The Channel

Wireless Sensor Network

for Agricultural Monitoring

Your SITE.com

ZigBee

Dashboard

GSM Bridge Station

Ambient Temperature/ Humidity

Leaf & Soil Moisture/ Temperature

NODE 1

NODE 2..
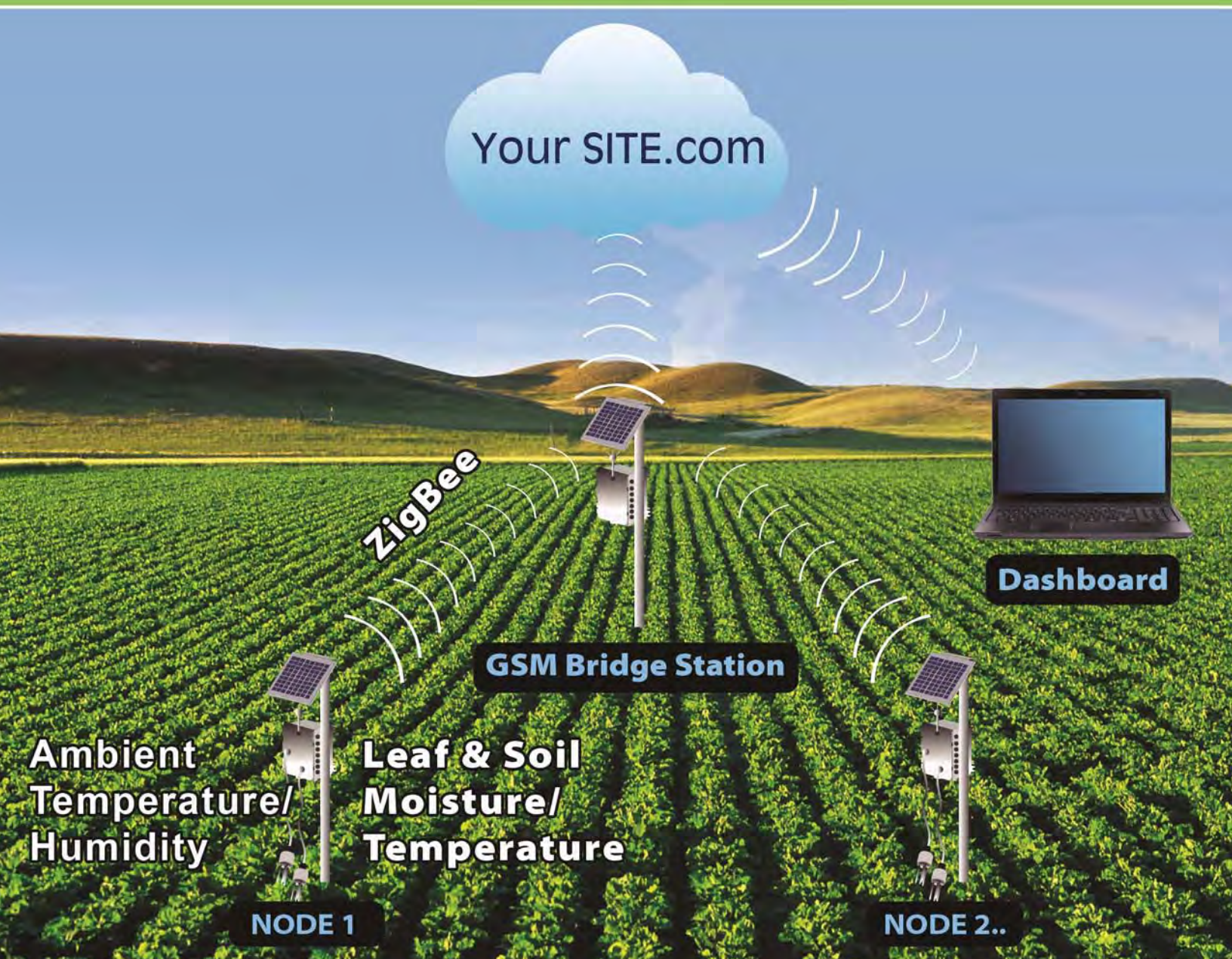
Table of Contents

Technology for the Global Agricultural Monitoring Management Crisis

Welcome to the December 2014 issue of Zilog's newsletter, The Channel – our 17th edition, in which we're continuing to share updates and perspectives from both Zilog and the World of IXYS.

Feeding the world's growing population is a global challenge. Water is increasingly scarce; however, there is rising demand to grow more productive crops in regions which are ill-suited to agriculture. Several studies have shown that global crop production needs to double by the year 2050 to meet the projected demands of a rising population.

