Z8ENCORE000ZCO

Z8 Encore!® Flash Microcontroller Development Kit

User Manual

UM014605-0208

Revision History

Each instance in Revision History reflects a change to this document from its previous revision. For more details, refer to the corresponding pages and appropriate links in the table below.

Date	Revision Level	Description	Page No
February 2008	05	Updated Zilog logo, changed ZiLOG to Zilog, implemented style guide and template. Deleted 'Figure 7-Figure to be added at a later revision' in Smart Cable section.	All
July 2003	04	Updates.	All
July 2003	03	Corrected Schematics.	30
March 2003	02	Corrected Timer 3 errors.	All
March 2003	01	Original Issue.	All

Table of Contents

Introduction

Zilog's Z8 Encore!® Flash Microcontroller (MCU) is the first in the new line of Zilog microcontroller products. This board supports the Z8 Encore! and introduces Flash to the Z8® line of microcontrollers.

The Z8 Encore! Development Kit (Z8ENCORE000ZCO) allows you to become familiar with the hardware and software tools available with this product. This kit consists of the 64 KB version of the Z8 Encore! Evaluation board that supports and presents the features of the Z8 Encore!. The software development tool kit allows you to begin writing application software and contains all supporting documents.

This manual acquaints you with the Z8 Encore! Development Kit, and gives instructions on setting up and using the tools to start building designs and applications.

Kit Contents

The Z8 Encore! Flash MCU development kit contains the following:

Hardware

The hardware component of the Z8 Encore! Flash MCU development kit include:

- Z8 Encore! Evaluation board
- Smart cable for PC to Z8 Encore! evaluation board (DB9 to six-pin male)
- 9 V DC universal power supply (for details, see Figure 3 on page 6)

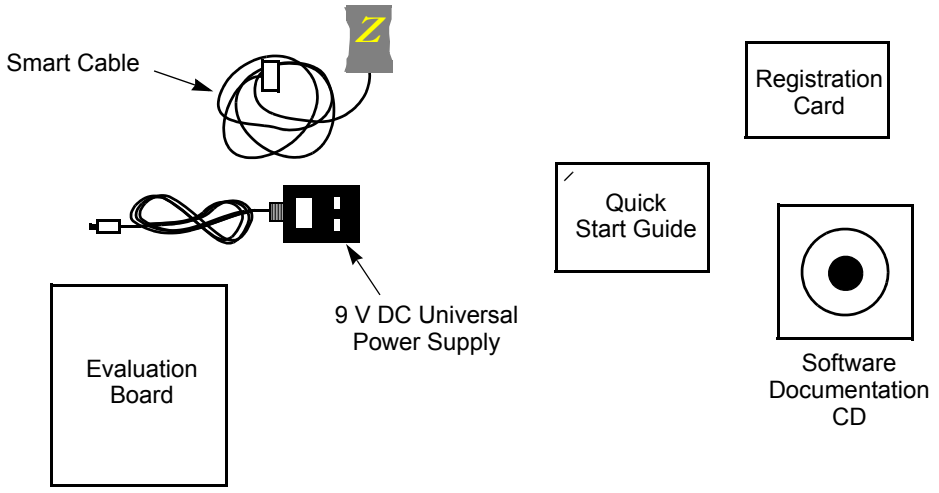

Figure 1. Z8 Encore!® Development Kit Contents

Software (on CD-ROM)

The software components of Z8 Encore! development kit include:

- Zilog Development Studio II (ZDS II)—Z8 Encore!® Integrated Development Environment (IDE) with ANSI C-Compiler
- Sample code
- Device driver software
- Document browser
- Acrobat Reader

Documentation

The following documentation are included in the Z8 Encore! development kit:

- Programmer's Reference Sheet
- Registration card
- Z8 Encore!® technical documentation (on CD-ROM)
  - ZDS II—IDE User Manual
  - eZ8 CPU User Manual
  - Product Specification
  - Product briefs
  - Application notes
  - Programmer's Reference Sheet
  - Flyers
  - Product Line Card

The sample code is installed with ZDS II and is located in the `<installation directory>\sample` in the disk drive.

The device driver software is installed with ZDS II and resides in the `<installation directory>\applications\Z8Encore!_F640X_DriversDemo` in the disk drive.

The documentation can be installed 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 your system, Windows Explorer can be used to select any document to be viewed with PDF file viewer.

System/Software Requirements

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

Supported Host System Configuration

The following system configurations are required on the host PC:

- Microsoft Windows XP SP1/Windows 2000 SP3/Windows NT 4.0 SP6/Windows 98 SE
- Pentium II/233 MHz processor or higher up to Pentium IV, 2.8 GHz
- 96 MB RAM or more
- 25 MB hard disk space or more
- Super VGA video adapter
- CD-ROM
- One or more RS-232 communication ports

Installation

This chapter describes the installation of hardware and software tools for the Z8 Encore! Evaluation Kit. Also describes setting up the evaluation board, substituting plug configurations of the universal 9 V DC power supply, and installing the ZDS II—IDE Z8 Encore! software.

Setting up the Evaluation Board

The PC communicates with the Z8 Encore! Flash MCU Evaluation board using the serial port of the PC. A Z8 Encore! Smart Cable converts the RS-232 signals into the 3.3 V bidirectional open-drain signal needed to communicate with the on-chip debugger of the eZ8. This Z8 Encore! Smart Cable is a small circuit board with an attached cable and a six-pin right angle female connector that attaches to the evaluation board.

Caution: *Always use a grounding strap to prevent damage resulting from electro-static discharge (ESD).*

Follow the steps below to setup the Z8 Encore! evaluation board:

1. Connect the serial port of the PC to the Z8 Encore! Smart Cable female DB9 connector.
2. Connect the Z8 Encore! Smart Cable to the Z8 Encore! Flash MCU evaluation board pin header P4.
3. Connect the 9 V DC universal power supply to the evaluation board, then to an electrical outlet.

For the Z8 Encore! development kit external connections, see Figure 2 on page 6.

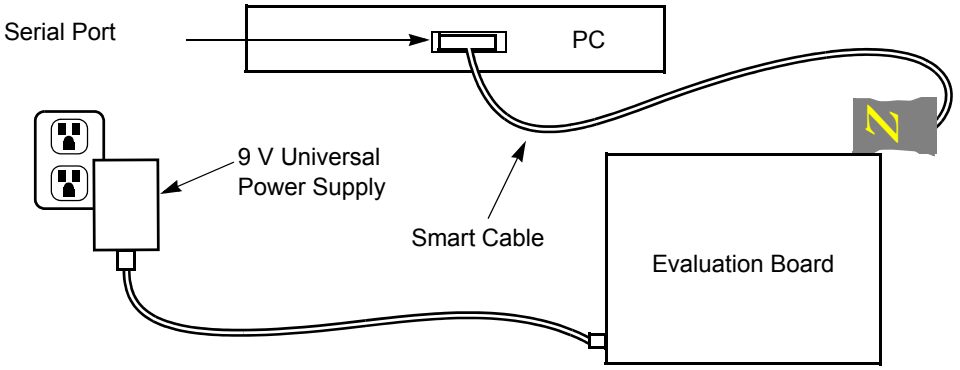

Figure 2. Evaluation Board External Connections

Changing the Universal 9 V DC Power Supply Plug Configurations

Figure 3 displays the contents of the Universal Power Supply kit.

