

Z8F08200100KIT

Z8 Encore!® 8K/4K MCU Evaluation Kit

User Manual

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Safeguards

The following precautions must be observed when working with the devices described in this document.



Caution: Always use a grounding strap to prevent damage resulting from electrostatic discharge (ESD).

Revision History

Date	Revision Level	Description	Page #
November 2005	04	Removed the word Preliminary from all page footers and updated trademarks.	All

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Introduction

The Z8 Encore!® 8K/4K MCU is the part of the line of ZiLOG microcontroller products.

The Z8 Encore! MCU Evaluation Kit (Z8F08200100KIT) enables users to become familiar with the hardware and software tools available with this product. This kit consists of the 8KB version of the Z8 Encore! evaluation board that supports and presents the features of the Z8 Encore! 8K/4K. This kit allows users to begin writing application software and contains all supporting documents.

This manual acquaints users with the Z8 Encore! 8K/4K MCU Evaluation Kit, and gives instructions on setting up and using the tools to start building designs and applications.

Kit Contents

The Z8 Encore!® 8K/4K MCU Evaluation Kit contains the following:

Hardware

- Z8 Encore!® 8K/4K Evaluation board
- Smart Cable for PC to Z8 Encore! 8K/4K evaluation board (DB9 to six-pin male)
- 5VDC power supply



Figure 1. Z8 Encore! MCU Evaluation Kit Contents

Software (on CD-ROM)

- ZDS II- Z8 Encore! IDE with ANSI C-Compiler
- Sample code
- Document browser
- Acrobat Reader install program

Documentation

- Quick Start Guide
- Registration card

- Z8 Encore!® 8K/4K technical documentation (on CD-ROM)
  - Evaluation Kit User Manual
  - ZDS II - IDE User Manual
  - eZ8 CPU User Manual
  - Product Specification
  - Product brief
  - Application notes
  - Programmer's Reference Sheet

The sample code is installed with ZDS II and resides in the `<installation directory>\samples` in the user's disk drive.

The documentation can be installed by the user with the DemoShield interface or can be viewed on the CD-ROM using the DemoShield menus and a PDF reader. A copy of the Acrobat installer is provided on the CD-ROM and can be installed from the DemoShield install screen. After installing the documentation on the user's system Windows Explorer can be used to select any document to be viewed with your favorite PDF file viewer.

System/Software Requirements

IBM PC (or compatible computer) with the following minimum configurations:

Supported Host System Configuration

- Win98 Second Edition, WinNT 4.0 Service Pack 6, Win2000 Service Pack 3, WinXP Service Pack 1
- PentiumII/233MHz processor or higher up to Pentium IV, 2.8 GHz
- 96MB RAM or more
- 25MB hard disk space or more
- Super VGA video adapter

- CD-ROM
- One or more RS-232 communication ports

Installation

Follow the directions in the Quick Start Guide for software installation and setup of the Z8 Encore! evaluation kit.

Z8 Encore! 8K/4K Evaluation Board

Introduction

The Z8 Encore! 8K/4K evaluation board is an evaluation and prototyping board for the Z8 Encore! Z8 Encore! 8K/4K MCU. The board provides customers with a tool to evaluate features of Z8 Encore! 8K/4K MCU, and to start developing an application before building the hardware.