Our industry is in a unique position to create technical solutions to the problem of worldwide hunger. Statistically, based on crop type, 20-30% of crops grown are lost due to factors such as soil nutrient deficiency, limited water resources, and pests and pathogens. Farmers throughout the world are constantly looking for ways to improve their crop yields. Innovations in remote sensing, Geographic Information System (GIS), and Global Positioning System (GPS) technologies can provide mechanisms for farmers to maximize the economic and environmental benefits of precision farming. However, most farmers do not have the skills to utilize these technologies effectively.

Our industry can contribute by developing technical components that interact with each other and provide a cohesive solution for sensing and monitoring crop management systems. These solutions may start as reference designs but lead to full product development to help accelerate deployable solutions. Unique challenges will emerge, providing creative opportunities for our engineering communities. Multiple types of sensors, communication protocols (ZigBee, RF Mesh, GSM), and powering methods (battery power, solar power) are available. Managing the transmission of data, processing information, and creating the underlying firmware and software are essential elements of this system. Another design consideration is the management of environmental challenges relating to weather conditions.

One way for companies to address this issue is by building their own end-to-end crop monitoring systems. Another approach would be to start a consortium as industry leaders, to devise a working platform and determine interoperability standards in which stable and deployable models can help accelerate adoption. We would certainly be interested in hearing your thoughts about building a group to participate in such an endeavor. This is how industry creates demand for new technologies that provide a clear solution to a worldwide need.

At Zilog, we are committed to this challenge and have developed a reference design as a first step in demonstrating crop management control with remote monitoring. We walked through the development process by working with ReinSystem, a small company in Chile, to build, test, and deploy a working platform. The result is Zilog's Wireless Agricultural Monitoring System (ZWAMS), which has several key types of sensors within a mesh network created to withstand the elements. Field trials went extremely well and ReinSystem now has a data center that monitors several deployments. To learn more about ZWAMS, see Wireless Agricultural Monitoring System on page 8 of this issue for a comprehensive overview.

Zilog continues to look at innovative technologies along with emerging applications in which our industry can contribute ideas, products, and services to solve problems for today's complicated world. We are reaching out to you, our customers, for thoughts about growing our own capabilities to better serve our industry.

Thanks again for your support in keeping Zilog going forward!

Steve Darrough
Vice President, IXYS Worldwide Marketing
sdarrough@zilog.com ● (408) 644-6534

Z8 Encore! XP F6482 Series Microcontroller

Zilog's F6482 Series MCUs, members of the Z8 Encore! XP family, are based on Zilog's advanced 8-bit eZ8 CPU core. This microcontroller is optimized for low-power and wireless applications, and supports 1.8V to 3.6V low-voltage operation with extremely low Active, Halt and Stop Mode currents, plus it offers an assortment of speed and low-power options.

The feature-rich analog and digital peripherals of the F6482 Series make it suitable for a variety of applications such as safety and security, utility metering, digital power supervisory, hand-held electronic devices, and general motor control applications.
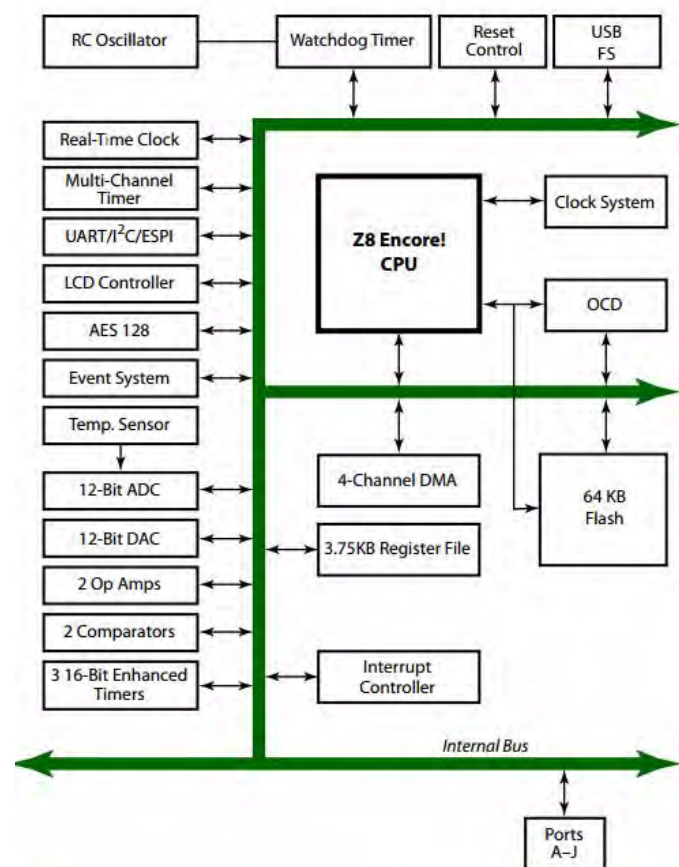
F6482 Series Block Diagram

