



**Manual for XR17C158/L158/D158/ XR17C154/L154/D154 Universal Evaluation Board  
Rev 6.5**

[www.exar.com](http://www.exar.com).

**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](http://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
J2-1&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 (XR17158) Not used (XR17154)
J10 3&4	RS-485 Output Transmit /Receive Channel 8 (XR17158) Channel 4 (XR17154)
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

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)