



## Features

- Fanless ruggedized aluminum chassis
- Intel® Atom N270 1.6 GHz Processor, 533 MHz FSB
- On board DDR 2 memory + SODIMM, up to 2 GB w/o ECC
- Support GSM/GPRS/WCDMA/HSDPA/ GPS
- Support Power ON/OFF delay control
- 1 Mini PCI & 1 Mini PCI-E expansion slot
- Support 5000 mAh Smart battery
- DC 6V ~ 34V power input & low power protection

## Specifications

### Fanless Platform

- Low power, low operation temperature
- Fanless Aluminum Alloy Embedded System

### Dimension

- 208 (W) x 95 (H) x 230 (D) mm, compact size

### Processor

- Support Intel® Atom N270 1.6 GHz low power Processor
- 437 pins package, 533 MHz FSB, 512KB L2 Cache

### Chipset

- Intel® 945GSE North & ICH 7-M South Bridge Chipset

### Memory

- On board 512MB + 1 SODIMM Socket, up to 2 GB w/o ECC, 533 MHz DDR 2 Memory

### BIOS

- Award System BIOS
- Support Console Redirection & Power On After Power failure

### Disk Drive Storage

- 1 channel SATA interface + 1 internal CF module slot

### Expansion

- 1 Mini PCI + 1 Mini PCI-E
- Either PCI-32 expansion slot or Smart Battery by choice

### Power Management

- S3, S4 suspend mode
- Low power protection design for boot-up and shutdown
- uP detection ignition status for 8 level power on/off delay
- Low battery status detected

### 3.5G Mobile Wireless Support

- Sierra MC8790V supports GSM/GPRS/EDGE/WCDMA/HSDPA
- Flexible support tri-band or quadband

### GPS Support

- SiRF-3 high sensitivity GPS, 20 channel tracking

### Ethernet

- 1 Realtek 8111C 100/1000 Mbps LAN interface with Wake-On-Lan & DMI

### Watchdog Timer

- Programmable WDT from 1 to 255 seconds

### Display Function

- Support high resolution VGA display

### Smart Battery Interface

- Support 5000 mAh Smart Battery Kit

### Audio

- ALC662-GR Codec supports Speaker-out

### RS-232 / 485 Support

- 2 DB-9 RS-232/485, 2 DB-9 RS-232 w/ optional DC output

## Cable-Free

### Support Digital I/O w/ Isolation Protection

- 2 D-In, supports Dry/Wet contact, low level 0~3V, High level 10 ~ 50V. 2500V isolation protection
- 1 D-in for Ignition status input
- 2 D-Out, 500 mA drive capability. 2500V isolation protection

### Ignition Power Management

- Support system power ON/OFF by ignition

### Front Panel Extend I/O

- 1 Power button & 1 system Reset / GPRS power button
- 1 USB, 2 system status LED, 1 GPRS power LED
- 3 LEDs for GPRS speed mode, 3 LEDs for GPRS signal status
- 1 SIM card socket
- 5 SMA type Antennas for HSDPA/GPS/WLAN

### Rear Panel Extend I/O

- Screw-Lock DC power input connector, 3-pin connector
- 2 DB-9 for RS-232/485, 2 DB-9 for RS-232
- 1 DB-9 for 3 D-in + 2 D-out, 1 DB-15 for VGA
- 4 USB, 1 x 100/1000 Mbit LAN connector
- 1 Speaker out connector
- Power LED + HDD LED, 1 Power button

### Power Supply

- DC 6V~34V / 1.5~5 A input

### Power ON/OFF Mode

- AT or ATX Power ON/OFF mode

### Environment

- Temperature
  - Operation Temperature: -30°C~60°C w/ CF or automotive HDD
  - Storage Temperature: -40°C ~ 80°C
- Relative Humidity: 10% ~ 90% (Non-condensing)
- Vibration
  - 2G @ 5~500Hz random with CF & SSD
  - 2G @ 5~500Hz random with HDD
  - Operation: MIL-STD-810F Method 514.5 C-1  
Ground Vehicle- Highway Trucks and semitrailers 20g
- Shock
  - Operation: MIL-STD-810F Method 516.5 Procedure I, Trucks and semitrailers 20g
  - Non-Operation: MIL-STD-810F Method 516.5 Procedure V, Ground equipment 75g

### Certification

- CE / FCC Class A
- E13 mark : Pipal 2041ME not available ( Pipal 2041M available )