Features

- 24MHz eZ8 CPU core
- 16KB, 32KB, 60KB or 64KB Flash memory with in-circuit programming capability
- 2KB or 3.75KB internal RAM
- Up to 128 bytes Non-Volatile Data Storage (NVDS)
- 12-bit (or 14-bit 2-pass) Analog-to-Digital Converter
- 12-bit Digital-to-Analog Converter (DAC)
- Integrated LCD driver with blinking and contrast control for up to 96 segments (4 common by 24 segment lines)
- 128-bit Advanced Encryption Standard (AES) encryption/decryption hardware accelerator according to FIPS PUB 197
- On-chip temperature sensor
- Two on-chip low power analog comparators
- Two on-chip, low-power operational amplifiers
- 8-Channel Event System provides communication between peripherals for autonomous triggering
- Full-Speed Universal Serial Bus (USB 2.0) device supporting eight endpoints with integrated USB-PHY
- Two Enhanced Serial Peripheral Interface (SPI) controllers (32-pin and 44-pin packages contain only one)
- Four-channel DMA controller
- Three enhanced 16-bit timers with Capture, Compare, and PWM capability
- Two additional basic 16-bit timers with interrupt (shared as UART Baud Rate Generator)
- 16-bit multi-channel timer which supports four Capture/Compare/PWM modules
- Watchdog Timer (WDT)
- 26 to 67 General-Purpose Input/Output (GPIO) pins, depending upon package
- Up to 41 interrupt sources with up to 30 interrupt vectors
- On-Chip Debugger (OCD)
- Wide operation voltage range: 1.8V–3.6V
- 32-, 44-, 64-, and 80-pin packages

Digital UART

Running short on UARTs? Zilog will soon release a Digital UART based on the Z8051 Series of microcontrollers. The Digital UART is a preconfigured device that requires no programming. It allows for control and configuration of multiple UARTs through registers, via either the I^2C or the SPI buses with individual 64KB FIFO receive and transmit buffers. This device will also provide a 4KB EEPROM (512 8-bit words) and access to GPIOs. The initial release will consist of four different models providing up to 2 UARTs and 14 GPIOs. These devices can be configured for up to 8 addresses, providing the ability to have up to 8 devices on the same I^2C bus.

Communication is augmented by interrupt lines for notification of UART traffic, including received data, transmitted data, and buffer watermarks, and two GPIO transition interrupts. Zilog's UART is preconfigured for 57,600 baud, 8 bit, 1 stop bit, no flow control; however, it can be configured for baud rates between 300 and 115,200. Hardware, software, and no flow control are supported.

The Digital UART is designed for low power consumption. While not in use (or waiting for packets to be sent or received), the device is placed in Stop Mode, allowing the current draw to be as low as 1uA. The operating voltage includes a very wide range to accommodate most systems, from 1.8V to 5.5V.

Pin Count	Footprint	UARTs	Interface	EEPROM	GPIOs
16	TSSOP	1	I^2C	512	3
20	TSSOP	1	I^2C	512	7
28	TSSOP	2	I^2C	512	8
32	QFN	2	I^2C	512	14

Both the 28-pin and the 32-pin parts can be configured to use SPI interface instead of I^2C but they will only have 1 UART available.

A device to be released later will allow up to four UARTs on a single device. Other capabilities such as ADC, Timers, PWMs, external I^2C, and SPI buses can be added if there is customer demand.
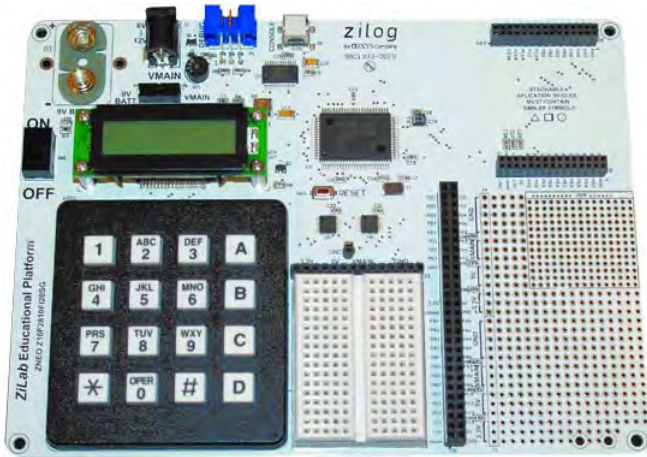
The Zilog Educational Platform

Zilog has your curriculum covered with our Education Solutions, including the versatile Zilog Educational Platform and an assortment of stackable application shields.

The Zilog Educational Platform is designed to offer a comprehensive educational advantage to students who are pursuing a degree in the electronics and computer sciences. It is an electronics development system for learning and teaching at the university level, yet can also serve the needs of students at the high school level. The core of the Zilog Educational Platform is Zilog's Z16F2810 MCU, a 16-bit Flash chip based on Zilog's ZNEO CPU.