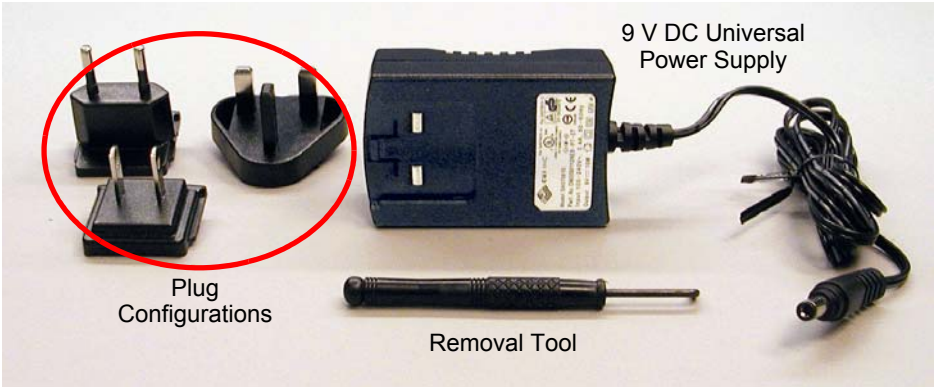

Figure 3. 9 V DC Universal Power Supply Components

The 9 V DC universal power supply features three different plug configurations, the power supply and a tool that aids in removing one plug configuration to insert another.

Follow the steps below to substitute one plug configuration for another:

1. Using the removal tool, place the power supply in the round hole at the top of the current plug configuration.
2. Press down to disengage the keeper tab and push the plug configuration out of its slot.
3. Select the plug configuration of choice for your location, and insert it into the slot left by the previous plug configuration.
4. Push the new plug configuration down until it snaps into place (see Figure 4).

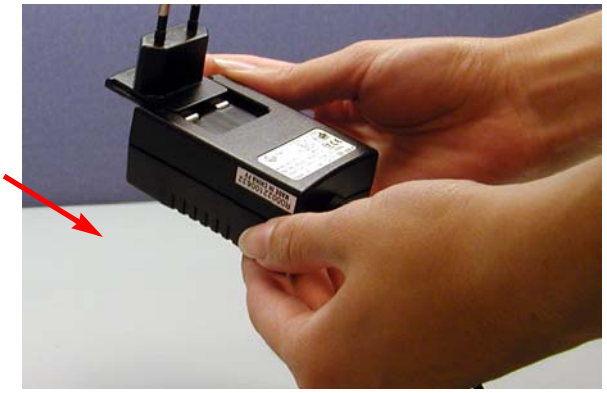

Figure 4. Inserting a New Plug Configuration

Installing the ZDS II—Z8 Encore!® Software

Follow the steps below to install the software tools:

1. Load the ZDS II—Z8 Encore! Flash MCU CD into the CD-ROM drive of the host PC. The CD launches **DemoShield** automatically and provides a menu to install the product and documentation. Select **INSTALL PRODUCTS** followed by **INSTALL ZDS II** to display the Installation Wizard.

Note: *Software versions used in the following illustrations are for reference only. You may have an updated version.*

2. Click **Next** to continue with the installation. The License Agreement appears.
3. Select **Yes** to accept the agreement and proceed with the installation.
4. After selecting **Yes**, the **Choose Destination Location** screen appears. Follow the directions on the screen and choose whether to install ZDS II in the default location or in some other folder. Click **Next**.
5. The **Select Program Folder** screen appears. Follow the on-screen instructions and click **Next**.
6. After selecting **Next**, the Installation Wizard completes the installation.
7. When the installation is complete, another screen appears asking you to register the product online at www.zilog.com. To register at a later time the registration link to the internet site is provided in the ZDS II Help menu.
8. The following directory is installed on the host PC, assuming all installation settings remain at their defaults: `C:/Program Files/ZiLOG/ZDSII_Z8Encore!_F640X_<Version>.`

Getting Started

Using ZDS II

Follow the steps below to open an existing project:

1. Connect the Evaluation board to the host PC's serial communications port using the Smart Cable.
2. Apply 9 V DC power to the Evaluation board.
3. Run the ZDS II Software (`Start` > `Programs` > `ZDS II-Z8 Encore! F640x_<Version>ZDS II-28 Encore! F640x_<Version>`).
4. Select **Open Project** from the **File** menu. The **Open Project** dialog box appears.
5. Select **samples**. The samples folder appears.
6. Select the `Z8F640x_ledBlink` folder and then the src folder to access the `ledBlink.pro` project file.
7. Select the `ledblink.pro` file. The initial ZDS II program screen opens.
8. Click **Rebuild All** and then the **Reset** icon  to connect and download the code to the Evaluation board.
9. Click **Go** icon  to start the program.

For more information, refer to *Zilog Developer Studio II—Z8 Encore® User Manual (UM0130)*, supplied with the documentation on the CD-ROM or available for download at www.zilog.com.

Z8 Encore!® Evaluation Board

Introduction

Z8 Encore! evaluation board (64 KB version) is an evaluation and prototyping board for the Z8 Encore!® family of MCUs. The board provides you with a tool to evaluate features of Z8 Encore! family, and to develop an application before building the hardware.

Features

The features of the Z8 Encore! evaluation board include:

- Z8 Encore! MCU
- LED array with four 7 x 5 LED matrices
- Serial Communications Devices
  - I^2C configuration IC for Expansion Module
  - SPI Interface with temperature sensor
- Infrared Data Association (IrDA) transceiver
- Power and communication interfaces
  - 9 V DC power supply
  - Two RS-232 connectors
  - One RS-485 connector with two ports
- Expansion Module interface
- Embedded modem socket with U.S. phone line interface (modem is not included in the kit)
- Three pushbuttons

Block Diagram

The board consists of the following major blocks:

- Z8 Encore!® MCU
- Serial communication devices (SPI and I^2C)
- Power and communication interfaces
- LED array
- Expansion Module interfaces
- IrDA transceiver
- Zilog Debug Interface (DBG)

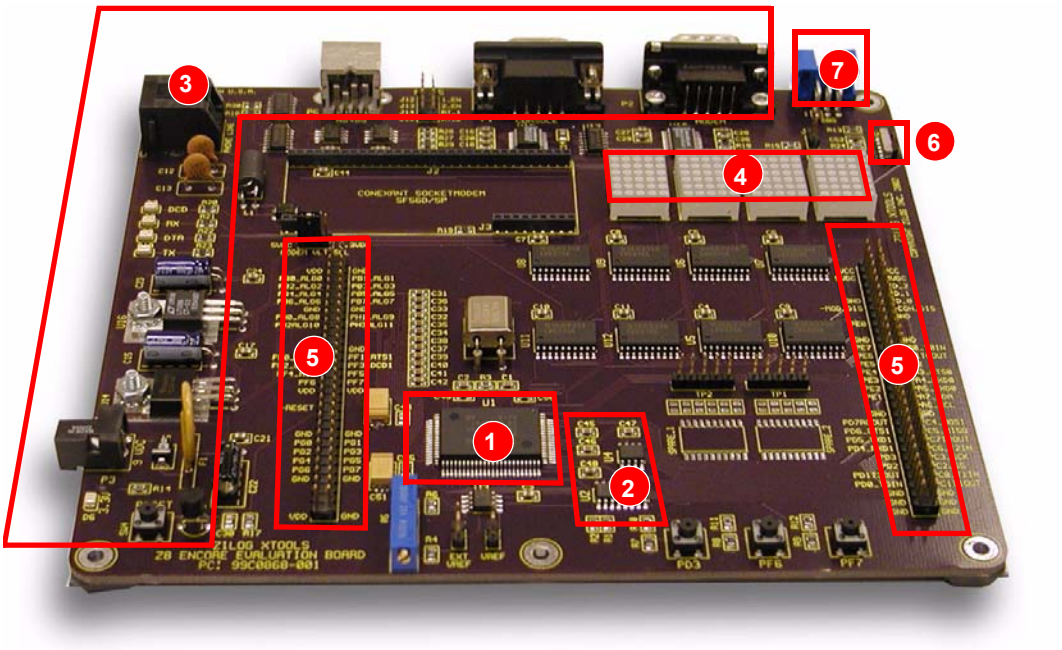

Figure 5. Major Z8 Encore!® Evaluation Board Blocks

Figure 6 displays the Z8 Encore!® evaluation board block diagram.