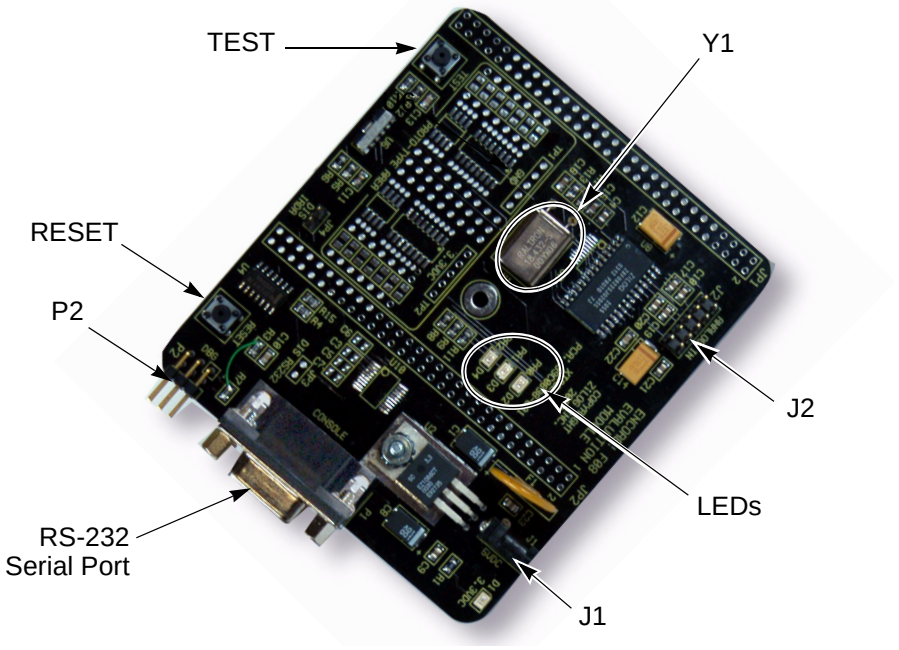


Figure 14. Z8 Encore!® 8K/4K Evaluation Board

Features

- Z8 Encore!® MCU (28-pin SOIC)
- 3 LEDs
- RS-232 interface
- IrDA transceiver
- Two pushbuttons, RESET and TEST
- 5VDC power connector
- On-Chip Debugger interface
- Crsytal Oscillator at 18.432MHz
- Header for ADC input
- Prototyping area
- External interface connectors JP1 and JP2
- 2.7–3.6V operating voltage with 5V-tolerant inputs

MCU

The Z8 Encore!® 8K/4K MCU is member of a family of ZiLOG microcontroller products based upon the 8-bit eZ8 core CPU. The Flash in-circuit programming capability allows for faster development time and program changes in the field. The eZ8 core CPU is upward compatible with existing Z8® instructions. The rich peripheral set of the Z8 Encore! 8K/4K makes it suitable for a variety of applications including motor control, security systems, home appliances, personal electronic devices, and sensors.

The evaluation board contains circuitry to support and present all the features of the Z8 Encore! 8K/4K. The main features of the Z8 Encore! 8K/4K are:

- eZ8 core CPU
- 8KB Flash memory with in-circuit programming capability
- 1KB register RAM
- 5-channel, 10-bit analog-to-digital converter (ADC)
- Full-duplex UART
- I^2C interface (Master Mode only)
- Serial Peripheral Interface (SPI)
- Infrared Data Association (IrDA)-compliant infrared encoder/decoder
- Two 16-bit timers with capture, compare, and PWM capability
- Watch-Dog Timer (WDT) with internal RC oscillator
- Eleven or nineteen I/O pins
- Programmable priority interrupts
- On-Chip Debugger
- Voltage Brown-out Protection (VBO)
- Power-On Reset (POR)
- 2.7–3.6V operating voltage with 5V-tolerant inputs
- Operating temperatures: 20° ±10°C

For further information on the Z8 Encore!® family of devices, consult the product specification, P/N PS0197, available for download from www.zilog.com.

UART with IrDA Endec

The Z8 Encore! 8K/4K contains a fully-functional, high-performance UART with Infrared Encoder/Decoder (ENDEC), component U6. The Infrared Endec is integrated with an on-chip UART allowing easy com-

munication between the Z8 Encore! 8K/4K and IrDA transceivers. Infrared communication provides secure, reliable, low-cost, point-to-point communication between PCs, PDAs, cell phones, printers and other infrared enabled devices.

Crystal Oscillator

The evaluation board ships with an 18.432MHz Crystal Oscillator (Y1). If you want to change the change the Crystal Oscillator you are required to change the Clock Frequency in for ZDSII. The frequency settings can be found at Project > Settings > Debugger > ZDB: Configure ZDB Driver: Clock Frequency. See the Z8Encore! Product Speciification for supported frequencies.

Power and Communication Interfaces

Table 1 provides jumper information concerning the shunt status, functions, devices and defaults affected of jumpers JP3 and JP4.