The Platform's robust educational capabilities allow students to learn about microcontroller architecture, language programming, wireless communication, analog-to-digital conversion, sensing technologies, and security encryption methods; students can also experiment with creating industrial lighting and motor control applications. The Platform can also be configured as a data acquisition and remote control system. It ships with a command shell that allows control of the Platform without the need for additional programming.

The Educational Platform's design layout allows students to use it with intuitive ease, thereby saving time, energy, and money. The Platform is complete in all aspects of its functionality, with attention applied to many of the Platform's details. These details include its integrated audio buzzer and a jumper that, when

removed, can disable the backlight display from the LCD panel when power savings are important. The Platform's battery power source allows for mobile capability when considering projects in the field.

Features

- Input via a 16-key pad and/or a PC console application
- Output through a 16x2 LCD and/or standard PC monitor
- Dual-format breadboards, both standard and solderless
- Dual main power options: 6V–12V wall outlet or 9V battery for mobile operation
- Three voltages are available to the Platform when it is powered with the included AC power adapter:
- VMAIN
- 3.3V
- 5V with a maximum current of 2.0 amps
- 47 GPIO lines
- Stackable application shield interface
- Preprogrammed command shell
- I/O signal access connector
- Buzzer

Zilog Educational Platform Kit

The Zilog Educational Platform Kit includes all of the necessary tools and software to allow students to begin learning as soon as they open the box.

The Zilog Educational Platform Kit

Kit Contents

- Zilog Educational Platform
- System ZED Test Shield
- USB SmartCable for debugging purposes
- USB (A to Mini-B) cable
- Wall power adapter
- 9 V battery
- Flash drive containing command shell source code

An assortment of application-specific ZED application shields is available separately in the Education Solutions category of the Zilog Store.

Programming Shortcuts

Programming the Zilog ZNEO Microcontroller by Example: Volume One – Getting Started is a Kindle book authored by Dan Eisenreich. This first volume is an overview of the ZNEO microcontroller and includes 16 programming examples.

Self-contained programs or shortcuts from this book will be posted on the Zilog Forum. One such example is featured here; it shows the steps necessary to set up and use interrupts on the ZNEO MCU.

```
/* Interrupt Counter on the Zilog Educa-
tional Platform using ZNEO Z16F2810FI20SG
*/
/* Reference: Text Book "Programming the
Zilog ZNEO Microcontroller by Example" */
/* by Dan Eisenreich */
#include <zneo.h>
int n;
/* Interrupt Function Declaration */
void interrupt button_isr(void){
    n++;
    // Show n on the LEDs
    PCOUT = ((PCOUT & 0xF0) | (~n &
    0x0F));
    }
main()

    {
    // Unlock oscillator control
    OSCCTL = 0xE7;
    OSCCTL = 0x18;
    // Set oscillator to internal 5529600
    OSCCTL = 0xA0;
    // Configure PC0-3 as OUTPUT
    PCDD &= ~0x0F;
    // Turn off 4 LEDs
    PCOUT |= 0x0F;
```

```
    // Setup Timer to continuous, 1/4 Sec
    T0R = 0x2A30;
    // Clear any old settings
    T0CTL0 = 0x00;
    // Clear old settings and disable
    T0CTL1 = 0x00;
    // Assign new settings 0011 1001
    T0CTL1 = 0x39;
    // Set Enable timer bit
    T0CTL1 |= 0x80;
    // Enable timer0 interrupt
    IRQ0ENH |= 0x20;
    IRQ0ENL |= 0x20;
    IRQ0EN = 0x2020;
    // Assign TIMER0 interrupt to func-
    tion (interrupt vector)
    SET_VECTOR(TIMER0, button_isr);
    // Enable global interrupt pro-
    cessingEI();while(1) {
    // Do nothing, wait for interrupts
    }
}
```

Wireless Agricultural Monitoring System

Zilog's Wireless Agricultural Monitoring System (ZWAMS) reference design is based on wireless sensor network technology. It enables farmers to increase crop yields by providing accurate and timely information about environmental conditions in their fields. Farmers can proactively manage their farms and utilize limited resources strategically to enhance quality and output by analyzing the comprehensive data collected by the ZWAMS.

This system has been successfully implemented in the fruit industry in projects led by a team of engineers in Chile. Working in partnership with Zilog, they developed an initiative called ReinSystem, which has led to an increase in high quality output without the use of excessive fertilizers and agrochemicals. For example, the system has helped in the early detection of disease in apple orchards.

Board Features

ZWAMS consists of three circuit boards that work together to gather environmental data and transmit it for interpretation via the cloud computing model.

Sensor Board This Board contains inputs for four sensors, each of which monitors a different aspect of the plant's environment.

