 for SATA II device</li> <li>4 pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>4 pins box header x1 for from Audio 2.54 pitch type)</li> <li>4 pins header x1 for for AI II device</li> <li>4 pins header x1 for SATA AI II device</li> <li>4 pins header x1 for from tudio (2.54 pitch type)</li> <li>4 pins header x1 for from I/O panel (2.54 pitch type)</li> <li>4 pins header x1 for from tudio (2.54 pitch type)</li> </ul>	LPC I/O	Nuvoton NCT6106D / [128-pin LQFP, 14x14x1.4mm]
Image: Instant Science (Instant Science)         iumper-less]         - Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER         - COM #3~COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]         2x thermal inputs; 2 x Voltage monitoring         2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion         Slots       PCIe (1x) slot x 1         Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1(refer to IB902, C1213512DCSC0300P)         Dual DB9 Stack connector x1 for COM#1 / COM#2         DB15 + DVI-D stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN         USB 3.0 vertical connector x1         Single RJ-45 connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811RJ4514401P)         Audio 3-port connector x2 for 24-bit dual channel LVDS         4 pins header x2 for USB 4 ports (2.54 pitch type)         DF10 socket connector x2 for SATA ll device         4 pins box header x1 for CDbacklight control (PWM mode only)         SATA connector x2 for SATA ll device         4-pin power		- COM #1 (RS232/422/485) support ring-in with power @500 mA
<ul> <li>Funder ression</li> <li>Com #2 (RS232 only), supports ring-in with power @500 mA (selectable for 5V or 12V), with SP3243EBER</li> <li>COM #3~COM #6 (RS232 only) with SP3243EBER [Hardware Monitor]</li> <li>2x thermal inputs; 2 x Voltage monitoring</li> <li>2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> <li>4-in / 4-out (User configurable)</li> <li>PCle (1x) slot x 1</li> <li>Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]</li> <li>MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)</li> <li>Edge</li> <li>DC Jack x 1(refer to IB902, C1213512DCSC03000P)</li> <li>Dual DB9 Stack connector x1 for COM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x 1 for CRT + DVI-D</li> <li>Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x1</li> <li>Single RJ-45 connector x1 (Line-out, Line-in, MIC)</li> <li>Onboard</li> <li>P24 pins header x2 for USB 4 ports (2.54 pitch type)</li> <li>DF11-10 pins box header x4 for COM #3 ~# 6</li> <li>DF20 socket connector x2 for SATA H device</li> <li>4 pins box header x1 for LCD backlight control (PWM mode only)</li> <li>SATA connector x2 for SATA H id evice</li> <li>4 pins header x1 for Digital I/O (2.54 pitch type)</li> <li>4 pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>4 pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins header x1 for Digital I/O (2.54 pitch type)</li> <li>A pins header x1 for front I/O panel (2.54 pitch type)</li> </ul>		(selectable for 5V or 12V) [SP339EER1 232/422/485 transceiver for
Image: Selectable for SV or 12V), with SP3243EBER         - COM #3~COM #6 (RS232 only) with SP3243EBER         [Hardware Monitor]         2x thermal inputs; 2 x Voltage monitoring         2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)         Digital IO         4-in / 4-out (User configurable)         Expansion         Slots         PCle (1x) slot x 1         Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         Mini-PCle #1 support PCle(1x)/USB signal         Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge         Connector         Dual DB9 Stack connector x1 for COM#1 / COM#2         DB15 + DVI-D stack connector x1 for CRT + DVI-D         Dual USB + RJ45 stack connector x1 for USB2.0 + LAN         USB 3.0 vertical connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (Line-out, Line-in, MIC)         Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Header/       2x6 pins header x1 for front audio (2.54 pitch type)         DF11-10 pins box header x4 for COM # 3~#6       DF20 socket connector x 2 for SATA li device         A pins box header x1 for ICD backlight control (PWM mode only)       SATA connector x2 for SATA li device         A pins box header x1 for Digital I/O (2.54 pitch type)       4-pin header for speaker out (fro		- Com #2 (RS232 only) supports ring-in with power @500 mA
<ul> <li>COM #3~COM #6 (RS232 only) with SP3243EBER [Hardware Monitor]</li> <li>2x thermal inputs; 2 x Voltage monitoring</li> <li>2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> <li>2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)</li> <li>Pigital IO</li> <li>4-in / 4-out (User configurable)</li> <li>PCle (1x) slot x 1</li> <li>Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]</li> <li>Mini-PCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)</li> <li>Edge</li> <li>DC Jack x 1(refer to IB902, C1213512DCSC03000P)</li> <li>Dual DB9 Stack connector x1 for COM#1 / COM#2</li> <li>DB15 + DVI-D stack connector x 1 for CRT + DVI-D</li> <li>Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN</li> <li>USB 3.0 vertical connector x1</li> <li>Single RJ-45 connector x1 (Line-out, Line-in, MIC)</li> <li>Onboard</li> <li>Az4 pins header x2 for USB 4 ports (2.54 pitch type)</li> <li>Zx4 pins header x1 for fort audio (2.54 pitch type)</li> <li>DF11-10 pins box header x4 for COM # 3~# 6</li> <li>DF20 socket connector x2 for SATA II device</li> <li>4 pins box header x1 for Digital I/O (2.54 pitch type)</li> <li>Ax4 pins header x 1 for Digital I/O (2.54 pitch type)</li> <li>Ax4 pins header x1 for Digital I/O (2.54 pitch type)</li> <li>Az4 pins header x1 for SATA II device</li> <li>4 pin power connector x2 for SATA II device</li> <li>4 pin power connector x2 for SATA II device</li> <li>4 pin header for speaker out (from ALC269 internal amplifier)</li> <li>2x4 pins header x1 for front I/O panel (2.54 pitch type)</li> </ul>		(selectable for 5V or 12V), with SP3243EBER
[Hardware Monitor]2x thermal inputs; 2 x Voltage monitoring2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)Digital IO4-in / 4-out (User configurable)ExpansionSlotsPCle (1x) slot x 1Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized(x1)]Mini-PCle #1 support PCle(1x)/USB signalMini-PCle #2 support mSATA only (Share with SATA #1)EdgeConnectorDual DB9 Stack connector x1 for COM#1 / COM#2DB15 + DVI-D stack connector x1 for CRT + DVI-DDual USB + RJ45 stack connector x1 for USB2.0 + LANUSB 3.0 vertical connector x1USB 3.0 vertical connector x1 (Line-out, Line-in, MIC)OnboardHeader/ConnectorDF11-10 pins box header x2 for USB 4 ports (2.54 pitch type)DF11-10 pins box header x1 for COM # 3~# 6DF20 socket connector x2 for SATA II device4 pins box header x1 for Digital I/O (2.54 pitch type)Act connector x2 for SATA II device4 pins box header x1 for Digital I/O (2.54 pitch type)2x5 pins header x1 for Digital I/O (2.54 pitch type)4 pins box header x1 for Digital I/O (2.54 pitch type)2x5 pins header x1 for SATA H Idevice4 pin power connector x2 for SATA Hil device2x5 pins header x1 for from U/O panel (2.54 pitch type)2x4 pins header x1 for from tU/O panel (2.54 pitch type)		- COM #3~COM #6 (RS232 only) with SP3243EBER
