XR17C158/154 Evaluation Board
Rev 4.2

Introduction

Exar is proud to announce our new 8/4 Port PCI UART. It is the worlds' first PCI eight/four port UART that is PCI Local Bus Compliant Rev 2.2. The XR17C158/154 is fully feature and 16550 compatible. For a list of features, refer to the data sheet at www.exar.com.

This user's manual will help you to install the Windows NT 4.0 Driver and Application Program. Once installed, it demonstrates its transmit and receive capability on four or eight ports in full duplex. The application program allows you to select operating parameters, FIFO trigger levels, hardware or software flow control, RS-232 signals monitoring, and selection of test data patterns.

Description

The XR17C154/158 evaluation board uses the 32-bit PCI bus with multiplexed address and data lines at 33Mhz. On the XR17C154/158 evaluation board, there are four/eight RS-232 ports with an optional RS-485 ports (Port7/8) this is a **OPTIONAL** and (**NOT INSTALLED**). We have added an EEPROM (93C46) for storage of sub-vendor ID and model number. There is an option to select an external clock or the standard crystal 14.7456Mhz. U2 clock multiplier chip (ST49C101A-XX) is used in **FOR FACTORY** external clock test (**NOT INSTALLED**). U2 can be clocked at multiple of 2,3,4,5,6,8,10 and 12, depending on the part selected (ST49C101A-XX). For the multi-purpose input/output pins, there are eight LEDS to display the state of set or reset. On the XR17C154/158 evaluation board, there are several sets of jumpers. Jumpers and Test Points are described under default setting below.

Warning: When installing the XR17C158/154 board, follow ESD Safety Procedures. Ground yourself to prevent damage to the any electronic component.

Default setting for the hardware on the XR17C158/154

Table 1

JUMPER	FUNCTION
J1-1&2	CHTX0/TX0
J2-1&2	CHTX1/TX1
J3-1&2	CHRX0/RX0
J4-1&2	CHRX0/RX0
J11-1&2	TX6
J13-1&2	RX6
J18-1&2	TX7
J20-1&2	RX7
J8-1&2	ENIR

Local Loop Testing from Channel to Channel UART Side

Table 2

JUMPER	FUNCTION
J1-1 to J3-1	CHTX0/CHRX0
J3-1 to J4-1	CHTX1/CHRX1
J1-1 to J4-1	CHTX0/CHRX1

Option 1 Setting (RS-485 Not Installed)

Table 3

JUMPERS	FUNCTION
J12-1&2	TX6
J12-3&4	RX6
J10 1&2	RS-485 Output Transmit /Receive Channel 7 (XR17C158) Not used (XR17C154)
J10 3&4	RS-485 Output Transmit /Receive Channel 8 (XR17C158) Channel 4 (XR17C154)
J12 1&2	RS485 (TX6) OPTIONAL
J12 3&4	RS485 (RX6) OPTIONAL
J14 1&2	RS485 (TX7) OPTIONAL
J14 3&4	RS485 (RX7) OPTIONAL
J14 1&2	RS485 (TX7) OPTIONAL
J14 3&4	RS485 (RX7) OPTIONAL

Option 2 Setting (IR Not Installed)

Table 4

JUMPERS	FUNCTION	STATE
J15-1	TX6	
J17-2	RX6	
J16 1&2	Mode 0	Zero
J16 2&3	Mode 0	+3.3v
J19 1&2	Mode 1	Zero
J19 2&3	Mode 1	+3.3v
J21 1&2	FIR_SEL	Zero
J21 2&3	FIR_SEL	+3.3v

Jumpers and Test Points

Table 5

JUMPER OR TEST POINTS	FUNCTION
J5	EXTERNAL CLOCK SELECT (FACTORY ONLY)
J6	78-PIN CONNECTOR FOR RS-232
J7	POWER TO UART (FACTORY ONLY)
J9	POWER TO RS-232 DRIVERS (FACTORY ONLY)
TP11	GND

Port Numbers label association to Internal UART Channel

Table 6

XR17C158	XR17C154	Octopus Cable (port number label)
Channel 0	Not used	Port 1 (XR17C158) Not used (XR17C154)
Channel 1	Channel 1	Port 2 (XR17C158) Port 1 (XR17C154)
Channel 2	Not used	Port 3 (XR17C158) Not used (XR17C154)
Channel 3	Channel 2	Port 4 (XR17C158) Port 2 (XR17C154)
Channel 4	Not used	Port 5 (XR17C158) Not used (XR17C154)
Channel 5	Channel 3	Port 6 (XR17C158) Port 3 (XR17C154)
Channel 6	Not used	Port 7 (XR17C158) Not used (XR17C154
Channel 7	Channel 4	Port 8 (XR17C158) Port 4 (XR17C154)