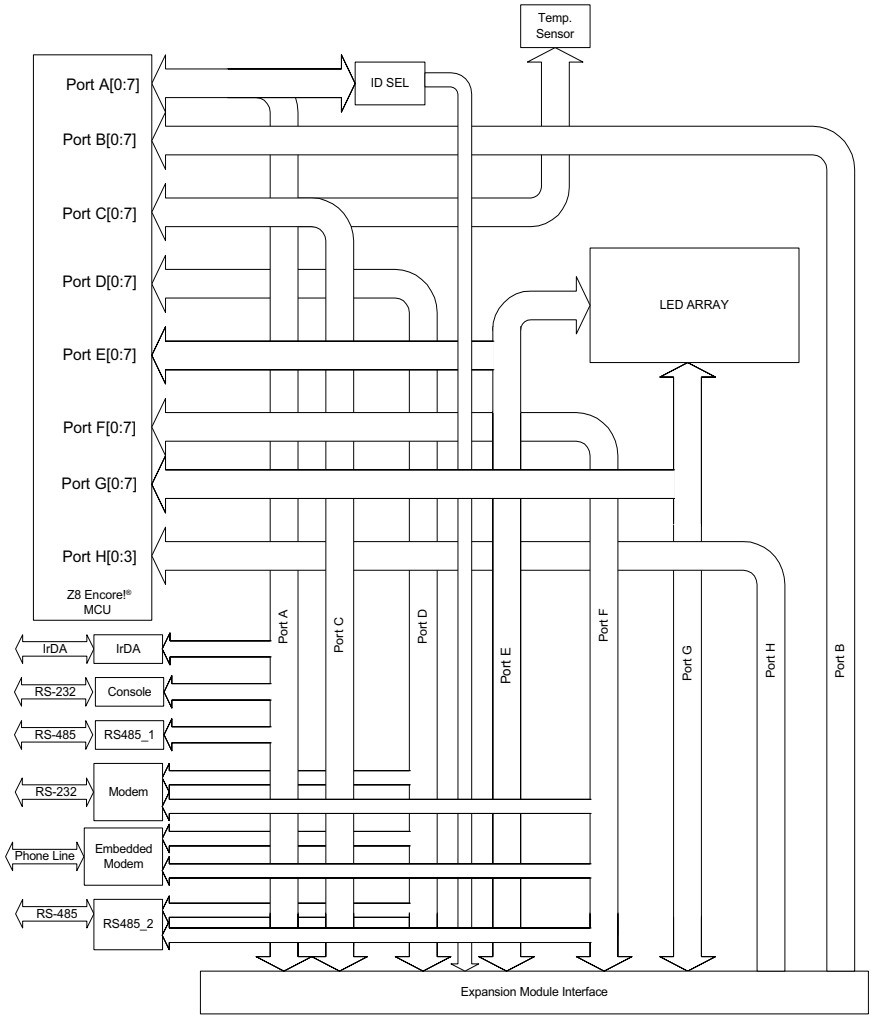

Figure 6. Z8 Encore!® Evaluation Board Block Diagram

MCU

The Z8 Encore! MCU family of products are the first in a line of Zilog MCU products based upon the new 8-bit eZ8 core CPU. The Flash in-circuit programming capability allows for faster development time and program changes in the field. The new eZ8 core CPU is upward compatible with existing Z8® instructions. The rich peripheral set of the Z8 Encore! 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 presents all the features of Z8 Encore!. The key features of Z8 Encore! include:

- eZ8 core CPU
- 64 KB Flash memory with in-circuit programming capability
- 4 KB register RAM
- 12-channel, 10-bit analog-to-digital converter (ADC)
- Two full-duplex UARTs
- I^2C interface (Master Mode only)
- Serial Peripheral Interface (SPI)
- Two Infrared Data Association (IrDA)-compliant infrared encoder/decoders
- Three to four 16-bit timers with capture, compare, and PWM capability. 40-pin and 44-pin packages feature only 3 timers. The fourth timer is available only on the 64-, 68- and 80-pin packages.
- Watchdog Timer (WDT) with internal RC oscillator
- 3-channel DMA
- Up to 60 Input/Output (I/O) pins
- 24 interrupts with configurable priority

- On-Chip Debugger
- Voltage Brownout (VBO) Protection
- Power-On Reset (POR)
- 3.0 V–3.6 V operating voltage with 5 V-tolerant inputs
- 0 °C–70 °C operating temperature

For further information on the Z8 Encore! family of devices, refer to *Z8 Encore! XP® 64K Series Flash Microcontrollers Product Specification (PS0199)*.

LED Array

The LED array display user information. There are four 7 x 5 LED matrixes. To light up an LED dot the appropriate Anode bit must be 1, and the correlated Cathode must be 0. All Anodes are addressed by Port G, and Cathodes are addressed by Port E. Every LED Matrix is addressed by separate pair of registers. Each register pairs is addressed by a bit of Port E or Port G. Table 1 through Table 4 describe how to address each Anode and Cathode of D1 through D4.

Table 1. LED Anode Assignments

Function/Port G Bit No	6	5	4	3	2	1	0
Anode Row 0							X
Anode Row 1						X	
Anode Row 2					X		
Anode Row 3				X			
Anode Row 4			X				
Anode Row 5		X					
Anode Row 6	X						
Note: Row 0 = Topmost Row							

Table 2. LED Cathode/Modem/Trigger

Function/Port E Bit No	4	3	2	1	0
Cathode Column 0					X
Cathode Column 1				X	
Cathode Column 2			X		
Cathode Column 3		X			
Cathode Column 4	X				
Note: Column 0 = Leftmost Column					

Table 3. LED Addressing

Function/Port, Bit No	PE[5]	PE[6]	PE[7]	PG[7]
D3	X			
D4		X		
D1			X	
D2				X

Serial Communications Devices

I²C Interface

The Z8 Encore! is compatible with I²C protocol (in this case the PCA8550). The I²C controller consists of two bidirectional bus lines, a serial data (SDA) line and a serial clock (SCL) line.

The I²C Controller operates in Master mode to transmit and receive data.

Having a PCA8550 on board enables configuration of the Expansion Module. The PCA8550 is a 4-bit multiplexer that selects four bits of data either from a non-volatile register or from the input pins. In this case four input pins are left unconnected and only a non-volatile register is selected as a source of data. Only three bits are used. Currently this chip is not used by the software provided with the board, so you can use it to your

advantage. The configuration register (Table 4) is available at the address 0x9C for Write operation and 0x9D for Read operation on the PCA8550 device. For more details on programming this device, refer to PCA8550 Product Specification (www.semiconductors.philips.com).

