



## XR16L784 Evaluation Board User's Manual Rev 1.3

### Introduction

Exar is proud to announce our new ISA 4 Port UART. The XR16L784 is fully feature and 16550 compatible. For a list of features, refer to the data sheet at [www.exar.com](http://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 it's transmit and receive capability on all four ports in full duplex and two in half duplex. The application program allows you to select operating parameters, FIFO trigger levels, hardware or software flow control, and selection of test data patterns.

### Description

On the XR16L784 evaluation board, we have switches for addressing from 400 to B00H and jumpers IRQ3-7 and IRQ10-14. We have added a +3.3v regulator to operate the XR16L784 at +5v or +3.3v. There are four ports that use the four RS-232 ports 921.4kbps and one RS-485 2.5Mbps ports (option1). There is a infrared (IR) circuit that is used for transmitting and receiving data at maximum of 4 Mb/s (option 2).

There is an external clock circuit (U4) or the standard crystal 14.7456Mhz. U4 clock multiplier chip (ST49C101A-XX) is used factory external clock test. U4 can be clocked at multiple of 2,3,4,5,6,8,10 and 12, depending on the part selected (ST49C101A-XX) parts not installed. On the XR16L784 evaluation board, there are several sets of jumpers. Jumpers and Test Points are described under default setting below.

**Warning: When installing the XR16L784 board, follow ESD Safety Procedures. Ground yourself to prevent damage to the any electronic component.**

Default setting for the XR16L784

Table 1

JUMPER	FUNCTION
J2	+3.3V
J5	ENIR Disable
JP3	IRQ5
J16-1&2	RXD0
J17-1&2	RXD1
SW1-2	500H
SW3-2, 3, 4, &5	Factory Testing



Selectable Jumpers for the hardware on the XR16L784

Table 2

JUMPERS	FUNCTION
J2-1	+VREG Power to UART (circuit not installed)
J2-2	+3.3V Power to UART
J2-3	+5V Power to UART
J3	-RESET
J5	ENIR
J6	+3.3V_MAX (not installed) OPTIONAL 1
J7	RS-485 (not installed) OPTIONAL 1
J8	RXD/TXD OUTPUT RS-485 (not installed) OPTIONAL 1
J9	TXD3/RXD3 SELECT RS-485 (not installed) OPTIONAL 1
J10	TXD3 IR (not installed) OPTIONAL 2
J11	MODE 0 IR (not installed) OPTIONAL 2
J12	RXD3 IR (not installed) OPTIONAL 2
J13	MODE 1 IR (not installed) OPTIONAL 2
J14	FIR_SEL IR (not installed) OPTIONAL 2
J15	RS-232 CONNECTOR 4 CHANNELS
J16-1	RXD0
J16-2	RX0
J16-3	TXD1
J17-1	RXD1
J17-2	RX1
J17-3	TXD0
J18	JTAG FOR CPLD PROGRAMMING FACTORY USE
J19	FACTORY USE
JP1	IRQ3
JP2	IRQ4
JP3	IRQ5
JP4	IRQ7
JP5	IRQ9
JP6	IRQ10
JP7	IRQ11
JP8	IRQ12
JP9	IRQ14
JP10	IRQ15
JP14	FACTORY USE
JP15	FACTORY USE
JP12-1	TXD0_RS232
JP12-2	RXD0_RS232
JP13-1	TXD1_RS232
JP13-2	RXD1_RS232
J16-1	RXD0
J16-2	RX0
J16-3	TXD1
J17-1	RXD1
J17-2	RX1
J17-3	TXD0
JP29-2	RXD1_RS232



SW1 1-8	ADDRESS SELECT 400-B00
SW3 1	16 MODE/-68 MODE
SW3 2-4	FACTORY USE
SW4	FACTORY USE

**Table 1.** Port number label association to internal UART channels.

**Table 3**

<b>XR16L784</b>	<b>Octopus Cable (port number label)</b>
Channel 0	Port 1
Channel 1	Port 2
Channel 2	Port 3
Channel 3	Port 4