Table 1. Jumpers JP3 and JP4

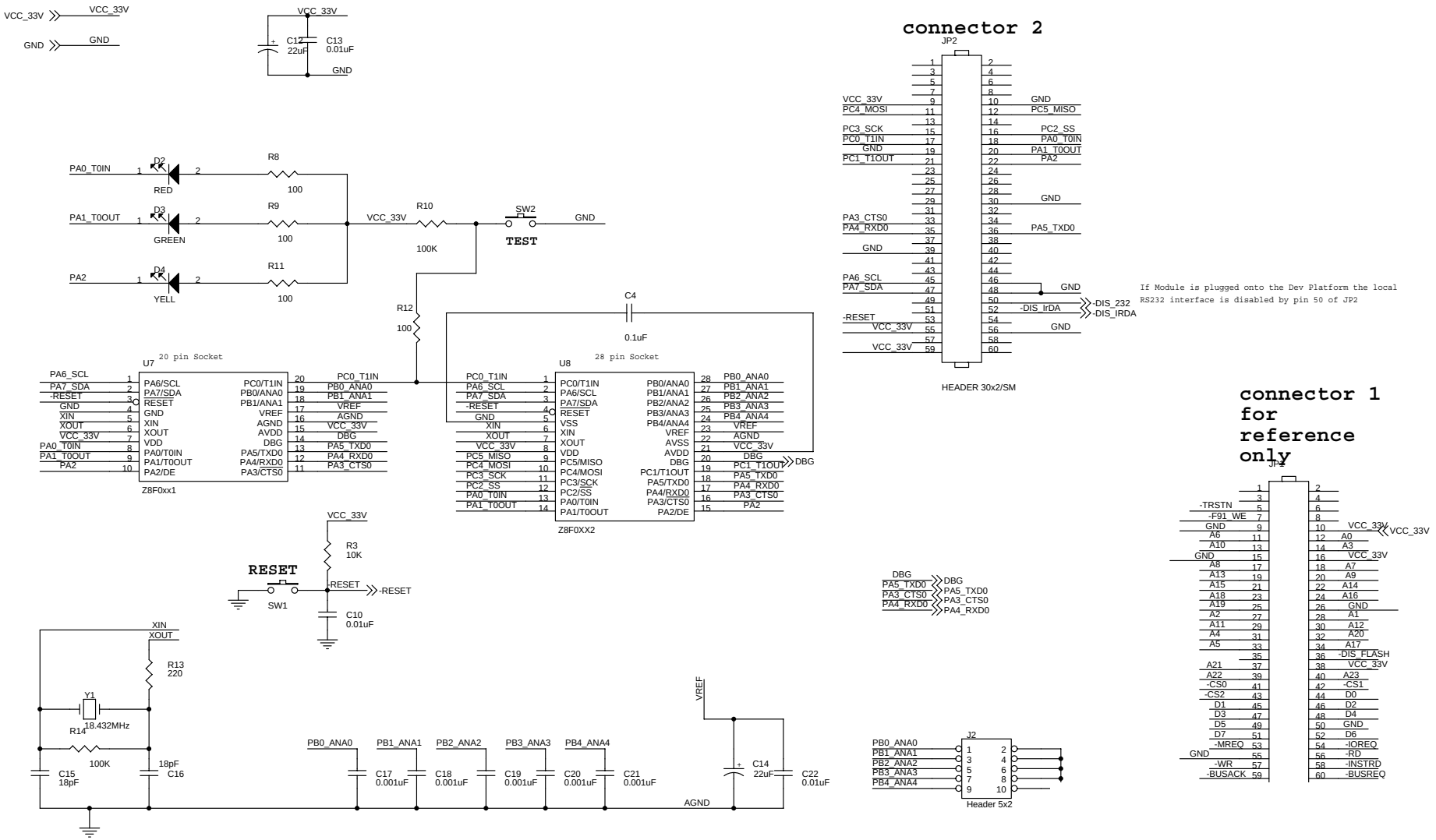
Jumper	Status	Device Affected	Status	Default
JP3**	OUT*	RS-232 interface	Enabled	X
JP3	IN	RS-232 interface	Disabled	
JP4	OUT*	IrDA interface	Enabled	
JP4	IN	IrDA interface	Disabled	X
Note: * These jumpers must not be OUT at the same time Note: ** If the module is plugged onto an eZ80 Evaluation platform or eZ80 demonstration board the local RS-232 can be disabled by connecting header JP2 pin 50 to the corresponding GND on the mating connector				