Table 4. I²C Address for Configuration Register on the PCA8550 (U2)

Device/Bit No	7	6	5	4	3	2	1	0
Value	1	0	0	1	1	1	0	R/W

SPI Interface

The SPI allows the Z8 Encore! to exchange data between other peripheral devices such as EEPROMs, ADC, and ISDN devices. The SPI is a full-duplex, synchronous, character-oriented channel that supports a four-wire interface.

To work with SPI interface for temperature/sensor types of applications, DS1722 Digital Thermometer was incorporated into the board. The serial mode is SPI. For more details on programming the device, refer to *DS1722 Product Specification*.

IrDA Transceiver

The Z8 Encore! contains two fully-functional, high-performance UARTs with Infrared Encoder/Decoders (Endec). The Infrared Endec is integrated with an on-chip UART to allow easy communication between the Z8 Encore! 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.

Power and Communication Interfaces

The following are the power and communication interfaces:

- 9 V DC power supply powers the board
- Two RS-232 DB9 connectors and an RS-485 connector with two ports
- Zilog IrDA transceiver is integrated onto the Z8 Encore!® evaluation board

Smart Cable

The Z8 Encore! Smart Cable enables communication with the Host computer. The Z8 Encore! Smart Cable converts a one-wire interface into a two-wire (TxD and RxD RS-232-like interface with RS-232 levels).

Expansion Module Interface

The Expansion Module Interface allows addition of any plug-in modules. The Expansion Module Interface brings out the signals from the Z8 Encore! device for debug and testing.

Two 60-pin male headers, J6 and J8, implement the Expansion Module Interface. Tables 5 and Table 6 list the signals and their direction, where applicable.

Table 5. Header J6

Pin No	Signal Name	Function	Direction	Comments
1		VCC		
2		VCC		
3		9 V DC		
4		9 V DC		
5	SCL	I^2C Clock	OUT	
6	ID2	Evaluation Board ID	OUT	
7	SDA	I^2C Data	IN/OUT	
8	ID1	Evaluation Board ID	OUT	
9		GND		
10	ID0	Evaluation Board ID	OUT	
11	-MOD_DIS	Modem Disable	OUT	If a shunt is installed the Modem Function on the evaluation board is disabled
12	-CON_DIS	Console Disable	OUT	If a shunt is installed the Console Function on the evaluation board is disabled
13	-MWAIT		IN	Reserved (see note)
14	GND			
15	PE0	Port E, bit 0	IN/OUT	
16				
17	-CS3			Reserved (see note)
18				
19	GND			
20	GND			

Note: Do not use pins marked Reserved when designing Expansion Modules.
All the signals are driven directly by the MCU.

Table 5. Header J6 (Continued)

Pin No	Signal Name	Function	Direction	Comments
21	PE7	Port E, bit 7	IN/OUT	
22	PA0	Port A, bit 0	IN/OUT	T0IN
23	PE6	Port E, bit 6	IN/OUT	
24	PA1	Port A, bit1	IN/OUT	T0OUT
25	PE5	Port E, bit 5	IN/OUT	
26	PA2	Port A, bit 2	IN/OUT	
27	PE4	Port E, bit 4	IN/OUT	
28	PA3	Port A, bit 3	IN/OUT	CTS0
29	PE3	Port E, bit 3	IN/OUT	
30	PA4	Port A, bit 4	IN/OUT	RXD0
31	PE2	Port E, bit 2	IN/OUT	
32	PA5	Port A, bit 5	IN/OUT	TXD0
33	PE1	Port E, bit 1	IN/OUT	
34	PA7	Port A, bit 7	IN/OUT	SDA
35	RESERVED			
36	PA6	Port A, bit 6	IN/OUT	SCL
37		GND		
38		GND		
39	PD7	Port D, bit 7	IN/OUT	RCOUT
40	PC4	Port C, bit 4	IN/OUT	MOSI
41	PD6	Port D, bit 6	IN/OUT	CTS1
42	PC3	Port C, bit 3	IN/OUT	MISO
43	PD5	Port D, bit 5	IN/OUT	TXD1
44	PC7	Port C, bit 7	IN/OUT	T2OUT
45	PD4	Port D, bit 4	IN/OUT	RXD1
46	PC6	Port C, bit 6	IN/OUT	T2IN

Note: Do not use pins marked Reserved when designing Expansion Modules. All the signals are driven directly by the MCU.

Table 5. Header J6 (Continued)

Pin No	Signal Name	Function	Direction	Comments
47	PD3	Port D, bit 3	IN/OUT	
48	PC3	Port C, bit 3	IN/OUT	SCK
49	PD2	Port D, bit 2	IN/OUT	
50	PC2	Port C, bit 2	IN/OUT	SS
51	PD1	Port D, bit 1	IN/OUT	T3OUT
52	PC0	Port C, bit 0	IN/OUT	T1IN
53	PD0	Port D, bit 0	IN/OUT	T3IN
54	PC1	Port C, bit 1	IN/OUT	T1OUT
55		GND		
56		GND		
57		GND		
58		GND		
59		GND		
60		GND		

Note: Do not use pins marked Reserved when designing Expansion Modules. All the signals are driven directly by the MCU.

Table 6. Header J8

Pin No	Signal Name	Function	Direction	Comments
1		VDD		
2		GND		
3	PB0	Port B, bit 0	IN	ALG0 Analog input
4	PB1	Port B, bit 1	IN	ALG1 Analog input
5	PB2	Port B, bit 2	IN	ALG2 Analog input
6	PB3	Port B, bit 3	IN	ALG3 Analog input

Note: Do not use pins marked Reserved when designing Expansion Modules. All the signals are driven directly by the MCU.

Table 6. Header J8 (Continued)

Pin No	Signal Name	Function	Direction	Comments
7	PB4	Port B, bit 4	IN	ALG4 Analog input
8	PB5	Port B, bit 5	IN	ALG5 Analog input
9	PB6	Port B, bit 6	IN	ALG6 Analog input
10	PB7	Port B, bit 7	IN	ALG7 Analog input
11		GND		
12		GND		
13	PH0	Port H, bit 0	IN	ALG8 Analog input
14	PH1	Port H, bit 1	IN	ALG9 Analog input
15	PH2	Port H, bit 2	IN	ALG10 Analog input
16	PH3	Port H, bit 3	IN	ALG11 Analog input
17				Reserved (see note)
18				Reserved (see note)
19				Reserved (see note)
20				Reserved (see note)
21		GND		
22		GND		
23	PF0	Port F, bit 0	IN/OUT	DTR1
24	PF1	Port F, bit 1	IN/OUT	RTS1
25	PF2	Port F, bit 2	IN/OUT	DSR1
26	PF3	Port F, bit 3	IN/OUT	DCD1
27	PF4	Port F, bit 4	IN/OUT	RI1
28	PF5	Port F, bit 5	IN/OUT	
29	PF6	Port F, bit 6	IN/OUT	
30	PF7	Port F, bit 7	IN/OUT	
31		VDD		
32		VDD		

Note: Do not use pins marked Reserved when designing Expansion Modules. All the signals are driven directly by the MCU.