- Ambient temperature and humidity
- Leaf moisture
- Soil temperature and humidity
- Soil humidity for second-depth level soil layer

The Sensor Board also contains a ZigBee radio to transmit the sensor's raw data to the Bridge Board.

Bridge Board This Board contains a ZigBee radio and circuitry to communicate received data to the GSM Mini-Z module.

Mini-Z GSM Module This module contains a GSM radio to send data via the cloud to a service provider where it is processed and made available on a website in real time. It can be monitored from any location in the world where access to the internet is available.

ZWAMS uses a GPRS/GSM Radio to communicate with the cloud services provider. Environmental data is transmitted within the network via ZigBee radio. Solar panels can be used to supply power to the system.
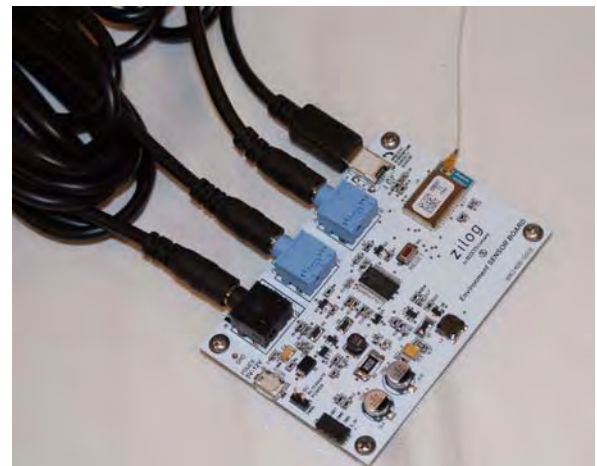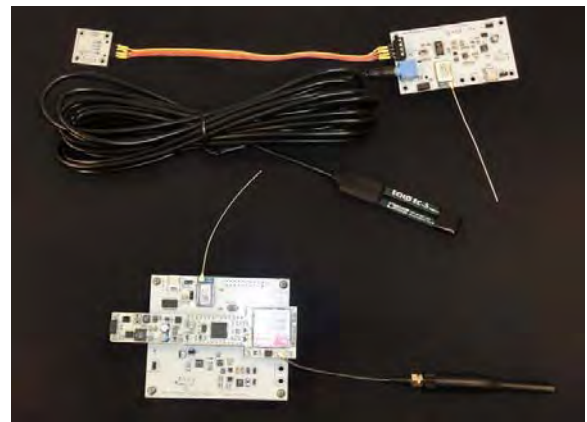
On-the-Ground Advantages

- Monitoring of crop-growing environment for better yields
- Early detection of plant disease
- Effective water distribution
- Reduced use of fertilizes and chemicals
- Good environmental stewardship
- Cost effective solution

Opto-Isolated USB SmartCable

Opto-Isolated USB SmartCable

The Opto-Isolated USB SmartCable allows you to connect a Z8 Encore!, Z8 Encore! XP, Z8 Encore! MC, ZNEO, or Z16FMC Development Board to a high-speed or full-speed USB port on any Zilog Developer Studio II (ZDS II)-equipped host system.

This USB SmartCable's internal optoisolator electrically isolates it from the circuitry of your Zilog development board, thereby preventing high input voltages from affecting the system receiving the output signal.

The Opto-Isolated USB SmartCable is available in the Zilog Store.

Z8F2480 Power Monitor with eZ80F91 Webserver

Zilog's Z8F2480 Power Monitor with eZ80F91 Webserver Reference Design is a recent addition to our Store. This reference design demonstrates the effectiveness of using an optically-isolated Z8F2480 MCU-based power monitor to measure AC input voltage, AC load current, voltage/current phase shift, the power factor of the load, and to communicate via a standard Ethernet interface and webserver.

The Z8F2480 MCU and the eZ80F91 Webserver Module are connected for easy mounting. The load is powered via a single-phase AC line with voltage in the range of 90V to 240V RMS at 50 Hz or 60 Hz. The Z8F2480 MCU-based power board provides current to a power load and provides optically-isolated I^2C signals to communicate with the eZ80F91 Module.

Base Power Board

This reference design can be used as a basis for developing systems that can control different power installations, including motors and lighting ballasts.

The Z8F2480 Power Monitor with eZ80F91 Webserver Reference Design ships with the following items:

- Z8F2480 AC Monitor Power Board
- eZ80F91 Webserver Module
- 5 VDC power supply
- UART-to-RS232 adapter

Order the Z8F2480 Power Monitor with eZ80F91 Webserver Reference Design from the Zilog Store.

eZ80F91 Module

Features
- 90 –240V AC RMS input voltage range
- Load current up to 3 amps
- Less than 5mA average current consumed from an AC line in either monitoring or standby modes
- 3750V isolation voltage between the AC line and the eZ80F91 MCU

Tips from Professor Ken

Stuck on a design problem? Have a question about a Zilog product? Professor Ken gives you the answers you wished for this holiday season!

