

RB-Fee-39 EtherTen Ethernet Arduino Compatible Microcontroller



The EtherTen is a 100% Arduino compatible board that can talk to the world. Do Twitter updates automatically, serve web pages, connect to web services, display sensor data online, and control devices using a web browser. The Freertronics EtherTen uses the same ATmega328P as the Uno and the same Wiznet W5100 chip used by the official Arduino Ethernet Shield, so it's 100% compatible with the Ethernet library and sketches. Any project you would previously have built with an Arduino and an Ethernet shield stacked together, you can now do all in a single, integrated board. A micro SD card slot has been added so you can store web content on the card, or log data to it.

All the good things about the Eleven and the Ethernet Shield have been combined into this one device, but the highlights include:

- Gold-plated PCB
- Top and bottom parts overlays
- Top-spec ATmega328P MCU
- Micro-USB connector: no more shorts against shields from the USB jack
- Please note that the Ethernet Jack can touch some wide shields, they can be raised up with Stackable Header Sets and we also have the ProtoShield Short which can sit beside it
- D13 pin isolated with a MOSFET so you can use it as an input
- Optional Power-over-Ethernet support, both cheapie DIY or full 802.3af standards-compliant
- Ethernet activity indicators on the PCB and the jack
- 10/100base-T auto-selection
- Fully compatible with standard Ethernet library
- Reset management chip
- Fixed SPI behavior on Ethernet chipset
- Robust power filtering
- Sexy rounded corners

Specifications

Microcontroller

- MCU Type: Atmel ATmega328P
- Operating Voltage: 5V
- MCU Clock Speed: 16 MHz

EtherTen

- Input Voltage: 7-12V DC recommended, 6-20V DC maximum
- Digital I/O pins: 14 (6 provide PWM output)
- Analog Input Pins: 8 (analog input pins also support digital I/O, giving 22 digital I/O total if required)
- Analog Resolution: 10 bits, 0-1023 at 5V AREF is approx 0.00488V; 4.88mV per step
- Current Per I/O Pin: 40 mA maximum
- Total Current For All I/O Pins: 200mA maximum
- Current For 3.3V Output: 50mA maximum

Memory

- Flash Memory: 32 KB Flash Memory, of which less than 1 KB is used by bootloader
- SRAM, EEPROM: 2 KB SRAM, 1 KB EEPROM
- microSD: microSD card slot with SPI interface. Uses pins D4 (select), D11, D12, D13

Communications

- Serial: 1 x hardware USART, SPI (Serial Peripheral Interface), I2C
- Ethernet: 1 x 10/100 LAN port using the Wiznet W5100. Uses pins D10 (select), D11, D12, D13
- Other: Integrated USB programming and communication port. Many other one-wire, multi-wire, LCD and expansion devices supported by free code and libraries