Table 6. Header J8 (Continued)

Pin No	Signal Name	Function	Direction	Comments
33	-RD	Read		Reserved (see note)
34	-WR	Write		Reserved (see note)
35	-RESET	Pushbutton reset	OUT	
36	INSTRD			Reserved (see note)
37	-BUSACK			Reserved (see note)
38	-BUSREQ			Reserved (see note)
39	-NMI			Reserved (see note)
40	PHI			Reserved (see note)
41		GND		
42		GND		
43	PG0	Port G, bit 0	IN/OUT	
44	PG1	Port G, bit 1	IN/OUT	
45	PG2	Port G, bit 2	IN/OUT	
46	PG3	Port G, bit 3	IN/OUT	
47	PG4	Port G, bit 4	IN/OUT	
48	PG5	Port G, bit 5	IN/OUT	
49	PG6	Port G, bit 6	IN/OUT	
50	PG7	Port G, bit 7	IN/OUT	
51		GND		
52		GND		
53	-CS0			Reserved (see note)
54	-CS1			Reserved (see note)
55	-CS2			Reserved (see note)
56	-CSx			Reserved (see note)

Note: Do not use pins marked Reserved when designing Expansion Modules. All the signals are driven directly by the MCU.

Table 6. Header J8 (Continued)

Pin No	Signal Name	Function	Direction	Comments
57	-MEMRQ			Reserved (see note)
58	-IORQ			Reserved (see note)
59		VDD		
60		GND		

Note: Do not use pins marked Reserved when designing Expansion Modules. All the signals are driven directly by the MCU.

Configuration Headers/Jumpers

Configuration headers/jumpers help to configure the board. Table 7 lists the function of each header, and related headers, registers, or devices.

Note: *The default settings for all jumpers is OUT.*

Table 7. Configuration Headers and Jumpers

Header	Function	Related Headers, Registers or Devices
J1	RJ11	
J2	Modem connector	Header 32
J3	Modem connector	Header 9
J4	Modem connector	Header 2
J6.12 (-CON_DIS), J6.14 (GND)	Console Enable/Disable	J2
J6.11 (-MOD_DIS), J6.9 (GND)	Modem Enable/Disable	
J7	External Vref	Internal Vref Control
J8	Expansion Module Header	
J9	Vref test point	R5
J10	IrDA Enable/Disable	J6.12 (-CON_DIS), J6.14, (GND)

Table 7. Configuration Headers and Jumpers (Continued)

Header	Function	Related Headers, Registers or Devices
J11	SocketModem Power (3 V DC/5 V DC)	
J12	RS-485_1_EN	
J13	RS-485_2_EN	
J14	RT_1	
J15	RT_2	

Table 8 through Table 13 list jumper information concerning the shunt status, functions, and devices affected of selected jumpers.

Table 8. J6.9–J6.11-Modem Enable/Disable

Shunt Status	Function	Device Affected
IN	Modem connector (P2) is disabled	UART1 cannot communicate through P2. Ports D and F can be assigned to functions other than UART1.
OUT	Modem connector (P2) is enabled	If the embedded SocketModem is not in the socket, UART1 communicates through P2.

Table 9. J6.12–J6.14-Console Enable/Disable

Shunt Status	Function	Device Affected
IN	Console connector (P1) is disabled	If J6.12–14 is IN and J10 is IN, Port A (3-5) is assigned to IrDA; if J10 is OUT Port A (3-5) is assigned to UART0.
OUT	Console connector (P1) is enabled	None

Table 10. J7 External Vref

Shunt Status	Function	Device or Register Affected
IN	External Vref is used for ADC	Internal Vref is disabled.
OUT	Internal Vref is used for ADC	Internal Vref is enabled.

Table 11. J9 Vref

	Function	Device or Register Affected
J9-1	Test point to external Vref	Vref
J9-2	GND	None

Table 12. J10 IrDA Enable/Disable

Shunt Status	Function	Device Affected
IN	IrDA enabled	Only the IrDA interface is operational.
OUT	IrDA disabled	UART0 communicates through RS-232. If J6 12-14 is IN Port A (3-5) can be assigned to other functions (console connector P1 is disabled). If J6 12-14 is OUT console connector P1 is enabled (Port A (3-5) is assigned to UART0).

Note: *If the IrDA board is installed the Console port is disabled.*

Table 13. J11 SocketModem Power (3 V DC/5 V DC)

Shunt Position	Function	Device Affected
IN (pins 1-2)	5.0 V DC is provided to power SocketModem	SocketModem
OUT (pins 2-3)	3.3 V DC is provided to power SocketModem	SocketModem

Table 14. J12–RS-485_1_Enable First Interface

Shunt Position	Function	Device Affected
IN	RS-485 disabled	none
OUT	Enables RS-485 first interface	Console and IrDA

Table 15. J13–RS-485_1_Enable Second Interface

Shunt Position	Function	Device Affected
IN	RS-485 disabled	none
OUT	Enables RS-485 second interface	SocketModem

Table 16. J14–RT_1, Termination Resistors Enable, RS-485 First Interface

Shunt Position	Function	Device Affected
IN	First RS-485 interface termination resistors disabled	none
OUT	Enables first RS-485 interface termination resistors	none

Table 17. J15–RT_2, Termination Resistors Enable, RS-485 Second Interface

Shunt Position	Function	Device Affected
IN	Second RS-485 interface termination resistors disabled	none
OUT	Enables second RS-485 interface termination resistors	none

Embedded Modem

Figure 7 displays the embedded modem location.

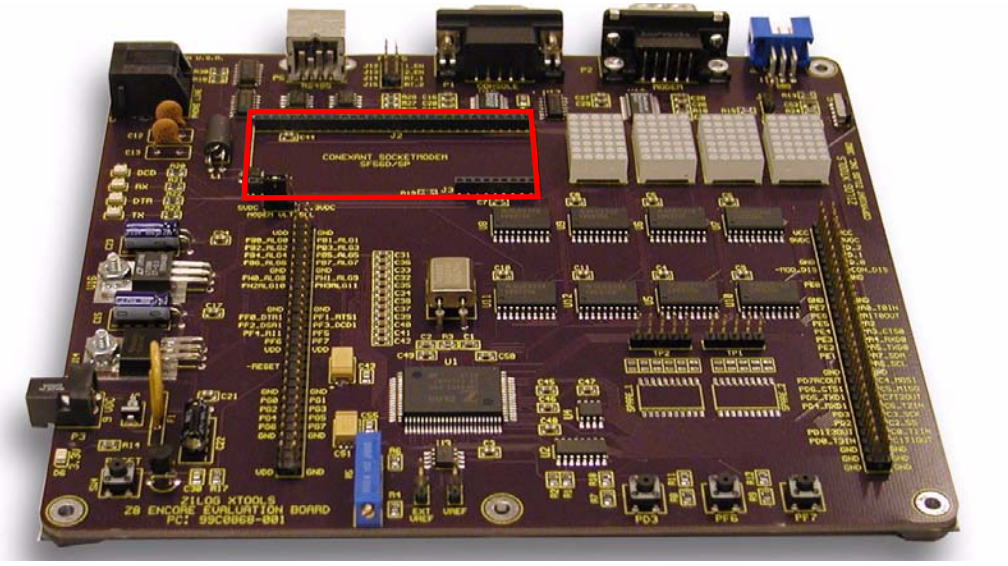

Figure 7. Embedded Modem Placement

The evaluation board provides for an embedded modem, the SF56D/SP SocketModem. The SocketModem is not part of the kit. Table 18 on page 29 lists ordering information for the modem. The interface communicates with the modem serially. LEDs D7-D10 provide information about the status of the modem's interface lines. The phone line connection is for the U.S. only. To connect to a modem outside of the U.S., modifications must be made to the board. The necessary data is found in the SocketModem Data Sheet available for download at www.zilog.com.