### OS Support

- Windows XP Professional / Embedded, Windows CE, Linux

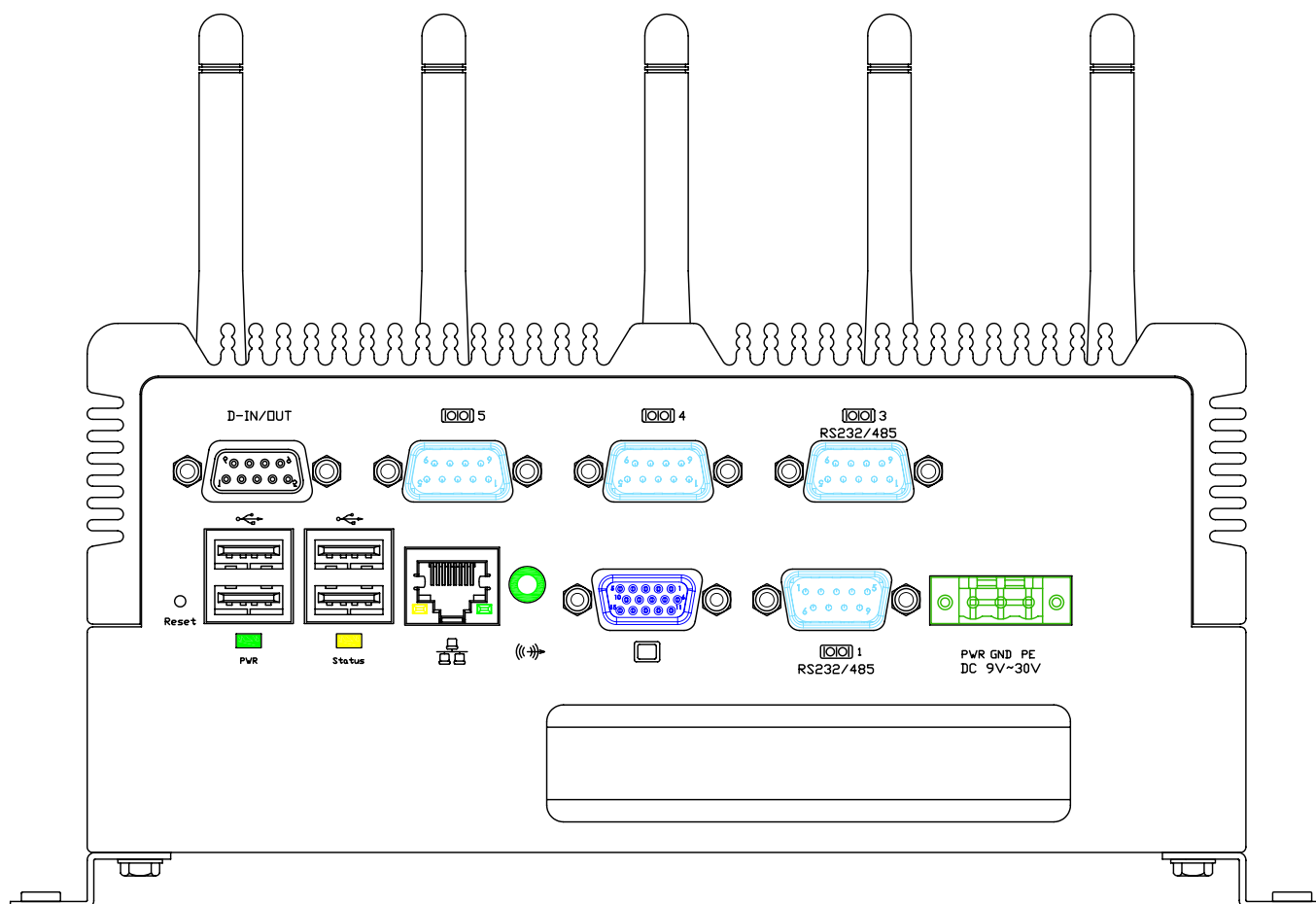
## Ordering Guide

Specifications subject to change without notice

Ordering No.	CPU	Memory	DB-9 RS-232/485	Isolation D-I/O	Smart Battery Kit	GPS / HSDPA	Ignition Function
Pipal 2041ME-835	N270 1.6GHz	512MB	232/485x2, 232x2	2 D-IN , 2 D-OUT	5000 mAh	Available	Available

Optional order: • 60W / 120W Power Adapter , HDD , SO-DIMM Memory  
• Wireless LAN Module , Anti-Vibration HDD drive bay

## Pipal 2041ME rear I/O



Dimension: without mounting kit 208 W x 95.0 H x 230 D mm  
 with mounting kit 235.6 W x 105 H x 230 D mm

## Pipal 2041ME front I/O