2x thermal inputs; 2 x Voltage monitoring 2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)Digital IO4-in / 4-out (User configurable)Expansion SlotsPCIe (1x) slot x 1 Full-sized Mini-PCIe x 2 [Mounting holes for full-sized (x2)+half-sized (x1)] MiniPCIe #1 support PCIe(1x)/USB signal Mini-PCIe #2 support mSATA only (Share with SATA #1)Edge ConnectorDC Jack x 1 (refer to IB902, C1213512DCSC03000P) Dual DB9 Stack connector x1 for COM#1 / COM#2 DB15 + DVI-D stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x1Onboard Header/ Connector2x4 pins header x2 for USB 4 ports (2.54 pitch type) DF11-10 pins box header x4 for COM # 3~# 6 DF20 socket connector x2 for 24-bit dual channel LVDS 4 pins box header x1 for LCD backlight control (PWM mode only) SATA connector x2 for SATA II device 4-pin power connector x2 for SATA H device 2x5 pins header x1 for form Audic 2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for form V/O panel (2.54 pitch type)		[Hardware Monitor]
2x tan header, 1x CPU tan (PWM), 1x system tan (DC mode)         Digital IO       4-in / 4-out (User configurable)         Expansion       PCle (1x) slot x 1         Slots       Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]         MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1(refer to IB902, C1213512DCSC03000P)         Dual DB9 Stack connector x1 for COM#1 / COM#2         DB15 + DVI-D stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN         USB 3.0 vertical connector x1         Single RJ-45 connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811RJ4514401P)         Audio 3-port connector x2 for USB 4 ports (2.54 pitch type)         DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 2 for SATA device         2x5 pins header x1 for from L/C09 internal amplifier)         2x4 pins header x1 for from tu/O panel (2.54 pitch type)		2x thermal inputs; 2 x Voltage monitoring
Digital IO       4-in / 4-out (User contigurable)         Expansion       PCle (1x) slot x 1         Full-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)]       MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)         Edge       DC Jack x 1 (refer to IB902, C1213512DCSC03000P)         Connector       Dual DB9 Stack connector x1 for COM#1 / COM#2         DB15 + DVI-D stack connector x 1 for CRT + DVI-D       Dual USB + RJ45 stack connector x1 for USB2.0 + LAN         USB 3.0 vertical connector x1       Single RJ-45 connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (C1213811RJ4514401P)       Audio 3-port connector x2 for COM # 3~# 6         DF10       DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x2 for SATA II device       4-pin power connector x2 for SATA II device         4-pin power connector x2 for SATA II device       2x5 pins header x1 for Digital I/O (2.54 pitch type)         2x4 pins header x1 for Digital I/O (2.54 pitch type)       2x5 pins header x1 for Digital I/O (2.54 pitch type)         A-pin power connector x2 for SATA II device       4-pin power connector x2 for SATA levice         2x5 pins header x1 for from U/O panel (2.54 pitch type)       4-pin header for speaker out (from ALC269 internal amplifier)		2x fan header, 1x CPU fan (PWM), 1x system fan (DC mode)
ExpansionPCIe (1X) Stot X 1SlotsFull-sized Mini-PCle x 2 [Mounting holes for full-sized (x2)+half-sized (x1)] MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)EdgeDC Jack x 1(refer to IB902, C1213512DCSC03000P) Dual DB9 Stack connector x1 for COM#1 / COM#2 DB15 + DVI-D stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x1Onboard2x4 pins header x2 for USB 4 ports (2.54 pitch type) Audio 3-port connector x 1 (C1213811RJ4514401P) Audio 3-port connector x 1 (c1213811RJ4514401P) Audio 3-port connector x 2 for COM # 3~# 6 DF20 socket connector x 2 for COM # 3~# 6 DF20 socket connector x 2 for SATA II device 4-pin power connector x 2 for SATA H device 2x5 pins header x 1 for Digital I/O (2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x 1 for front I/O panel (2.54 pitch type)	Digital IO	4-in / 4-out (User configurable)
SlotsPull-sized MilliP Cle X 2 [Modifiling holes for hull-sized (x2)*Hall-sized (x1)] MiniPCle #1 support PCle(1x)/USB signal Mini-PCle #2 support mSATA only (Share with SATA #1)Edge ConnectorDC Jack x 1(refer to IB902, C1213512DCSC03000P) Dual DB9 Stack connector x1 for COM#1 / COM#2 DB15 + DVI-D stack connector x1 for CCM# 1 / COM#2 DB15 + DVI-D stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x1 for USB2.0 + LAN USB 3.0 vertical connector x1 Single RJ-45 connector x1 (C1213811RJ4514401P) Audio 3-port connector x1 (Line-out, Line-in, MIC)Onboard Header/ Connector2x4 pins header x2 for USB 4 ports (2.54 pitch type) DF11-10 pins box header x4 for COM # 3~# 6 DF20 socket connector x 2 for 24-bit dual channel LVDS 4 pins box header x1 for LCD backlight control (PWM mode only) SATA connector x2 for SATA II device 2x5 pins header x1 for Digital I/O (2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for front I/O panel (2.54 pitch type)	Expansion	PCIe (1X) SIOT X 1 Full sized Mini DCIe x <b>2</b> [Mounting boles for full sized (x2)+balf sized
KinjMiniPCle #1 support PCle(1x)/USB signal MiniPCle #2 support mSATA only (Share with SATA #1)Edge ConnectorDC Jack x 1(refer to IB902, C1213512DCSC03000P) Dual DB9 Stack connector x1 for COM#1 / COM#2 DB15 + DVI-D stack connector x1 for CCRT + DVI-D Dual USB + RJ45 stack connector x 1 for CRT + DVI-D Dual USB 3.0 vertical connector x1 Single RJ-45 connector x1 (C1213811RJ4514401P) Audio 3-port connector x1 (Line-out, Line-in, MIC)Onboard Header/ Connector2x4 pins header x2 for USB 4 ports (2.54 pitch type) DF11-10 pins box header x4 for COM # 3~# 6 DF20 socket connector x 2 for 24-bit dual channel LVDS 4 pins box header x1 for LCD backlight control (PWM mode only) SATA connector x2 for SATA II device 2x5 pins header x1 for Digital I/O (2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for front I/O panel (2.54 pitch type)	SIOLS	$(v_1)_1$
Mini-PCIe #2 support mSATA only (Share with SATA #1)Edge ConnectorDC Jack x 1(refer to IB902, C1213512DCSC03000P) Dual DB9 Stack connector x1 for COM#1 / COM#2 DB15 + DVI-D stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN USB 3.0 vertical connector x1Onboard Header/ Connector2x4 pins header x2 for USB 4 ports (2.54 pitch type) DF11-10 pins box header x1 for COM # 3~# 6 DF20 socket connector x2 for 24-bit dual channel LVDS 4 pins box header x1 for LCD backlight control (PWM mode only) SATA connector x2 for SATA II device 4-pin power connector x2 for SATA device 2x5 pins header x1 for form ALIC269 internal amplifier) 2x4 pins header x1 for form I/O panel (2.54 pitch type)		MiniPCle #1 support PCle(1x)/USB signal