Table 18. SocketModem Ordering Information

Sales Order Number	Part Number	Configuration
SC56H1	SC43-E310-001	V.90/56 kbps, serial interface, +5 V operation
SC56H1_L	SC43-E320-001	V.90/56 kbps, serial interface, +3.3 V operation
SC336H1	SC34-E310-001	V.34/33.6 kbps, serial interface, +5 V operation
SC336H1_L	SC34-E310-001	V.34/33.6 kbps, serial interface, +5 V operation
SC144H1	SC14-E310-001	V.32/14.4 kbps, serial interface, +5 V operation
SC144H1_L	SC14-E310-001	V.32/14.4 kbps, serial interface, +5 V operation

Pushbuttons

The Z8 Encore!® evaluation board contains three user-configurable push-buttons (see Figure 8).

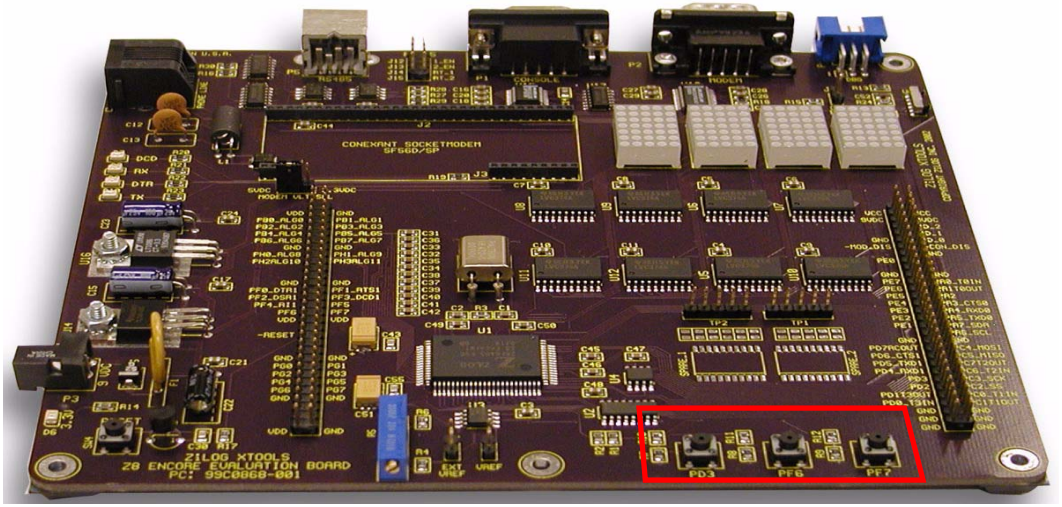

Figure 8. User-Configurable Pushbuttons

Schematics

Figure 9 through Figure 13 display schematics for the Z8 Encore! Target Module and the Z8 Encore! Evaluation Board.

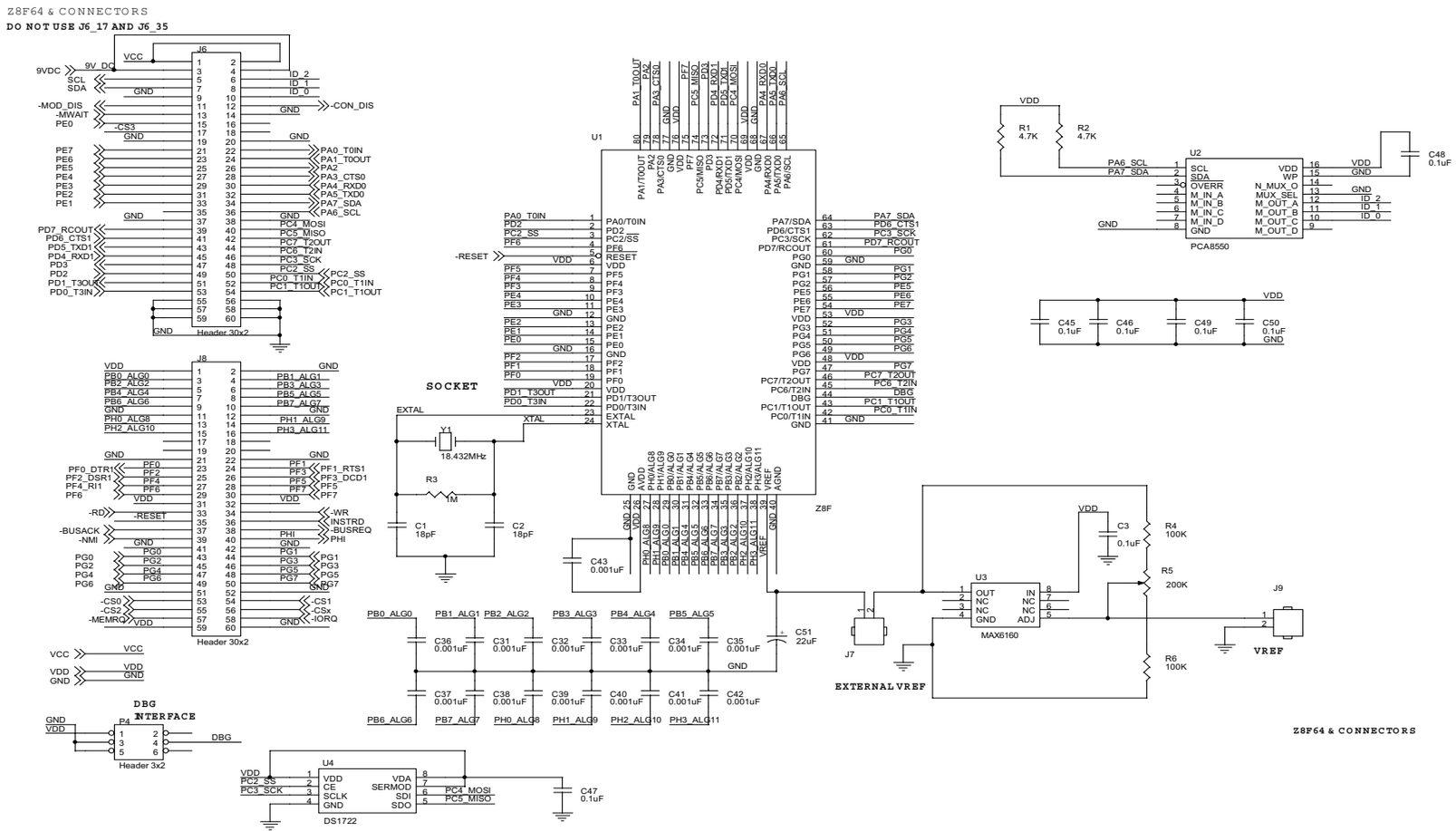

Figure 9. Z8 Encore!® Evaluation Board (96C0868-001 Rev.C)

