



eZ80F920120MOD

eZ80F92 Ethernet Module Product Brief

PB010402-0103

Module Block Diagram

eZ80F92 Module		
1MB Off-Chip Flash	512KB Off-Chip SRAM	2 UARTs 1x SPI 1x I ² C
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 microcontroller¹. 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 10Mbps 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

- 50MHz eZ80F92 microcontroller
- 1MB, 70ns Flash memory, hardware Write-Protect pin available to user
- 512KB, 35ns high-speed SRAM
- 10BaseT 802.3 Ethernet controller with integrated PHY and 8KB SRAM for Tx/Rx FIFOs
- IrDA SIR transceiver (115Kbps) 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
(63.5mm x 63.5mm x 15.2mm)
- Standard operating temperature: 0°C to +70°C
- Power supply: 3.3V @ 125mA

eZ80F92/eZ80F93 Microcontrollers

- eZ80F92: 128KB Flash, 8KB SRAM
- eZ80F93: 64KB Flash, 4KB 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 I²C, 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 $\overline{\text{WAIT}}$ 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 32KHz 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
- 3.0–3.6V supply voltage with 5V 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 zillog.com.



Related Products

Other eZ80Acclaim! Development Modules include:

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

Ordering Information

PSI	Part	Description
eZ80F920120MOD	eZ80F92 Ethernet Module	20MHz, 512KB 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

ZiLOG is a registered trademark of ZiLOG Inc. in the United States and in other countries. All other products and/or service names mentioned herein may be trademarks of the companies with which they are associated.

©2003 by ZiLOG, Inc. All rights reserved. Information in this publication concerning the devices, applications, or technology described is intended to suggest possible uses and may be superseded. ZiLOG, INC. DOES NOT ASSUME LIABILITY FOR OR PROVIDE A REPRESENTATION OF ACCURACY OF THE INFORMATION, DEVICES, OR TECHNOLOGY DESCRIBED IN THIS DOCUMENT. ZiLOG ALSO DOES NOT ASSUME LIABILITY FOR INTELLECTUAL PROPERTY INFRINGEMENT RELATED IN ANY MANNER TO USE OF INFORMATION, DEVICES, OR TECHNOLOGY DESCRIBED HEREIN OR OTHERWISE. Devices sold by ZiLOG, Inc. are covered by warranty and limitation of liability provisions appearing in the ZiLOG, Inc. Terms and Conditions of Sale. ZiLOG, Inc. makes no warranty of merchantability or fitness for any purpose Except with the express written approval of ZiLOG, use of information, devices, or technology as critical components of life support systems is not authorized. No licenses are conveyed, implicitly or otherwise, by this document under any intellectual property rights.