

# Matrix-700

Linux-ready Cortex-A5 Industrial Box Computer



## Features

- ATMEL ATSAMA5D35 536MHz Cortex-A5 CPU
- Linux kernel 4.9.x with file system
- Toolchain gcc 6.2.0 + glibc 2.24
- 512MB LPDDR2 SDRAM
- 8GB eMMC Flash and 8MB DataFlash for system backup
- 1 x Gigabit Ethernet and 1 x 10/100Mbps Ethernet
- 4 x RS-232 / 485 serial ports
- Ultra-low power consumption, less than 3 Watts

## H/W Specifications

### CPU / Memory

- CPU: ATMEL ATSAMA5D35 536MHz w/MMU
- SDRAM: 512MB, LPDDR2
- Flash: 8GB, eMMC
- DataFlash: 8MB, for system backup

### Network Interface

- Type: 1 x Gigabit and 1 x 10/100Mbps Ethernet
- Connector Type: RJ45

### TTY (Serial) Ports

- RS-232 or RS-485, software select
- RS-232 Signals: TX, RX, RTC, CTS
- RS-485 Signals: Data+, Data-
- RS-485 Automatic Flow Control: Yes

### TTY (Serial) Port Parameters

- Baud Rate: up to 921.6Kbps
- Parity: None, Even, Odd, Mark, Space
- Data Bits: 5, 6, 7, 8
- Stop Bits: 1, 1.5, 2
- Flow Control: RTS / CTS, XON / XOFF, None

### Console / Debug Ports

- Support microUSB console port
- Serial console port (inside the box)

### USB 2.0 Host Interface

- Supports 480Mbps hi-speed mode
- Host Ports: 2

### SD Slot

- SD 2.0 compliant, supports SDHC
- 1 x microSD socket, support up to 64G storage capacity

### Power Requirement

- Supports microUSB power source
- Input Voltage: +9V~+48Vdc (terminal block)
- Typical Consumption: 200mA@12VDC

### General

- Realtime clock: Yes, backup by super capacitor
- Buzzer: Yes
- Watchdog: Yes
- Dimensions (W x H x D): 78 x 108 x 24mm
- Operating Temperature: 0~70°C (32~158°F)
- Regulation: CE Class A, FCC Class A

## S/W Specifications

### Operation System

- Linux kernel 4.9.x
- Supports bootup from eMMC or SD card
- Boot Loader : BareBox
- File System : ETX4

### Software Development

- Toolchain: gcc 6.2.0 + glibc 2.24
- Supports in-place C/C++ code compilation

### Package Management

- Support Debian packages (deb format)
- Support standard apt-get command

### Pre-installed Packages

- SSH terminal server, iptables
- Web server (Nginx)
- PHP / Perl / Python / NodeJS
- SQLite3
- Busybox / vim / nano / sed
- Webmin
- udev

## Ordering Information

- **Matrix-700**  
Linux-ready Cortex-A5 536MHz Industrial Box Computer with 512MB SDRAM, 8GB eMMC Flash
- **CB-RJ45F9-150 (91-R45F9-150)**  
Serial Cable (RJ45 to DB9 Female, 150cm)
- **DK-35A (36-DK35A-000)**  
DIN RAIL Mounting Kit
- **PWR-12V-1A (31-62100-000)**  
110~240VAC to 12VDC 1A Power Adapter

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