XR16C854 Evaluation Board User's Manual
Rev 1.01

Introduction

The XR16C854 evaluation board can be configured to support one QUAD device in our family. Please see Table 1 below for the complete list. The XR16C454/554/654/854 is 16550 compatible. For a list of features, refer to their data sheets at www.exar.com.

Description

On the XR16C854 evaluation board, we have added a +3.3v regulator to operate the QUAD at +5v or +3.3v. There are two ports that use the RS-232 ports (transceiver supports up to 1Mbps data rate) and two RS-485 ports.

There is an option to select an external clock or the standard crystal 14.7456Mhz. U12 clock multiplier chip (ST49C101A-XX) is used for factory external clock test. U5 can be clocked at multiple of 2,3,4,5,6,8,10 and 12, depending on the part selected. The ST49C101A-XX device is not installed. The evaluation board has several sets of jumpers. Jumpers and Test Points are described under default setting below.

Warning: When installing the XR16C854 board, follow ESD Safety Procedures. Ground yourself to prevent damage to any electronic component.

Note: This evaluation board supports a family of QUADs. Refer to Table 1

Table 1

UART	Reference
XR16C454	U4-PLCC
XR16C554	U4-PLCC
XR16C654	U4-PLCC
XR16C854	U4-PLCC

Default setting for the hardware on the XR16C854 on Table 2

Table 2

JUMPER	FUNCTION	CHANNEL
J4-3&4	IRQ4	INTA
J5-1&2	IRQ3	INTB
J6-5&6	IRQ5	INTC
J7-5&6	IRQ7	INTD
J9-1&2	+5V	
JP5-1&2	RXB	
JP5-3&4	RXA	

Jumper Options

Table 3

JUMPER	FUNCTION
J4-3&4	1RQ4 (PORT1)
J5-1&2	1RQ3 (PORT2)
J6-5&6	1RQ5 (PORT3)
J7-7&8	1RQ7 (PORT4)
J2-1&2	SHARED IRQ7
J2-3&4	SHARED IRQ5
J2-5&6	SHARED IRQ4
J2-7&8	SHARED IRQ3
JP1-1&2	RESET
JP2	16/68#
J11	(FACTORY TESTING)
JP3	INTSEL
JP4	1x/4xCLK
J9-2&3	+3.3V
J9-1&2	+5V
J8	(FACTORY TESTING)
J13-1&2	UART LOOP TXA TO RXA
J14-1&2	UART LOOP TXA TO RXB
J16-1&2	UART LOOP RXA TO TXB
J17-1&2	UART LOOP TXB TO RXB
JP5-1&2	RXB PATH
JP5-3&4	RXA PATH
J12-1&2	EIA LOOP TXA TO RXA PORT1
J18-1&2	EIA LOOP TXB TO RXB PORT2
J19	(FACTORY TESTING)
J20	(FACTORY TESTING)
J15	(FACTORY TESTING)
J21-1&3	RS-485 NON-INVERTING RECEIVER INPUT AND NON-INVERTING DRIVER OUTPUT PORT3
J21-2&4	RS-485 INVERTING RECEIVER INPUT AND INVERTING DRIVER OUTPUT PORT3
J23-1&3	RS-485 NON-INVERTING RECEIVER INPUT AND NON-INVERTING DRIVER OUTPUT PORT4
J23-2&4	RS-485 INVERTING RECEIVER INPUT AND INVERTING DRIVER OUTPUT PORT4
J22	(FACTORY TESTING)

Notes:

When installing the driver, you must install it for each port separately.

Installation of Windows 95 or 98 Drivers for Table 1

Turn your computer on, and close all applications.

- Insert Exar XR16C850/650 driver Disk in Drive A
- Open the Control Panel
- Double click on Add New Hardware
- Click the Next Button
- Click on No and Click the Next Button
- Scroll down until you find Ports (Com & LPT) and double click
- Select 16C650/850 Serial Device Driver and Com Port with 16850 UART 7.3278Mhz
- Click on Have Drive Button
- Click on Browse Button
- Select Drive A:
- Double click on 850_Win98 (850_Win95)

- Select ser850inf and Click OK Button
- Click OK Button to Install Driver
- Click the Next Button
- Click the Next Button
- Click Finish Button
- Click the Yes Button and the system will reset
- Make sure to remove the Disk from drive A:

Note: Each channel is installed separately.

Installation of Windows NT Driver for Table 1

Turn your computer on, and close all applications.

- Insert Exar XR16C850/650 driver Disk in Drive A
- Select START located on bottom left of your monitor
- Click the Run Button
- Type A:\850_WinNT\setup.exe and Click Ok Button
- Click on the Next Button
- Click on the Next Button
- Select the crystal of 7.3278Mhz and click on Ok
- Select Yes, I want to Reset the computer
- Make sure to remove the Disk from drive A:

RS-232 Signal for the 9-Din Connector Refer to Table 4

Table 4

Signal	Pin Number
CD	1
RX	2
TX	3
DTR	4
GND	5
DSR	6
RTS	7
CTS	8
RI	9

Null Modem

Table 5

TX-pin2 to RX- pin 3
RX- pin 3 to TX- pin 2
CTS- pin 5 to RTS- pin 4
RTS- pin 4 to CTS- pin 5
GND – pin 7 to GND- pin 7
DRS- pin 8 to DTR- pin 20
DTR- pin 20 to DSR- pin 8