Edge Connector       DC Jack x 1(refer to IB902, C1213512DCSC03000P)         Dual DB9 Stack connector x1 for COM#1 / COM#2         DB15 + DVI-D stack connector x1 for CCRT + DVI-D         Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN         USB 3.0 vertical connector x1         Single RJ-45 connector x1         Single RJ-45 connector x1         Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Audio 3-port connector x1 for COM # 3~# 6         DF11-10 pins box header x1 for COM # 3~# 6         DF20 socket connector x2 for SATA II device         4-pin power connector x2 for SATA II device         2x5 pins header x1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for fort l/O panel (2.54 pitch type)		Mini-PCle #2 support mSATA only (Share with SATA #1)
ConnectorDual DB9 Stack connector x1 for COM#1 / COM#2 DB15 + DVI-D stack connector x1 for CRT + DVI-D Dual USB + RJ45 stack connector x1 for CRT + DVI-D Dual USB 3.0 vertical connector x1 Single RJ-45 connector x1 Single RJ-45 connector x1 Single RJ-45 connector x1 Single RJ-45 connector x1 (C1213811RJ4514401P) Audio 3-port connector x1 (Line-out, Line-in, MIC)Onboard Header/ Connector2x4 pins header x2 for USB 4 ports (2.54 pitch type) DF11-10 pins box header x4 for COM # 3~# 6 DF20 socket connector x2 for 24-bit dual channel LVDS 4 pins box header x1 for LCD backlight control (PWM mode only) SATA connector x2 for SATA II device 4-pin power connector x 2 for SATA device 2x5 pins header x1 for Digital I/O (2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for front I/O panel (2.54 pitch type)	Edge	DC Jack x 1(refer to IB902, C1213512DCSC03000P)
DB15 + DVI-D stack connector x 1 for CRT + DVI-D         Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN         USB 3.0 vertical connector x1         Single RJ-45 connector x1         Single RJ-45 connector x1         Audio 3-port connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (Line-out, Line-in, MIC)         Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Header/       2x6 pins header x1 for front audio (2.54 pitch type)         DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 2 for SATA device         2x5 pins header x1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)	Connector	Dual DB9 Stack connector x1 for COM#1 / COM#2
Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN         USB 3.0 vertical connector x1         Single RJ-45 connector x1         Audio 3-port connector x1 (C1213811RJ4514401P)         Audio 3-port connector x1 (Line-out, Line-in, MIC)         Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Header/       2x6 pins header x1 for front audio (2.54 pitch type)         DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 2 for SATA device         2x5 pins header x1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)		DB15 + DVI-D stack connector x 1 for CRT + DVI-D
OSB 3.0 Vertical connector X1         Single RJ-45 connector X1 (C1213811RJ4514401P)         Audio 3-port connector X1 (Line-out, Line-in, MIC)         Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Header/       2x6 pins header x1 for front audio (2.54 pitch type)         DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)		Dual USB + RJ45 stack connector x 1 for USB2.0 + LAN
Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Header/       2x6 pins header x1 for front audio (2.54 pitch type)         DF1-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x 2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)		USB 3.0 Vertical connector X1 Single PL45 connector X1 (C1213811PL4514401P)
Onboard       2x4 pins header x2 for USB 4 ports (2.54 pitch type)         Header/       2x6 pins header x1 for front audio (2.54 pitch type)         Connector       DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x 2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 2 for SATA device         2x5 pins header x1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)		Audio 3-nort connector x1 (Line-out Line-in MIC)
Header/       2x6 pins header x1 for front audio (2.54 pitch type)         Connector       DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x 2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 2 for SATA device         2x5 pins header x1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)	Onboard	2x4 pins header x2 for USB 4 ports (2 54 pitch type)
Connector       DF11-10 pins box header x4 for COM # 3~# 6         DF20 socket connector x 2 for 24-bit dual channel LVDS         4 pins box header x1 for LCD backlight control (PWM mode only)         SATA connector x2 for SATA II device         4-pin power connector x 2 for SATA device         2x5 pins header x1 for Digital I/O (2.54 pitch type)         4-pin header for speaker out (from ALC269 internal amplifier)         2x4 pins header x1 for front I/O panel (2.54 pitch type)	Header/	2x6 pins header x1 for front audio (2.54 pitch type)
DF <b>20</b> socket connector x 2 for 24-bit dual channel LVDS 4 pins box header x1 for LCD backlight control (PWM mode only) SATA connector x2 for SATA II device 4-pin power connector x 2 for SATA device 2x5 pins header x 1 for Digital I/O (2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for front I/O panel (2.54 pitch type)	Connector	DF11-10 pins box header x4 for COM # 3~# 6
<ul> <li>4 pins box header x1 for LCD backlight control (PWM mode only)</li> <li>SATA connector x2 for SATA II device</li> <li>4-pin power connector x 2 for SATA device</li> <li>2x5 pins header x 1 for Digital I/O (2.54 pitch type)</li> <li>4-pin header for speaker out (from ALC269 internal amplifier)</li> <li>2x4 pins header x1 for front I/O panel (2.54 pitch type)</li> </ul>		DF20 socket connector x 2 for 24-bit dual channel LVDS
SATA connector x2 for SATA II device 4-pin power connector x 2 for SATA device 2x5 pins header x 1 for Digital I/O (2.54 pitch type) 4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for front I/O panel (2.54 pitch type)		4 pins box header x1 for LCD backlight control (PWM mode only)
<ul> <li>4-pin power connector x 2 for SA IA device</li> <li>2x5 pins header x 1 for Digital I/O (2.54 pitch type)</li> <li>4-pin header for speaker out (from ALC269 internal amplifier)</li> <li>2x4 pins header x1 for front I/O panel (2.54 pitch type)</li> </ul>		SATA connector x2 for SATA II device
4-pin header for speaker out (from ALC269 internal amplifier) 2x4 pins header x1 for front I/O panel (2.54 pitch type)		4-pin power connector x 2 for SATA device
2x4 pins header x1 for front I/O panel (2.54 pitch type)		4-nin header for sneaker out (from AI C269 internal amplifier)
		2x4 pins header x1 for front I/O panel (2.54 pitch type)
2 x 2 pins connector x1 for 12V power-in		2 x 2 pins connector x1 for 12V power-in

