**Manual for XR17C158/L158/D158/ XR17C154/L154/D154 Universal Evaluation Board Rev 7.3**

## 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 XR17x158/154 is fully feature and 16550 compatible. For a list of features, refer to the data sheet at www.exar.com.

## Description

The XR17x158/154 evaluation board uses the 32-bit PCI bus with multiplexed address and data lines at 33Mhz. On the XR17x158/154 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 XR17x158/154 evaluation board, there are several sets of jumpers. Jumpers and Test Points are described under default setting below.

**Warning: When installing the XR17x158/x154 board, follow ESD Safety Procedures. Ground yourself to prevent damage to the any electronic component.**

**Warning: The XR17C158/L158/D158/ XR17C154/L154/D154 board evaluation board is a universal PCI plug-in card. However, it should only plug into a 5V slot when used with the XR17C158/154 device, should be plugged into a 3.3V PCI slot when used with the XR17L158/154 and XR17D158/154 into any slot.**

Default setting for the hardware on the XR17x158/154

Table 1

| JUMPER | FUNCTION |
|---|---|
| J1-1&2 | CHTX0/TX0 |
| J2 | ENIR |
| J3-1&2 | CHRX0/RX0 |
| J4-1&2 | CHTX1/TX1 |
| J5-1&2 | CHRX0/RX0 |
| J6 | TMRCK |
| J14-1&2 | TX4 |
| J15-1&2 | RX4 |
| J18-1&2 | TX6 |
| J20-1&2 | RX6 |
| J40-1&2 | V I/O (UART) |
| J41-2&3 | VCORE (UART) WIRE +(5V) |

Local Loop Testing from Channel to Channel UART Side

Table 2

| JUMPER | FUNCTION |
|---|---|
| J1-1 to J3-1 | CHTX0/CHRX0 |
| J4-1 to J5-1 | CHTX1/CHRX1 |
| J1-1 to J5-1 | CHTX0/CHRX1 |

Option 1 Setting (RS-485 Not Installed)

Table 3

| JUMPERS | FUNCTION |
|---|---|
| J23-1&2 | +5V |
| J23-2&3 | +3.3V |
| J24-1&2 | RX4 |
| J25-1&2 | TX6 |
| J27 1&2 | RTS6-TX ENABLE |
| J26 1&2 | RTS4- RX ENABLE |
| J28 1&2 | RS-485/422 Output Transmit Channel 4 |
| J28 3&4 | RS-485/422 Output Receive Channel 4) |
| J29 1&2 | RS-485/422 Output Transmit Channel 6 |
| J29 3&4 | RS-485/422 Output Receive Channel 6) |
| J30-1&2 | RX6 |
| J31-1&2 | TX4 |
| J32 1&2 | RTS6- RX ENABLE |
| J33 1&2 | RTS4-TX ENABLE |

Option 2 Setting (IR Not Installed)

Table 4

| JUMPERS | FUNCTION | STATE |
|---|---|---|
| J34 | TX6 | |
| J35 1&2 | Mode 0 | Zero |
| J35 2&3 | Mode 0 | +3.3v |
| J36 | RX6 | |
| J37 1&2 | Mode 1 | Zero |
| J37 2&3 | Mode 1 | +3.3v |
| J38 1&2 | FIR_SEL | Zero |
| J38 2&3 | FIR_SEL | +3.3v |

Jumpers and Test Points

Table 5

| JUMPER OR TEST POINTS | FUNCTION |
|---|---|
| TP11 | GND |
| J6 | 78-PIN CONNECTOR FOR RS-232 |

Port Numbers label association to 17x158/154 UART Channel

Table 6

| XR17x158 | XR17x154 | Octopus Cable (port number label) |
|---|---|---|
| Channel 0 | Not used | Port 1 (XR17x158) Not used (XR17x154) |
| Channel 1 | Channel 1 | Port 2 (XR17x158) Port 1 (XR17x154) |
| Channel 2 | Not used | Port 3 (XR17x158) Not used (XR17x154) |
| Channel 3 | Channel 2 | Port 4 (XR17x158) Port 2 (XR17x154) |
| Channel 4 | Not used | Port 5 (XR17x158) Not used (XR17x154) |
| Channel 5 | Channel 3 | Port 6 (XR17x158) Port 3 (XR17x154) |
| Channel 6 | Not used | Port 7 (XR17x158) Not used (XR17x154 |
| Channel 7 | Channel 4 | Port 8 (XR17x158) Port 4 (XR17x154) |