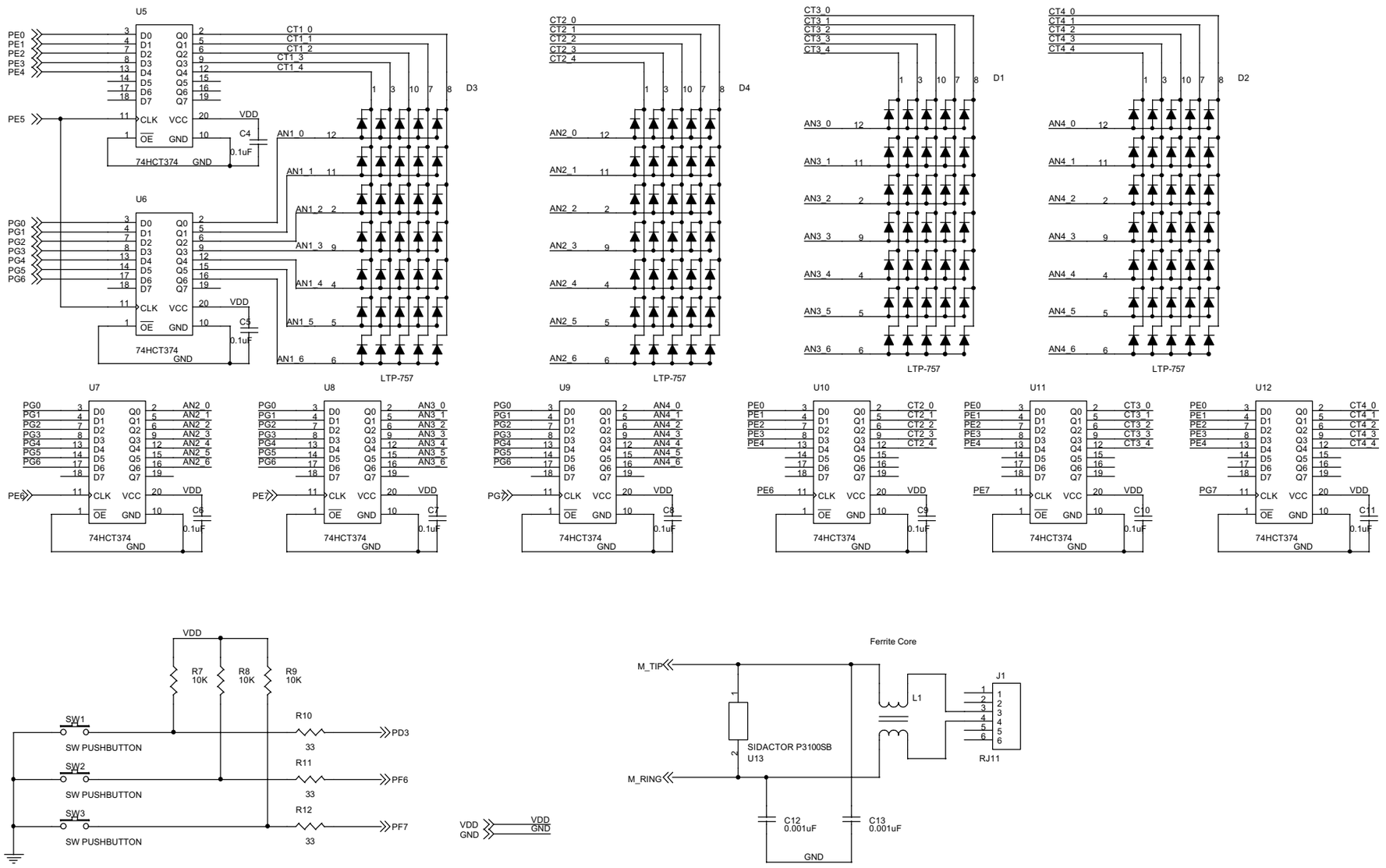

Figure 10. Z8 Encore!® Evaluation Board (96C0868-001 Rev.C)

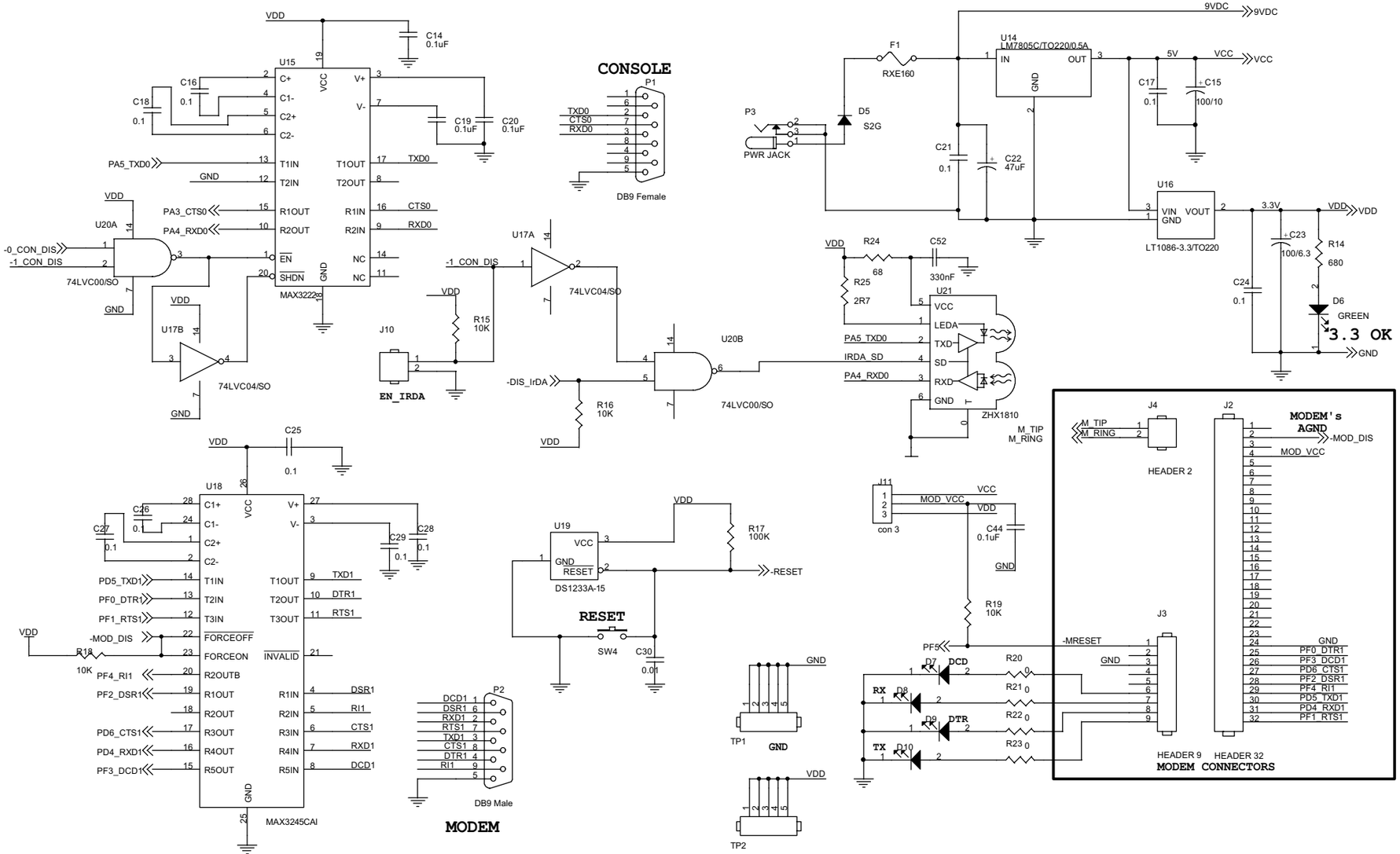

Figure 11. Z8 Encore!® Evaluation Board (96C0868-001 Rev.C)