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Watchdog	Yes (256 segments, 0, 1, 2255 sec/min)
Timer	
Power	+12V ~ +24V DC-in (+10%)
Connector	** When power input @ +12V, there is no tolerance**
ISMART	1. EuP / ErP (thru Super I/O)
ver. 3.0	2. Auto-scheduler
	3. Power fail detector
	4. Low temperature Guardian
	5. IFUB (Intelligent Firmware Update from BIOS & NVRAM data)
Others	PCB = 8 Layers
OS support	- Windows 8.1 (32-bit; 64-bit)
	- Window Embedded 8
	<ul> <li>Windows 7 (32-bit; 64-bit)</li> </ul>
	- Linux (Fedora)
RoHS	Yes
Certification	CE /FCC/LVD
Environment	Operation Temperature: 0~60 degree C
	Storage Temperature: -40 ~ 80 degree C
	Relative humidity: 0~90%, non-condensing
Board Size	170mm x 170mm

# **Board Dimensions**



MI805 User's Manual

# Installations

This section provides information on how to use the jumpers and connectors on the MI805 in order to set up a workable system. The topics covered are:

Installing the Memory	7
Setting the Jumpers	8
Connectors on MI805	.14

### **Installing the Memory**

The MI805 board supports two DDR3-1333 memory slots.

#### **Remarks:**

J1900 supports two SO-DIMM (w/o ECC) modules. Total maximum memory supported is 8GB.

#### **Installing and Removing Memory Modules**

To install the DDR3 modules, locate the memory slot on the board and perform the following steps:

- 1. Hold the DDR3 module so that the key of the DDR3 module aligned with that on the memory slot.
- 2. Gently push the DDR3 module in an upright position until the clips of the slot close to hold the DDR3 module in place when the DDR3 module touches the bottom of the slot.
- 3. To remove the DDR3 module, press the clips with both hands.



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## Setting the Jumpers

Jumpers are used on MI805 to select various settings and features according to your needs and applications. Contact your supplier if you have doubts about the best configuration for your needs. The following lists the connectors on MI805 and their respective functions.

Jumper Locations on MI805	9
J1: LCD Backlight Adjustment	10
JP2: LVDS Panel Brightness Control Selection	10
J6: LVDS Panel Power Selection	11
JP4: COM1/COM2 RS232 RI/+5V/+12V Power Setting	11
JP6: Clear CMOS Contents	12
JP7: Clear ME Contents	12
JP8: Factory use only	13
JP8: Factory use only	

8

#### Jumper Locations on MI805



Jumper Locations on MI805	Page
J1: LCD Backlight Adjustment	
JP2: LVDS Panel Brightness Control Selection	
J6: LVDS Panel Power Selection	
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JP6: Clear CMOS Contents	
JP7: Clear ME Contents	
JP8: Factory use only	

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#### J1: LCD Backlight Adjustment

J1	Setting	Panel Voltage
123	Pin 1-2 Short/Closed	DC Mode (default)
123	Pin 2-3 Short/Closed	PWM Mode

JP2: LVDS Panel Brightness Control Selection



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J5	Setting	Panel Voltage
123	Pin 1-2 Short/Closed	3.3V (default)
123	Pin 2-3 Short/Closed	5V



6

5



JP4/JP5	Setting	Function
1	Pin 1-3 - Short/Closed	+12V
	Pin 3-4 - Short/Closed	RI
5 🗖 🗖 6	Pin 3-5 - Short/Closed	+5V

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#### JP6: Clear CMOS Contents



JP6	Setting	Function
123	Pin 1-2 Short/Closed	Normal
123	Pin 2-3 Short/Closed	Clear CMOS

#### JP7: Clear ME Contents



JP7	Setting	Function
123	Pin 1-2 Short/Closed	Normal
123	Pin 2-3 Short/Closed	Clear ME REGISTER

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### **Connectors on MI805**

The connectors on MI805 allows you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers, etc. The following table lists the connectors on MI805 and their respective functions.