External Interface Headers JP1 and JP2

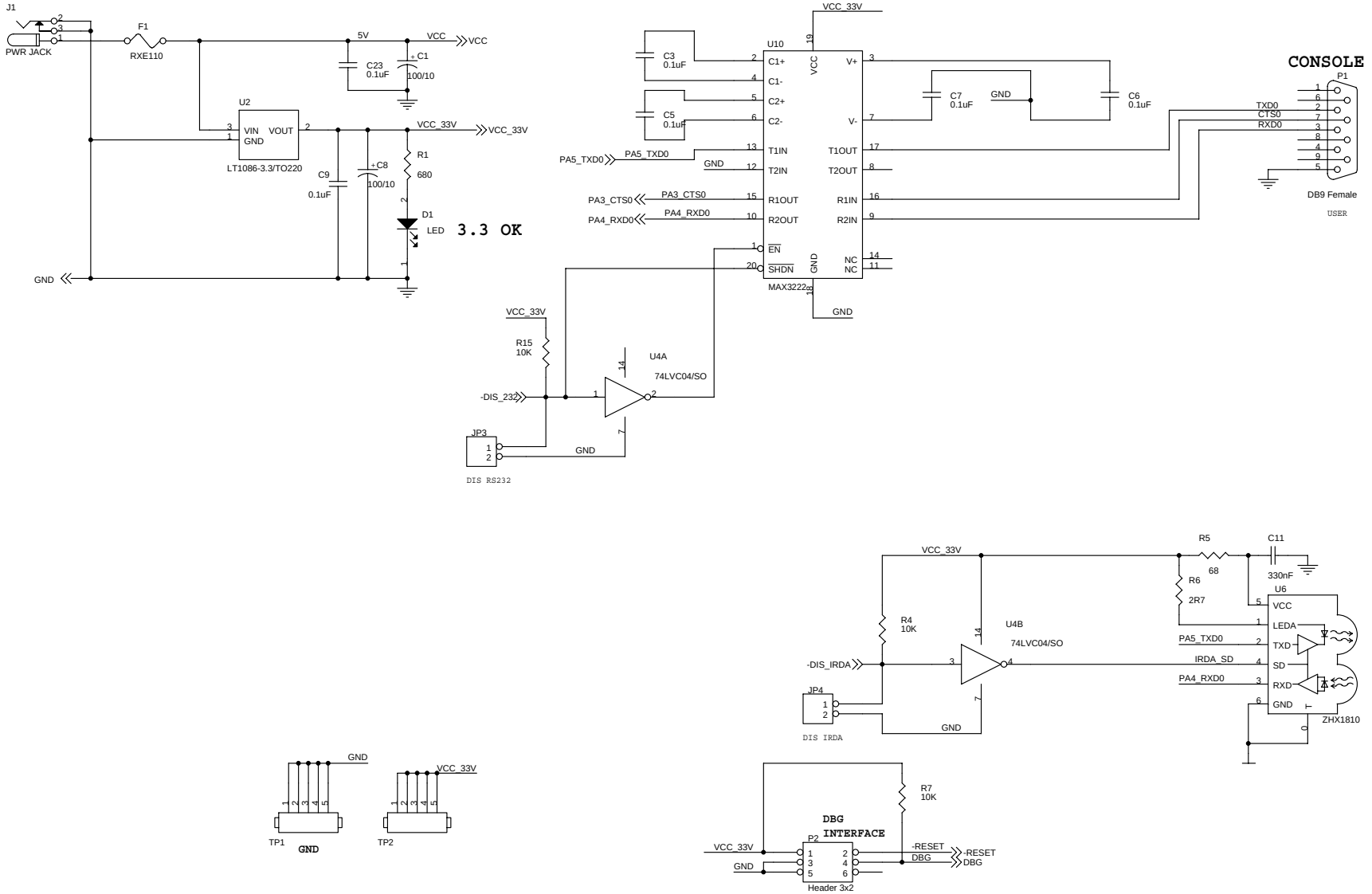
The external interface headers, JP1 and JP2 contain no connectors when the board is shipped. The user can insert 0.1" space connectors of choice.

Schematics

This section includes schematics for the the Z8 Encore!® 8K/4K Evaluation Board.



Schematic, Z8 Encore! ® 8K/4K MCU Evaluation Board, Page 1 of 2



Schematic, Z8 Encore! ® 8K/4K Evaluation Board Page 2 of 2

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