eZ80F920120MOD

eZ80F92 Ethernet Module Product Brief

PB010402-0103

Module Block Diagram

eZ80F92 Module		
1 MB Off-Chip Flash	512 KB Off-Chip SRAM	2 UARTs 1x SPI 1x I²C
6 PRT, WDT	GPIO, JTAG	IrDA Transceiver (SIR)
Real-Time Clock		
System Interface Connectors		

General Description

The eZ80F92 Ethernet Module is a compact, high-performance Ethernet module specially designed for rapid development and deployment of embedded systems requiring control and Internet/Intranet connectivity.

This low-cost, expandable module is powered by ZiLOG's latest power-efficient, optimized pipeline architecture eZ80F92 microcontroller[1]. This device is part of ZiLOG's new eZ80Acclaim! product line, which offers MCUs featuring integrated IrDA capabilities and rich on-chip peripherals.

Combined with a 10 Mbps 802.3 Ethernet controller, memories, and ZiLOG's industry-leading IrDA transceiver, this module is ideal for wireless IrDA connectivity, industrial control, communication, security, automation, and embedded networking applications.

For rapid development, this module can interface to the eZ80® Development Platform, which provides a

---

1. ZiLOG also offers an eZ80® Development Module based on the eZ80F93 MCU, which is intrinsically the same device, yet offering a smaller memory size.

complete user debug environment with power, breadboard area, and serial connectors such as RS-232 and JTAG. For deployment, this compact module interfaces to a user system via its system interface connectors. An RJ-45 Ethernet connector is provided on the module.

System designers with aggressive time-to-market requirements can take comfort in the fact that this tested module, together with available ZiLOG TCP/IP Internet connectivity software and OS, will facilitate quick product launch and low ownership cost.

Features

eZ80F92 Ethernet Module

- 50 MHz eZ80F92 microcontroller

- 1 MB, 70 ns Flash memory, hardware Write-Protect pin available to user

- 512 KB, 35 ns high-speed SRAM

- 10BaseT 802.3 Ethernet controller with integrated PHY and 8 KB SRAM for Tx/Rx FIFOs

- IrDA SIR transceiver (115 Kbps) with power-down control

- 2x 50-pin system expansion interface with full MPU bus/control signals as well as power, peripherals, and user I/Os

- One RJ-45 Ethernet connector

- One LED indicating network link status

- ZiLOG's Internet connectivity software supports over-the-network firmware updates or network configuration

- Module size (including connectors): 2.5"L x 2.5"W x 0.6"H (63.5 mm x 63.5 mm x 15.2 mm)

- Standard operating temperature: 0ºC to +70ºC

- Power supply: 3.3 V @ 125 mA

eZ80F92/eZ80F93 Microcontrollers

- eZ80F92: 128 KB Flash, 8 KB SRAM

- eZ80F93: 64 KB Flash, 4 KB SRAM

- Power management features including SLEEP/ HALT modes and peripheral power-down controls

- 2 UARTs supporting the 9-bit dot-format, 1x SPI, and 1x I^2C, each with independent baud rate generators

- IrDA compatible Infrared Encoder/Decoder

- New DMA-like eZ80® instructions

- Glueless external memory interface with 4 Chip Selects, independent WAIT state generators, and external $\overline{WAIT}$ input pin; supports Z80™, Intel™, and Motorola™ bus-compatible peripherals.

- Interrupt controller supports internal and external maskable interrupts as well as a nonmaskable interrupt input

- Real-time clock with on-chip 32 KHz oscillator, selectable 50/60 Hz input, and separate V_{DD} pin for battery backup

- Six 16-bit Counter/Timers with prescalers and direct input/output drive capability

- Watch-Dog Timer

- 24 General-Purpose I/O pins

- Power-On Reset and Voltage Brown-Out

- JTAG Debug Interface, also supports ZiLOG Debug Interface (ZDI)

- 100-pin LQFP package

- 3.0–3.6 V supply voltage with 5 V tolerant inputs

TCP/IP Software

ZiLOG's royalty-free TCP/IP Internet software suite is an integrated, preemptive multitasking OS and TCP/IP protocol stack that meets all of the relevant RFCs. It is optimized for embedded systems and is implemented as an extension to the ZiLOG

C-Compiler's runtime library. Supported protocols and network features are:

- TCP, UDP, IP, ARP, RARP, ICMP, IGMP, PPP

- FTP, SMTP, HTTP, TELNET, DNS

- TFTP, SNMP, DHCP/BOOTP, TIMEP

- In-system configuration or updates of network parameters, web pages, and module firmware

A set of well-documented OS and network service APIs allow system developers to quickly take advantage of the ZiLOG TCP/IP software suite while remaining focused on the main application. Final binary output from the compiler/linker is the complete user application with networking capabilities across the Internet or any Intranet.

eZ80F92 Development Kit

The eZ80F92 Ethernet Module is available as a stand-alone development tool module. To help expedite customer evaluation and product development, the low-cost eZ80F92 Development Kit includes the following:

- eZ80F92 Ethernet Module

- eZ80® Development Platform with breadboard area and system expansion headers

- Low-cost ZPAK JTAG/ZDI debugger/emulator

- Two power supply adapters

- Serial RS232 and JTAG/ZDI cables

- One CAT5 cross-over Ethernet cable

- CDROM:

  – C-Compiler and ZiLOG Developer Studio (ZDS) IDE including assembler, linker, debugger, and simulator

- eZ80Acclaim! Software and Documentation on CD-ROM

The Metro IPWorks™ TCP/IP software stack is available via download from zilog.com.

Related Products

Other eZ80Acclaim! Development Modules include:

eZ80F91 Module	50 MHz eZ80F91 MCU, 1 MB Flash, 512 KB SRAM, 2 UARTs, SPI, I^{2}C, 6 PRT, WDT, GPIO, JTAG, Real-Time Clock, 10 BaseT, IrDA

Ordering Information

PSI	Part	Description
eZ80F920120MOD	eZ80F92 Ethernet Module	20 MHz, 512 KB SRAM
eZ80F920120ZCO	eZ80F92 Development Kit	Complete eZ80Acclaim! Development Kit

This publication is subject to replacement by a later edition. To determine whether a later edition exists, or to request copies of publications, contact:

ZiLOG Worldwide Headquarters
532 Race Street
San Jose, CA 95126
Telephone: 408.558.8500
Fax: 408.558.8300
www.ZiLOG.com

Document Disclaimer