

Matrix-513

Linux-ready Box Computer

- ✚ ATMEL 9G45, 400MHz ARM9 CPU
- ✚ 128MB DDR2 RAM, 256MB NAND Flash
- ✚ Two 10/100 Mbps Ethernet ports
- ✚ Two high-speed USB Hosts, up to 480 Mbps
- ✚ One full size mini-PCIe socket inside(USB signal)
- ✚ One half size mini-PCIe socket inside(USB signal)
- ✚ Four RS-232/422/485 serial ports



Hardware Specifications

CPU/Memory

CPU: ATMEL 400MHz AT91SAM9G45 w/MMU

RAM: 128MB, DDR2

NAND Flash: 256MB

DataFlash® : 2MB, for system backup

Network Interface

Type: Ethernet, 10/100Mbps

No. of ports: two, RJ-45 connector

Protection: 1.5KV magnetic isolation

TTY (Serial) Ports

Type: RS-232/422/485, software select

Connector: DB9 male

Port 1,3,4: TX, RX, RTS, CTS, GND

Port 2: TX, RX, RTS, CTS, DCD, DTR, DSR, GND

USB 2.0 High Speed Interface

Speed: supports 480Mbps high-speed mode

No.of ports: two hosts and one client

Digital IOs

Inputs: two, 2500Vrms opto-isolation

Output: one relay output (30VDC @1A), supports form A or B (by jumper)

SD Socket

Type: one miniSD socket inside, up to 32GB

Generals

Power input: 9 to 48VDC

Power consumption: 500mA@12VDC, max.

Dimensions (WxHxD): 175x43x103 mm

Operation temperature: 0~70°C

Regulations: CE Class A, FCC Class A

Software Specifications

General

OS: Linux, Kernel 2.6.38

Boot Loader: U-Boot

File Systems

UBI, JFFS2, ETX2/ETX3, VFAT/FAT, NFS, NTFS

Tool Chain for Linux

GCC: C/C++ PC cross compiler

GLIBC: POSIX Library

IPKG Package Management

Supports ipkg to manage the package installation, upgrade and removal.

Webmin System Administration

Supports webmin for web-based system administration

Platform Features

- Web server (lighttpd)+ PHP 5, Python 2.6
- MySQL 5, server and client
- SQLite 3
- SNMP V1/V2/V3
- Java

USB mini-PCIe Supports

Interface: supports USB signals only

Full-size socket: one, suitable for 2G/3G card

Half-size socket: one, suitable for WiFi card

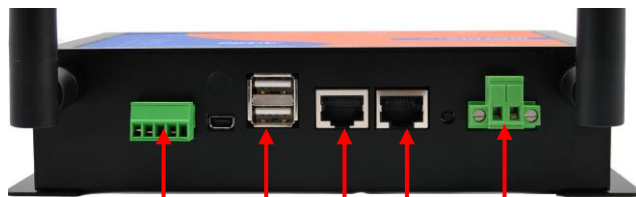
Antenna mounting holes: three, suitable for mounting SMA connectors



Matrix-513 Front/Back Views



RS-232/422/485, select by software



Digital IOs USB Hosts LAN 2 LAN 1 Power Input

Serial Port Pin Assignment

Pin	RS232	RS422	RS485
1	DCD*	TXD-	---
2	RXD	TXD+	---
3	TXD	RXD+	DATA+
4	DTR*	RXD-	DATA-
5	GND	GND	GND
6	DSR*	---	---
7	RTS	---	---
8	CTS	---	---
9	---	---	---



*: port 2 only

Ordering Information

■ **Matrix-513**

ARM9-based Linux Computer
 Note: mini-PCIe card, antenna and pigtail antenna cable are ****NOT**** included

■ **M-9001**

802.11 b/g/n half-size mini-PCIe WiFi card
 (Advantech model name: EWM-W150H01E)

■ **M-9011**

full-size mini-PCIe 2G/3G card, with SIM socket,
 (using Cinterion EHS5 series module)

■ **Ant-WiFi-1001**

5dBi external WiFi antenna

■ **Pigtail-WiFi-1001-20**

IPEX to RP-SMA Female coaxial cable, 20cm

■ **Ant-3G-1001**

5dBi external 2G/3G antenna

■ **Pigtail-3G-1001-20**

IPEX to SMA Female coaxial cable, 20cm