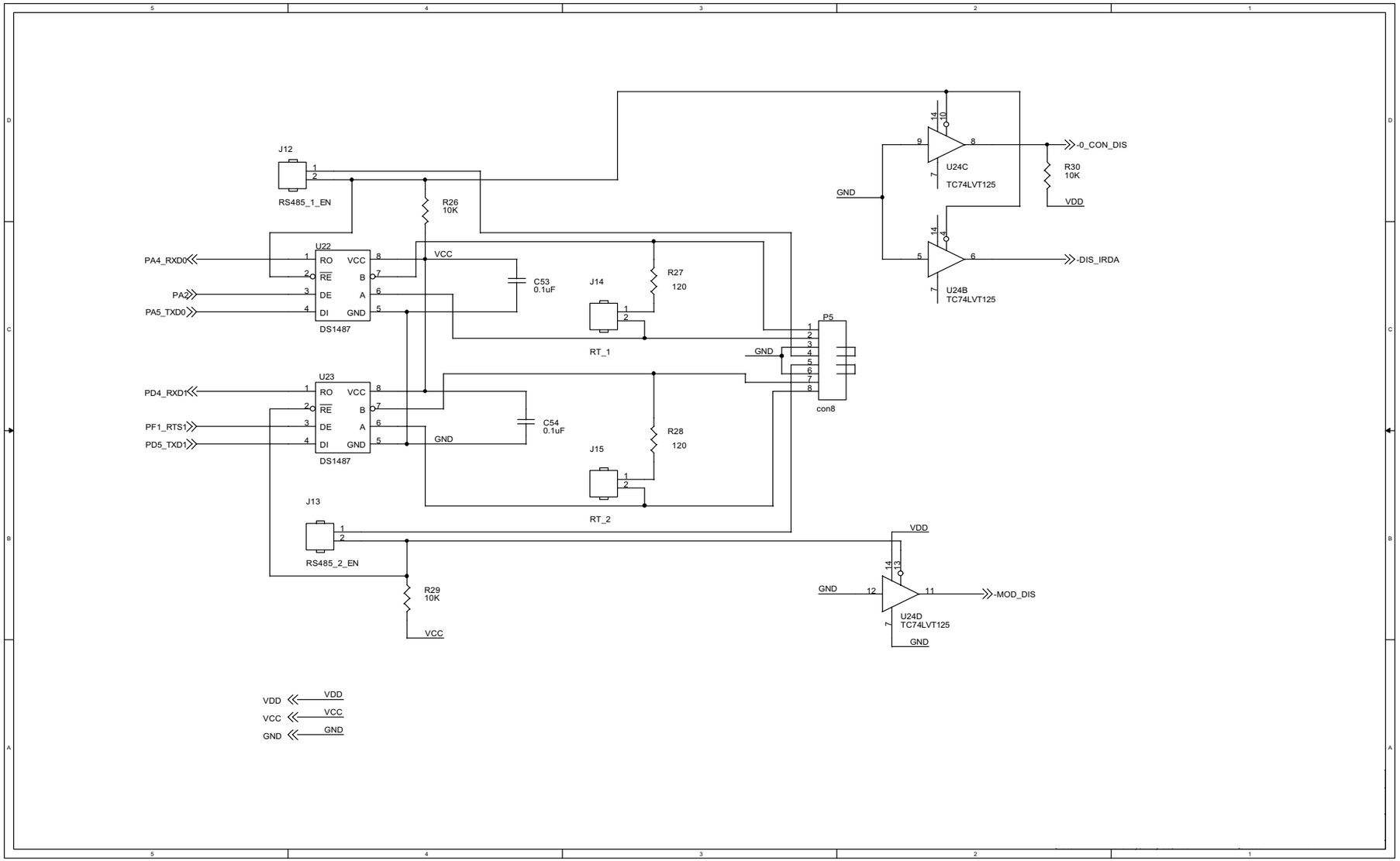

Figure 12. Z8 Encore!® Evaluation Board (96C0868-001 Rev.C)

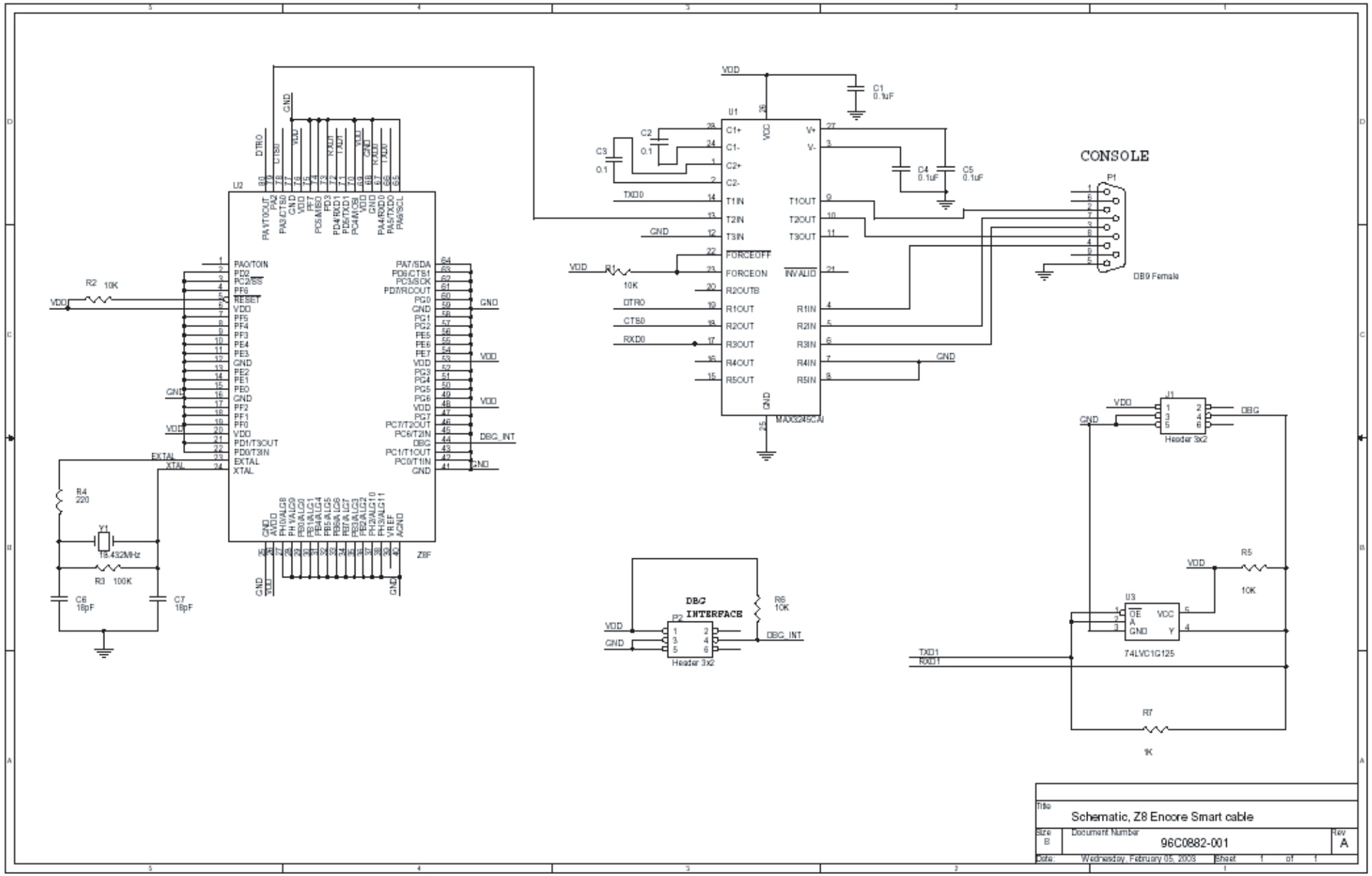

Figure 13. Z8 Encore!® Smart Cable

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