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PCIE1: PCI Express_x1 Slot23	8

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#### CN1 / CN2: SATA2 Connector



CN3: DC\_IN Connector +12V~24V



#### CN4: CRT+DVI Connector

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Signal Name	Pin #	Pin #	Signal Name
Red	1	2	Green
Blue	3	4	N.C.
GND	5	6	GND
GND	7	8	GND
VCC	9	10	GND
N.C.	11	12	DDCDATA
HSYNC	13	14	VSYNC
DDCCLK	15		

16

e le	$\bigcirc$	
17		+-
N		
24		
l		J

Signal Name	Pin #	Pin #	Signal Name
DATA2-	1	2	DATA2+
GND	3	4	N.C.
N.C.	5	6	DDCCLK
DDCDATA	7	8	N.C.
DATA1-	9	10	DATA1+
GND	11	12	N.C.
N.C.	13	14	VCC
GND	15	16	Hot Plug
			Detect
DATA0-	17	18	DATA0+
GND	19	20	N.C.
N.C.	21	22	GND
CLK+	23	24	CLK-





#### CN5: COM1 / COM2

	Pin #	Signal Name			
		<b>RS-232</b>	R2-422	<b>RS-485</b>	
	1	DCD	TX-	DATA-	
	2	RX	TX+	DATA+	
	3	TX	RX+	NC	
	4	DTR	RX-	NC	
1, ,5	5	Ground	Ground	Ground	
	6	DSR	NC	NC	
	7	RTS	NC	NC	
6 9	8	CTS	NC	NC	
	9	RI	NC	NC	
	10	NC	NC	NC	





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#### CN7: Gigabit LAN



CN8: Gigabit LAN / USB 2.0 Connector



**CN9: Audio Connector** 



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J3: First Channel LVDS;	J2: Second	Channel LVDS
-------------------------	------------	--------------

Signal Name	Pin #	Pin #	Signal Name
TX0N	2	1	TX0P
Ground	4	3	Ground
TX1N	6	5	TX1P
Ground	8	7	Ground
TX2N	10	9	TX2P
Ground	12	11	Ground
CLKN	14	13	CLKP
Ground	16	15	Ground
TX3N	18	17	TX3P
Power	20	19	Power

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#### J4, J5: SATA HDD Power Connectors



J7: DC\_IN Connector



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#### J10: USB 2.0 Pin header



Signal Name	Pin #	Pin #	Signal Name
Vcc	1	2	Ground
D0-	3	4	D1+
D0+	5	6	D1-
Ground	7	8	Vcc

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# J11: DDR3L SO-DIMM (CH-A) Sockets



J13: DDR3L SO-DIMM (CH-B) Sockets



J12: MCU JTAG



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#### J14: Amplifier Connector



Pin #	Signal Name
1	OUTL+
2	OUTL-
3	OUTR-
4	OUTR+

#### J15: Front Panel



Signal Name	Pin #	Pin #	Signal Name
GND	1	2	PWR_BTN
3.3V	3	4	HDD Active
GND	5	6	Reset
+5V	7	8	GND

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#### J16: Audio Connector (DF11-12DP-2DSA)





Signal Name	Pin #	Pin #	Signal Name
LINEOUT_R	2	1	LINEOUT_L
Ground	4	3	JD_FRONT
LINEIN_R	6	5	LINEIN_L
Ground	8	7	JD_LINEIN
MIC-R	10	9	MIC_L
Ground	12	11	JD_MIC1

#J16 & CN9 ether One (Only one output)

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1

#### J17: Digital I/O



Signal Name	Pin #	Pin #	Signal Name
GND	1	2	VCC
OUT3	3	4	OUT1
OUT2	5	6	OUT0
IN3	7	8	IN1
IN2	9	10	IN0

### J18, J19, J20, J21: COM6/COM5/COM4/COM3



Signal Name	Pin #	Pin #	Signal Name
DCD, Data carrier detect	1	2	RXD, Receive data
TXD, Transmit data	3	4	DTR, Data terminal
GND, ground	5	6	DSR, Data set ready
RTS, Request to send	7	8	CTS, Clear to send
RI, Ring indicator	9	10	Not Used

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INSTALLATIONS



Pin #	Signal Name
1	+12V
2	Backlight Enable
3	Brightness Control
4	Ground

JP3: For SPI Debug tools Pin Header



- 2	_
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#### JP9: Debug Port



CPU\_FAN1: CPU Fan Power Connector



1 111 //	Dignai i taine
1	Ground
2	+12V
3	Rotation detection
4	Control

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		4
Pin #	Signal Name	
1	Ground	
2	+12V	

1

PCIE1: PCI Express\_x1 Slot

3

Rotation detection

Control





# **BIOS Setup**

This chapter describes the different settings available in the AMI BIOS that comes with the board. The topics covered in this chapter are as follows:

BIOS Introduction	30
BIOS Setup	30
Advanced Settings	32
Chipset Settings	39
Security Settings	40
Boot Settings	41
Save & Exit Settings	42
6	

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#### **BIOS Introduction**

The BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel processors. The BIOS provides critical low-level support for a standard device such as disk drives, serial ports and parallel ports. It also password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

#### **BIOS Setup**

The BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

Press <DEL> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

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*Warning:* It is strongly recommended that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both AMI and your system manufacturer to provide the absolute maximum performance and reliability. Changing the defaults could cause the system to become unstable and crash in some cases.

Main	Advanced	Chipset	Boot	Security	/ Save & Exit
System	Date		[Tue 01/20/2014]		Choose the system default language
System	Time		[21:52:06]		$\rightarrow \leftarrow$ Select Screen
Access	Level		Administrator		↑↓ Select Item Enter: Select +- Change Field F1: General Help
					F2: Previous Values F3: Optimized Default F4: Save ESC: Exit

#### System Date

Set the Date. Use Tab to switch between Data elements.

#### System Time

Set the Time. Use Tab to switch between Data elements.

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#### **Advanced Settings**

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

Aptio Setup Utility						
Main	Advanced	Chipset	Boot	Securi	ty Save & Exit	
OnE AC LVI iSn Su; H/V CP PPI IDE	Board LAN PXE ROM PI Settings DS Configuration nart Controller ber IO Configuration V Monitor U Configuration M Configuration E Configuration	1		Disabled	<pre>→ ←Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>	

#### **OnBoard LAN PXE ROM**

Enable or Disable Boot Option for Legacy Network Devices.

ACPI Settings Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main	Advanced	Chipset	Boot	Security	/ Save & Exit
ACPI	Settings				$\rightarrow$ $\leftarrow$ Select Screen
Enabl ACPI	e Hibernation Sleep State		Enabled S3 only (Susp	pend to)	<pre>↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit</pre>
					ESC: Exit

#### **Enable Hibernation**

Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

#### **ACPI Sleep State**

Select ACPI sleep state the system will enter when the SUSPEND button is pressed.

