EN1000 BASIC-programmable Ethernet Module

Features

10/100BaseT Ethernet port
Flash disk and RTC onboard
Four high-speed TTL serial ports
Supports Wi-Fi, LCD, keypad, buzzer
Up to 53 I/O lines
Optional backup source for the RTC



About

The EM1000 is Tibbo's most powerful and versatile BASIC-programmable embedded module.

The module's hardware is a potent combination that includes 100Base/T Ethernet, four serial ports, onboard flash, EEPROM, RTC with onboard backup power, and abundant I/O lines (up to 53!) to interface with external LCD, keypad, buzzer, and card readers.

Thus, the EM1000 is perfect for designing data collection and automation devices such as access control panels, time and attendance terminals, inventory control systems, factory floor automation terminals, and so on.

The EM1000 is excellent for prototyping your projects – its pin pitch is standard 2.54mm (0.1"). The module can also support Wi-Fi communications (this requires GA1000 add-on board).

Specifications

- Based on high-performance purpose-built 88MHz T1000 IC
- 10/100BaseT auto-MDIX Ethernet port (no magnetics).
- Optional Wi-Fi interface (requires GA1000 add-on module).
- Four high-speed serial ports (CMOS-level):
- Baudrates of up to 921,600bps;
- None/even/odd/mark/space parity modes;
- 7/8 bits/character modes;
- Full-duplex mode with optional flow control;
- Half-duplex mode with direction control;
- Encoding and decoding of Wiegand and clock/data streams.

- Up to 1024KB flash memory for firmware, application, and data.
- 2KB EEPROM for data storage.
- RTC with backup power input (optional onboard supercapacitor).
- Supports external LCD and keypad.
- Programmable square-wave output for external buzzer.
- Up to 53 general-purpose I/O lines (including 8 interrupt lines).
- Four control lines for status LEDs.
- Software- and hardware-controlled onboard PLL.

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Specifications (continued)

- Reliable power-on/brown-out reset circuit.
- Power: 230mA @ 3.3V (100BaseT mode, PLL on).
- Dimensions: 38.4x28.4x5.5mm.
- · Firmware is upgradeable through the serial port or network.

Programming

Platform Objects

- Sock socket comms (up to 16 UDP, TCP, and HTTP sessions).
- Net controls Ethernet port.
- Wln handles Wi-Fi interface (requires GA1000 add-on module)
- Ser up to 4 serial channels (UART, Wiegand, and clock/data modes).
- IO handles I/O lines, ports, and interrupts.
- Lcd controls graphical display panels (several types supported).
- Kp scans keypads of matrix and "binary" types.

- Rtc keeps track of date and time.
- Fd manages flash memory file system and direct sector access.
- Stor provides access to the EEPROM
- Romfile facilitates access to resource files (fixed data).
- Pat "plays" patterns on up to five LED pairs.
- Beep generates buzzer patterns.
- Button monitors MD line (setup button).
- Sys in charge of general device functionality.

Function Groups

String functions (21 in total!), date/time conversion functions, and hash calculation functions (md5 and sha1).

Variable Types

Byte, char, integer (word), short, dword, long, real, string, plus user-defined arrays and structures.

Tibbo Integrated Development Environment (TIDE)

All BASIC-programmable Tibbo devices are provided with free TIDE software.

Code in Comfort

Enjoy a modern code editor supporting syntax highlighting, context help, code hinting, and auto-completion.

Debug with Ease

Set breakpoints, watch variables, inspect the stack, step through your code... the built-in debugger in Tibbo IDE provides all the tools for fast and convenient debugging.

Our debugger does not rely on any special hardware like an ICE machine or a JTAG board. Simply connect your Tibbo device to the Ethernet, select it in the IDE, and you are all set!

For more information on TIDE, see http://basic.tibbo.com/product/tide.html

