




# EmCORE-i412

	ZFx86 FailSafe™ Embedded PC-on-a-Chip
	Dual LAN, 10/100 Intel 82559ER
	16-bit Digital I/O



Dual LAN  
10/100 Mbps

Digital I/O  
RS-232/422/485

Single +5 V operation

DiskOnChip® up to 288 MB

ZFx86 FailSafe™  
Embedded  
PC-on-a-Chip

Ultra DMA EIDE  
44-pin connector with power  
Phoenix Embedded BIOS



## ZFx86 586 FailSafe™ with Dual 10/100 Mps Fast Ethernet and Digital I/O

### General Specifications

#### Embedded CPU + Chipset

ZFx86 Failsafe 586 32-bit CPU core operating at 133, 100, 66 and 33 MHz with 32-bit 33MHz PCI rev 2.1 compliant "Northbridge" and "Southbridge"

FailSafe internal Boot ROM that allows execution of multiple instruction sets: DRAM clear, Flash erase, executable load and run, Provides permanent and fail-safe mechanism

#### External BIOS

Phoenix Embedded PC BIOS with RS-232 console redirection for headless BIOS access

#### DRAM Memory

32 MB SDRAM onboard

#### Bus Interfaces

ISA bus - 8.3 MHz (PC/104) and PCI 32 bit 33 MHz rev. 2.1 compliant (PC/104-Plus)

#### Enhanced IDE

supports one port and up to two ATAPI devices with Ultra DMA (ATA-4) support 44-pin IDE connector for 2.5" (laptop-size) HDD/Flash IDE drive including power

#### Watchdog Timer

Embedded application Dual Watchdog Timer (WDT) with SW and HW control of the WDT event 16 bit counter primary watchdog connected to SW IRQ/NMI/SMI reset by Watch Dog Timer Input (WDI). Second 8 bit counter output connected to H/W reset line enabled by primary counter output

#### Real-time Clock

Built-in chipset with lithium battery backup for 10 years of data retention.

#### Digital I/O

16-bit GPIO, 8 independent GPI and 8 independent GPO programmable by software.

### Dual Network Controller

#### Chipset

Intel 82559ER, 10/100 Mbps, autoswitching

#### Connector

two 10-pin onboard headers

### High Speed Multi I/O

#### Serial Ports

one high speed RS-232C ports (COM1) and one jumper selectable RS-232C/422/485 (COM2). Both with 16C550 compatible UART and 16 byte FIFO.

#### USB

2 onboard USB v1.1 ports and OpenHCL compliant (2x 5-pin header)

#### Floppy Disk Drive Interface

supports one 3½" floppy disk drive

#### Bidirectional Parallel Port

supports SPP, EPP and ECP mode. BIOS enabled/disabled

#### Keyboard and Mouse Connectors

onboard 10-pin mini header for AT Keyboard and PS2 Mouse

### Flash Disk DiskOnChip® 2000

#### Package

Single Chip Flash Disk in 32-pin DIP JEDEC

### Environmental and Power

#### Power Requirements

based on 32 MB DRAM and 8 MB Flash disk  
33 Mhz -> 5 V @ 0.64 A  
66 Mhz -> 5 V @ 0.7 A  
100 Mhz -> 5 V @ 0.75 A (default)  
133 Mhz -> 5 V @ 0.95 A (over-clocked)

#### Board Dimensions

90 x 96 mm

#### Board Weight

0.10 Kg

#### Operating Temperature

0 to 60°C (32 to 140°F)

### OS Compatibility

Linux, DOS, VxWorks, many RTOS, Windows CE, Windows 9x, and Windows NT

### Ordering

#### EmCORE-i412DL2:

PC/104-Plus ZFx86 Module with onboard 32 MB SDRAM, Dual Fast Ethernet, DiskOnChip socket and 16-bit Digital I/O port

### Inside the ZFx86 Chip