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LVDS Configuration Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main	Advanced	Chipset	Boot	Security	/ Save & Exit
Config	guration				
Panel LVDS Panel Backli Backli	Color Depth Channel Type Type ight ON/OFF LEVEL ight Control Output ( <i>i</i>	ADJ)	24 BIT Single 1024 x 768 3.3V 3.3V		→ ←Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### **iSMART** Controller

Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.
--

Main	Advanced	Chipset	Boot	Security	Save & Exit
iSMA	RT Controller				
Powe Temp Schee Schee	r-On after Power fai erature Guardian dule Slot 1 dule Slot 2	lure	Disable Disable None None		→ ←Select Screen ↑↓ Select Item Enter: Select +- Change Opt. F1: General Help
Bright Bright PWM	tness Control tness Percent Clock		Enable 100% 200Hz		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### **Power-On after Power failure**

This field sets the system power status whether Disable or Enable when power returns to the system from a power failure situation.

#### **Temperature Guardian**

Generate the reset signal when system hangs up on POST

#### Schedule Slot 1 / 2

Setup the hour/minute for system power on.

#### **Brightness Control**

LVDS Backlight Brightness Control

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#### **Super IO Configuration**

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Main	Advanced	Chipset	Boot	Security	Save & Exit
Super IO	Configuration				
					$\rightarrow$ $\leftarrow$ Select Screen
<ul><li>Serial</li><li>Serial</li><li>Serial</li></ul>	Port 1 Configura Port 2 Configura Port 3 Configura	tion tion tion			↑↓ Select Item Enter: Select +- Change Opt. F1: General Help
<ul> <li>Serial</li> <li>Serial</li> </ul>	Port 4 Configuration	tion tion			F2: Previous Values F3: Optimized Defaults
<ul> <li>Serial</li> </ul>	Port 6 Configuration	tion			F4: Save & Exit
					ESC: Exit

#### **Serial Port Configuration**

Set Parameters of Serial Ports. User can Enable/Disable the serial port and Select an optimal settings for the Super IO Device

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#### H/W Monitor

Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main A	Advanced	Chipset	Boot	Security	/ Save & Exit
PC Health System S CPU Sma SYS temp CPU temp FAN1 Spe FAN2 Spe Vcore +12V +1.35V AVCC VCC3V VBAT	h Status Smart Fan art Fan o p eed eed		Disabled Disabled +33.0 C +44.5 C 4066 RPM +0.880 V +11.232 V +1.360 V +3.392 V +3.280 V		<ul> <li>→ ←Select Screen</li> <li>↑ ↓ Select Item</li> <li>Enter: Select</li> <li>+- Change Opt.</li> <li>F1: General Help</li> <li>F2: Previous Values</li> <li>F3: Optimized Defaults</li> <li>F4: Save &amp; Exit</li> </ul>
CPU Shut	tdown Temperati	ure	Disabled		ESC: Exit

#### **Smart Fan Function**

This field enables or disables the smart fan feature. Disabled (default) 50  $^{\circ}$ C 60  $^{\circ}$ C 70  $^{\circ}$ C

70 ℃ 80 ℃

90 °С

#### **Shutdown Temperature**

This field enables or disables the Shutdown Temperature Disabled (default) 70 °C/158 F 75 °C/167 F 80 °C/176 F 85 °C/185 F 90 °C/194 F 95 °C/203 F

#### **Temperatures/Voltages**

These fields are the parameters of the hardware monitoring function feature of the motherboard. The values are read-only values as monitored by the system and show the PC health status

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#### **CPU Configuration**

This section shows the CPU configuration parameters.

Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main	Advanced	Chipset	Boot	Security	y Save & Exit
CPU (	Configuration				
►Soc	ket 0 CPU Information	on			
					$\rightarrow$ $\leftarrow$ Select Screen
CPU S	Speed		2001 Mhz		$^{\uparrow}$ ↓ Select Item
04-DIL			Supported		Enter: Select
					+- Change Opt. F1: General Help
					F2: Previous Values F3: Optimized Defaults
					F4: Save & Exit
					ESC: Exit

# Socket 0 CPU Information Socket specific CPU Information.

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CPU PPM Configuration Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main	Advanced	Chipset	Boot	Security	/ Save & Exit
CPU F	PPM Configuration				
EIST			Enabled		$\rightarrow$ ←Select Screen
					<pre>↑↓ Select Item Enter: Select +- Change Field F1: General Help</pre>
					F2: Previous Values F3: Optimized Default F4: Save ESC: Exit

#### EIST

Enable/Disable Intel SpeedStep.

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#### **IDE Configuration**

SATA Devices Configuration.

Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main /	Advanced	Chipset	Boot	Security	y Save & Exit
IDE Conf	figuration				
Serial-AT	ΓΑ (SATA)		Enabled		
SATA Mo	ode		AHCI		
Serial-AT	ΓA Port 0		Enabled		
SATA Po	ort0 HotPlug		Disabled		
Serial-AT	ΓA Port 1		Enabled		$\rightarrow$ $\leftarrow$ Select Screen
SATA Po	ort1 HotPlug		Disabled		↑↓ Select Item Enter: Select
SATA Po	ort0				+- Change Field
Not Prese	ent				F1: General nerp F2: Previous Values
SATA Pr	ort1				F3: Optimized Default
Not Pres	ent				F4: Save ESC: Exit

**Serial-ATA(SATA)** Enabled / Disabled Serial ATA

#### SATA Mode

Select IDE / AHCI Mode

#### Serial –ATA Port 0

Enabled / Disabled Serial Port 0

#### SATA Port0 HotPlug

Enabled / Disabled SATA Port 0 HotPlug

Serial – ATA Port 1 Enabled / Disabled Serial Port 1

#### SATA Port1 HotPlug

Enabled / Disabled SATA Port 1 HotPlug

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### **Chipset Settings**

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Main	Advanced	Chipset	Boot	Security	Save & Exit
► Nort	th Bridge				Soloot Saroon
					<pre>↑↓ Select Item Enter: Select +- Change Opt. F1: General Help</pre>
					F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

### North Bridge

Aptio Setup Utility -	Convright © 2013	American I	Megatrends, Inc.
Aprilo Octup Otility	oopyngnt @ 2010	American	negati entas, mo.