Q I am using ZDS v3.68 on a Windows 7 computer system and the Help utility does not work. What should I do?

A Microsoft Windows no longer includes the `winHlp32.exe` file to support the older 32-bit help files (.hlp). For the ZDS Utility to work on your system (32-bit or 64-bit system type), download the 32-bit `winHlp32.exe` file via the following link:

http://www.microsoft.com/en-us/download/details.aspx?id=91

Q I received the ZMOTION MCU Z8F040BSB20EG. Is it preprogrammed, or does it need to be Flash programmed to have it work in the ZMOTION Detection Module (ZEPIR0BAS02MODG)?

A The ZMOTION MCU (part number Z8F040BSB20EG) does not include any user application code. As shipped, it does not function as a motion detector. Therefore, it is necessary for the user to Flash program the MCU with the same Motion Detection code that is in the module. This code can be downloaded for free at:

http://www.zilog.com/docs/referencedesign/RD0026-SC01.zip

Q I needed the S3 support files `ioS3F8S35`, `ioS3F8S35.ddf`, `ioS3F8S39.h`, and `ioS3F8S39.ddf` from the latest IAR EWSAM8 v3.2 installer but I am having problems installing EWSAM8.

A If you have any anti-virus software running on your PC, turn it off before installing EWSAM8.

Q How do I fix my Z8 Encore! ZDSII compiler when it gives me errors when my application runs with nested interrupts and using *small model?*

A For a small model, when the application allows one level of nested interrupts then the low range of RDATA should be set to `0x30h`, rather than the default `0x20h`, to allow an extra 16 bytes for the Register Pointer (RP) when both interrupts are active. RDATA memory is located in `00h–FFh` and is used for a small memory model. The low boundary needs to be set higher by `10h` for each level of nested interrupts. Therefore, set the low boundary to `40h` for two levels of nested interrupts; to `50h` for three levels of nested interrupts, and so on.

Q How do I fix the problem using the SPI Interface with the STP Shell on the eZ80F91 Mini Development Board?

A The eZ80F91 PB6/SPI_MISO signal is connected to the RS232 transceiver enable pin. The trace to the transceiver enable pin should be cut and shorted to ground so that it is permanently enabled. It may also be necessary for the user to modify `eZ80Hw_Conf_ZDS_Mini.c` to configure PB2, PB3, PB6, and PB7 for the alternate function mode (Mode 7) in case this is not handled properly in the RZK SPI driver.

Tools Developments

A complete line of development tools is available for Zilog's S3 Microcontroller Family. The development environment is composed of your application board, a target board, an emulator, and a host PC running the IDE. Production programmers are also available from third party sources. Zilog's in-circuit emulator solution provides a wide range of capabilities and prices to suit most budgets and system complexities.

The S3F8S19 Development Kit is a recent addition to Zilog's Development Tool offerings.

S3F8S19 Development Kit

Zilog's S3F8S19 Development Kit, part number S3F8S190100ZCOG, allows you to evaluate your S3F8S19-based designs and applications. The S3F8S19 Development Kit is a complete development solution that provides all of the necessary hardware and software tools to get you developing quickly.

The S3F8S19 Development Board features an S3F8S19 MCU in a 48-pin QFP package, plus an S3 PGM connector to connect the Board to a host development PC using the S3 Flash In-System Programmer (ISP).

The S3F8S19 Development Kit

The S3F8S19 Development Kit includes the following key items.

- S3F8S19 Development Board, which contains the following features:
  - 48-pin QFP S3F8S19 MCU operating at 12 MHz, with 32 KB of internal Flash memory and 2 KB of internal RAM memory
  - USB interface to supply power to the board and used as a PC virtual COM port with the S3 Monitor and Boot Loader libraries
  - LCD module
  - Buzzer/Speaker
  - UART connector footprint
  - Test points footprint for all pins of MCU
  - MCU current measurement test points J7 and J8
  - Power supply level adjustable with potentiometer R16
- S3 Flash In-System Programmer
- ZDSII IDE for the S3 Family, version 5.2.0 (Beta 2) plus sample files and documentation (Product ID SD00030) available free for download from the Zilog Store.

To locate your local distributor and order this kit, visit the Zilog website. The S3F8S19 Development Kit is RoHS-compliant.

Tools and Software

Browse the **Tools and Software** menu on zilog.com to learn more about Zilog's Development Tools and view a list of Third Party Tools. You can also find links here to our **Documentation** and **Application Sample Libraries**.

Software Downloads

We offer multiple downloadable software files in the Zilog Store. You'll find the Zilog Real-Time Kernel and TCP/IP Stack here, plus two flavors of SSL plug-ins. There's lots of free stuff here too!