Main	Advanced	Chipset	Boot	Security	/ Save & Exit
Memo	ory Information				$\rightarrow \leftarrow$ Select Screen
Total	Memory		4096 MB (LPD	DR3)	↑↓ Select Item Enter: Select +- Change Opt.
Memo	ory Slot0		4096 MB (LPD	DR3)	F1: General Help
Memo	ory Slot2		Not Present		F2: Previous Values F3: Optimized Defaults F4: Save & Exit
					ESC: EXIL

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#### **Security Settings**

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main	Advanced	Chipset	Boot	Security	Save & Exit
Passw	ord Description				
If ONL this on when o If ONL power or ente Admin	Y the Administrato ly limit access to Se entering Setup. Y the User's passy on password and r er Setup. In Setup t istrator rights	r's password is s etup and is only a vord is set, then nust be entered he User will hav	et, then asked for this is a to boot e		→ ←Select Screen ↑↓ Select Item
The pa in the	assword length mus following range:	st be	2		Enter: Select +- Change Opt. F1: General Help
Maxim	um length		20		F2: Previous Values F3: Optimized Defaults
Admin User F	istrator Password Password				F4: Save & Exit ESC: Exit

#### **Administrator Password**

Set Administrator Password.

#### **User Password**

Set User Password

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#### **Boot Settings**

This section allows you to configure the boot settings.

Aptio Setup Utility - Copyright © 2013 American Megatrends, Inc.

Main	Advanced	Chipset	Boot	Securit	y Save & Exit
Boot C	Configuration				
Setup	Prompt Timeout		1		
Bootu	p NumLock State		On		
					$\rightarrow$ $\leftarrow$ Select Screen
Quiet	Boot		Disabled		↑↓ Select Item
Fast B	oot		Disabled		Enter: Select
					+- Change Opt.
Boot C	Option Priorities				F1: General Help
Boot C	Option #1		UEFI:Built-	in EFI	F2: Previous Values F3: Optimized Defaults
					F4: Save & Exit
					ESC: Exit

#### Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

#### **Bootup NumLock State**

Select the keyboard NumLock state.

#### **Quiet Boot**

Enables or disables Quiet Boot option.

#### Fast Boot

Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.

#### **Boot Option Priorities**

Sets the system boot order.

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#### Save & Exit Settings

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Main	Advanced	Chipset	Boot	Security	Save & Exit
Save	Changes and Exit				
Disca	rd Changes and Exi	t			
Save	Changes and Reset				
Disca	rd Changes and Res	set			
Save	Options				→ ←Select Screen
Save	Changes				1 Soloct Itom
Disca	rd Changes				Frier: Select
Deste	na Dafaulta				+- Change Opt.
Resto	re Defaults				F1: General Help
Save	as User Defaults				F2: Previous Values
Resto	re User Defaults				F3: Optimized Defaults
					F4: Save & Exit
Boot (	Override				ESC: Exit

#### Save Changes and Exit

Exit system setup after saving the changes.

#### **Discard Changes and Exit**

Exit system setup without saving any changes.

#### Save Changes and Reset

Reset the system after saving the changes.

#### **Discard Changes and Reset**

Reset system setup without saving any changes.

#### Save Changes

Save Changes done so far to any of the setup options.

#### **Discard Changes**

Discard Changes done so far to any of the setup options.

#### **Restore Defaults**

Restore/Load Defaults values for all the setup options.

#### Save as User Defaults

Save the changes done so far as User Defaults.

#### **Restore User Defaults**

Restore the User Defaults to all the setup options.

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# **Drivers Installation**

This section describes the installation procedures for software and drivers. The software and drivers are included with the motherboard. If you find the items missing, please contact the vendor where you made the purchase. The contents of this section include the following:

Intel Chipset Software Installation Utility	44
VGA Drivers Installation	45
Realtek High Definition Audio Driver Installation	46
Intel Trusted Execution Engine Installation	47
LAN Drivers Installation	48

#### **IMPORTANT NOTE:**

After installing your Windows operating system, you must install first the Intel Chipset Software Installation Utility before proceeding with the drivers installation.

### **Intel Chipset Software Installation Utility**

The Intel Chipset Drivers should be installed first before the software drivers to enable Plug & Play INF support for Intel chipset components. Follow the instructions below to complete the installation.

1. Insert the DVD that comes with the board. Click *Intel* and then *Intel(R) Baytrail Chipset*. Click *Intel(R) Chipset Software Installation Utility*.



3. When the Welcome screen to the Intel® Chipset Device Software appears, click *Next* to continue.

4. Click *Yes* to accept the software license agreement and proceed with the installation process.

5. The Setup process is now complete. Click *Finish* to restart the computer and for changes to take effect.

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### **VGA Drivers Installation**

1. Insert the DVD that comes with the board. Click *Intel* and then *Intel(R) Baytrail Chipset*. Click *Intel(R) Baytrail Graphics Driver*.

<b>Inside</b> T	his CD
LAN Card	Intel(R) Chipset Software Installation Utility Intel(R) Baytrall Graphics Driver Realtek High Definition Audio Driver Intel(R) TXE Drivers

2. When the Welcome screen appears, click *Next* to continue.

3. Click *Yes* to accept the license agreement and continue the installation.

4. Setup complete. Click *Finish* to restart the computer and for changes to take effect.



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## **Realtek High Definition Audio Driver Installation**

1. Insert the DVD that comes with the board. Click *Intel* and then *Intel(R) Baytrail Chipset*. Click *Realtek High Definition Audio Driver*.



2. On the Welcome screen, click *Next* to proceed with the installation.



4. InstallShield Wizard is complete. Click *Finish* to restart the computer and for changes to take effect.

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## **Intel Trusted Execution Engine Installation**

1. Insert the DVD that comes with the board. Click *Intel* and then *Intel(R) Baytrail Chipset*. Click *Intel(R) TXE Driver*.

Inside This CD		
🧼 Intel	Intel(R) Chipset Software Installation Utility	
LAN Gard	Intel(R) Baytrail Graphics Driver Realtek High Definition Audio Driver	
Tools	Intel(R) TXE Drivers	

2. On the Setup Welcome screen, click *Next* to proceed with the installation process.

	Setup		
Intel® Trusted Execution Engine Welcome		Ú	Itel
You are about to install the following produc	t:		
It is strongly recommended that you exit all Click Next to continue, or click Cancel to exit	programs before con the setup program.	tinuing,	
 Intel Corporation	< Back	Next >	Cancel

3. Click *Next* accept the license agreement and continue the installation.

4. Installation of the Intel Trusted Execution Engine is now complete. Click *Finish*.

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### **LAN Drivers Installation**

1. Insert the DVD that comes with the board. Click *Intel* and then *Intel(R) Baytrail Chipset*. Click *Intel(R) LAN Drivers*.