Here are two of Zilog's updated software releases:

ZDS II – S3 version 5.2.0 Beta 2

This Beta 2 version of Zilog Developer Studio II v5.2.0 for S3 offers debug and development support for Zilog's S3 product line, and is downloadable for free (Product ID SD00030). This release of the ZDS II software for the S3 Family includes an assembler, a linker/locator, a librarian, a disassembler, and an ISP program-

mer and debugger, as well as version 1.0 of the software and documentation set for Zilog's S3F8S19 Development Kit (S3F8S190100ZCOG).

This software is furnished as a .zip file and includes a readme file and supporting documentation (a zipped executable file).

ZDS II – Z8 Encore! version 5.2.0

Version 5.2.0 of Zilog Developer Studio II for Z8 Encore! offers debug and development support for Zilog's Z8 Encore! XP and Z8FMC16 product families. This new version of the ZDS II software includes a Board Support Package for our new F6482 Series devices. The Product ID is SD00027, and you can download it for free at the Zilog Store.

Application Solutions

Our application notes and reference designs offer the technical information and functionality to support your design goals with Zilog's microcontroller solutions.

Take a look at the solutions offered under the **Applications** menu at zilog.com. Want your designs served up in a single location? *Design for Success! Zilog Reference Design and Application Cookbook* is our one-stop shop of design recipes that will help you get your products to market quickly. This 2014 edition is a collection of our recent Application Note and Reference Design documentation. Download it from the left sidebar of the zilog.com home page.

New Application Note:

• Low Power Programmable Thermostat Using the F6482 Series MCU (AN0372)

Upcoming Application Solutions:

• Space Vector Modulation of a 3-Phase AC Induction Motor with the Z16FMC ZNEO Microcontroller

• A DMX512-A Receiver Using a Z51F0811 MCU

• Implement a DMX512-A Controller Using the Z51F3220 MCU

Browse through our new brochure highlighting Zilog's optimized Motor Control solutions. Topics discussed include control strategy by motor type, characteristics and applications of various motors, and Zilog's MultiMotor Series Development Kit.

Captain Zilog Returns in a New Issue!

The Titan of Technology is back in another thrilling battle! In *Vampirus Goes Viral*, the third edition of the Captain Zilog comic series, our favorite superhero uses the low-power F6482 MCU to ward off a new attack unleashed by the evil Dr. Diabolicus.

Keep up with Captain Zilog's exploits as he saves Cityville from the power-hungry Vampirus, Destroyer of Light.

Can't wait to see how the balance of power shifts in this action-packed adventure? Visit the Captain Zilog Online Comic page, where you can devour this latest encounter and also catch up on previous issues.

Zilog Online Community Forum

The Zilog Forum is an interactive site that offers a unique platform to interact with Zilog engineers, learn about new products, and share your application design ideas. You can also exchange information with other community members.

To help you find your way around the community, the Forum is organized into the following sub-groups:

General We encourage new members to post a short introduction in the general forum category. Get to know each other and share common interests.

In the Know The information here contains technical solutions to application designs. Zilog's Application Engineers share their knowledge so you can save time and get to the result you want faster.

The Wake Up Channel Here's your chance to tell us directly what is not working. We are listening!

Fun and New Ideas! Have you seen a video or read a story about someone using a Zilog product in a unique or fun way? Share it with us by posting here.

Emerging Energy Management Frontier Cool new ideas and thoughts on how Energy Management is evolving and ways to create clever solutions.

Development Tools Tips and Tricks A place to provide tips and tricks for the development tools.

You can also perform a search on Forum postings to see if your question has been previously addressed.

Register to be a member and join the conversation! We want to hear from you, and we welcome productive feedback.

Zilog Releases New Z8 Encore! XP® F6482 Microcontroller for High Performance and Low Power Applications

Milpitas, CA. and Leiden, The Netherlands. November 11, 2014 – Zilog, an IXYS Company (Nasdaq: IXYS), the legendary application-specific microcontrollers (MCUs) pioneer, today introduces its Z8 Encore! XP® F6482 Series MCU, the latest in Zilog's line of Z8 Encore! XP® Flash microcontroller products. These F6482 Series products are based on Zilog's advanced 8-bit eZ8 CPU core and are optimized for low-power and wireless applications, supporting 1.8V to 3.6V low-voltage operations with extremely low Active, Halt, and Stop Mode currents, and offering an assortment of speed and low-power options.

The I/O capabilities of the F6482 Series MCUs makes them suitable for a wide variety of applications, including safety and security, utility metering, digital power supervisory, hand-held electronics, and general motor control. The F6482 Series features up to 67 port pins (ports A–J) for general-purpose input/output (GPIO); the number of GPIO pins available is a function of package type. Each pin is individually programmable.

Key Features

Zilog's F6482 Series MCUs feature the following functionality:

- 24MHz eZ8 CPU core
- 16KB, 32KB, 60KB or 64KB Flash memory with in-circuit programming capability
- 2KB or 3.75KB internal RAM
- Up to 128 bytes Non-Volatile Data Storage (NVDS)
- 12-bit (or 14-bit 2-pass) Analog-to-Digital Converter
- 12-bit Digital-to-Analog Converter (DAC)
- Up to 12 external channels plus dedicated inputs for op amps (2)
- Temperature sensor, AVDD/2, and bandgap
- Internal or external voltage reference and single-ended or differential inputs
- Integrated LCD driver with blinking and contrast control for up to 96 segments (4 common by 24 segment lines)

- 128-bit Advanced Encryption Standard (AES) encryption/decryption hardware accelerator according to FIPS PUB 197
- Real-Time Clock (RTC) supporting both Counter and Clock modes
- On-chip temperature sensor
- Two on-chip low power analog comparators
- Two on-chip, low-power operational amplifiers
- 8-channel Event System provides communication between peripherals for autonomous triggering
- Full-speed Universal Serial Bus (USB 2.0) device supporting eight endpoints with integrated USB-PHY
- Two full-duplex UARTs with Local Interconnect Network (LIN), Digital Addressable Lighting Interface (DALI) and Digital Multiplex (DMX) protocol modes
- Support for 9-bit (multiprocessor) and RS-485 driver enable
- Two enhanced Serial Peripheral Interface (SPI) controllers
- I^2C controller which supports Master/Slave modes
- Four-channel DMA controller with direct or linked-list operation
- Three enhanced 16-bit timers with Capture, Compare, and PWM capability
- Two additional basic 16-bit timers with interrupt (shared as UART Baud Rate Generator)
- 16-bit Multi-Channel Timer which supports four Capture/Compare/PWM modules

"With this feature set, Zilog's F6482 Series offers a cost-effective solution for multiple applications in demand today, such as wireless solar panel controllers, PIR motion detection, DALI, DMX, RF, DSI, touch sensing, USB, biometric sensing, glass break detection, wireless thermostats and smoke detectors, and designs requiring encryption/decryption," said Steve Darrough, Zilog's VP of Worldwide Marketing. "We are pleased to offer a

very current 8-bit microcontroller that will meet the expectations for current designs in the industry."

Zilog's F6482 Series devices are currently in production and available to ship to customers that place orders through distributors. To learn more, visit zilog.com.

North America Sales Representatives Training
Nov 6–7, Beverly, MA

IXYS held a two-day sales training program in their ICD division at Beverly, MA from November 6-7, 2014. The training session covered topics such as IXYS products, key features, and target markets.

The program provided an opportunity for attendees to interact with the IXYS leadership and network with other sales representatives. The event was well attended by sales and distribution professionals from the industry.

electronica 2014
Nov 11–14, Munich

Simos Elektronik, a Zilog distributor, participated in electronica 2014 from November 11-14 in Munich, Germany. More than 73,000 visitors from over 80 countries and 2,737 exhibitors from 50 countries celebrated the anniversary of the world's largest event for the electronics industry. The Zilog display at the Simos Elektronik booth received a lot of interest, especially in Motor Control and Motion Detection solutions.

Some of Zilog's products on display at Electronica:

- ZMOTION Detection & Control kits – PIR Motion Detection solution for Lighting, Proximity and Energy Management applications
- ZDM-II Evaluation Kit – Simple-to-use PIR Motion Detection Module
- Micro-Stepper Motor Reference Design – Z8F1680 is an excellent device for micro-stepper applications
- ZNEO Z16FMC Development Kit – Motor Control using our 16-bit ZNEO MCU

Look for Zilog products in the Simos Elektronik booth at the Embedded World exhibition in Nuremberg, Germany from February 24-26, 2015.

Archive

Back issues of The Channel are one click away. Happy reading!

Issue 1
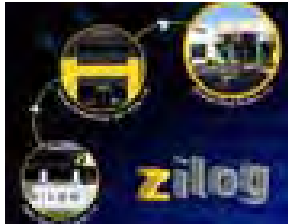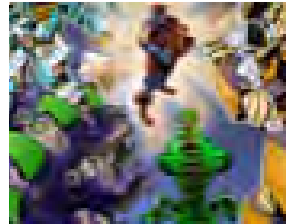June 2008

Issue 2
November 2008

Issue 3
April 2010

Issue 4
July 2010

Issue 5
October 2010

Issue 6
January 2011

Issue 7
April 2011

Issue 8
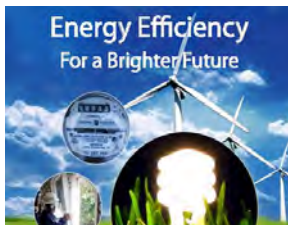August 2011

Issue 9
November 2011

Issue 10
April 2012

Issue 11
August 2012

Issue 12
January 2013

Issue 13
June 2013

Issue 14
November 2013

Issue 15
May 2014

Issue 16
August 2014