<b>Inside T</b>	his CD Version : EM-1.0.2 01
LAN Card	Intel LAN Controller Drivers Realtek LAN Controller Drivers Marvell LAN Controller Driver

#### 2. Click Intel(R) I21X Giga Network Driver.

<b>Inside</b> T	his CD Version : EM-1.0.2 @1
LAN Card	Intel(R) Gigabit Ethernet Drivers Intel(R) I21x Gigabit Network Drivers

3. Click Install Drivers and Software.



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4. When the Welcome screen appears, click Next.

5. Click *Next* to to agree with the license agreement.

6. Click the checkbox for **Drivers** in the Setup Options screen to select it and click **Next** to continue.

7. The wizard is ready to begin installation. Click *Install* to begin the installation.

Intel(R) Network Connections Install Wizard	
Ready to Install the Program The wizard is ready to begin installation.	intel
Click Install to begin the installation.	
If you want to review or change any of your installation settings, exit the wizard.	click Back. Click Cancel to
< Back In	stall Cancel

8. When InstallShield Wizard is complete, click *Finish*.

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# Appendix

# A. I/O Port Address Map

Each peripheral device in the system is assigned a set of I/O port addresses that also becomes the identity of the device. The following table lists the I/O port addresses used.

Address	Device Description
070h-07Fh	Real Time Clock
2E0h - 2E7h	Serial Port #6(COM6)
2E8h - 2EFh	Serial Port #4(COM4)
2F0h - 2F7h	Serial Port #3(COM3)
2F8h - 2FFh	Serial Port #2(COM2)
3B0h - 3DFh	Intel(R) HD Graphics
3E8h - 3EFh	Serial Port #5(COM5)
3F8h - 3FFh	Serial Port #1(COM1)
0D00 – FFFF	PCI-e Root Complex

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# **B. Interrupt Request Lines (IRQ)**

Peripheral devices use interrupt request lines to notify CPU for the service required. The following table shows the IRQ used by the devices on board.

Level	Function
IRQ0	System Timer
IRQ3	Serial Port #2
IRQ4	Serial Port #1
IRQ6	Serial Port #5
IRQ7	Serial Port #4
IRQ8	High precision event timer
IRQ10	Serial Port #3
IRQ11	Serial Port #6
IRQ22	High Definition Audio Controller

5*2* 

# C. Watchdog Timer Configuration

The WDT is used to generate a variety of output signals after a user programmable count. The WDT is suitable for use in the prevention of system lock-up, such as when software becomes trapped in a deadlock. Under these sorts of circumstances, the timer will count to zero and the selected outputs will be driven. Under normal circumstance, the user will restart the WDT at regular intervals before the timer counts to zero.

#### SAMPLE CODE:

// //	
// THIS CODE AND INFORMATION IS PROVIDED "AS I: // KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING // IMPLIED WARRANTIES OF MERCHANTABILITY AN // PURPOSE.	S" WITHOUT WARRANTY OF ANY G BUT NOT LIMITED TO THE D/OR FITNESS FOR A PARTICULAR
<pre>#include <dos.h> #include <conio.h> #include <stdio.h> #include *6106"</stdio.h></stdio.h></stdio.h></stdio.h></stdio.h></stdio.h></stdio.h></conio.h></dos.h></pre>	
//	-
int main (int argc, char *argv[])	
ţ	unsigned char bBuf; unsigned char bTime; char **endptr;
//	char SIO;
	printf("6106 watch dog program\n");
	bTime = strtol (argv[1], endptr, 10); printf("System will reset after %d seconds\n", bTime);
	if (bTime)
	{ else
	{
	if (bTime > 0 && bTime < 256) {
A=2;	
unsigned char result; Set_6106_LD(0x08);	
gotoxy(1,12);	
	}

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}	return 0;
// void EnableWDT(int interval)	
{	
	unsigned char bBuf;
	Set_6106_LD(0x08);
	Set_6106_Reg(0x30, 0x01);
	Set_6106_Reg(0xF1, interval);
}	
//void DisableWDT(void)	
{	
	unsigned char bBuf;
	Set_6106_LD(0x08);
	Set_6106_Reg(0x30, 0x00);
1	
۱ //	

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```
// THIS CODE AND INFORMATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY
/ KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
// IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR
// PURPOSE.
//-
#include "6106.H"
#include <dos.h>
//---
unsigned int 6106_BASE;
void Unlock_6106 (void);
void Lock_6106 (void);
unsigned int Init_6106(void)
{
        unsigned int result;
        unsigned char ucDid;
        6106_BASE = 0x4E;
result = 6106_BASE;
        ucDid = Get_6106_Reg(0x20);
if (ucDid == 0x07)
{ goto Init_Finish; }
                                                                               //6106
        6106_BASE = 0x2E;
        result = 6106_BASE;
        ucDid = Get_6106_Reg(0x20);
if (ucDid == 0x07)
{ goto Init_Finish; }
                                                                               //6106
        6106_BASE = 0x00;
result = 6106_BASE;
Init_Finish:
        return (result);
//-
void Unlock_6106 (void)
{
        outportb(6106_INDEX_PORT, 6106_UNLOCK);
outportb(6106_INDEX_PORT, 6106_UNLOCK);
//-
void Lock_6106 (void)
{
        outportb(6106_INDEX_PORT, 6106_LOCK);
void Set_6106_LD( unsigned char LD)
{
        Unlock_6106();
outportb(6106_INDEX_PORT, 6106_REG_LD);
outportb(6106_DATA_PORT, LD);
Lock_6106();
//-
void Set_6106_Reg( unsigned char REG, unsigned char DATA)
{
        Unlock_6106();
outportb(6106_INDEX_PORT, REG);
        outportb(6106_DATA_PORT, DATA);
Lock_6106();
//-
unsigned char Get_6106_Reg(unsigned char REG)
```

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{	
·	unsigned char Result;
	Unlock_6106();
	outportb(6106_INDEX_PORT, REG);
	Result = inportb(6106_DATA_PORT);
	Lock_6106();
	return Result;
}	
//	

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