



XR16L2751 Evaluation Board User's Manual Rev 1.30

Introduction

The XR16L2751 evaluation board can be configured to support one DUART device in our family. Please see Table 1 below for the complete list. The XR16L2750/2751/2752 and XR16C2850/2852 devices are fully feature and 16550 compatible. For a list of features, refer to their data sheets at www.exar.com.

Description

On the XR16L2751 evaluation board, we allow selectable jumpers for addressing from 3F8, 2F8, 3E8, & 2E8 and IRQ3, IRQ4, IRQ5 & IRQ7. We have added a +3.3v regulator to operate the DUART 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-422/48 ports. (Option 1)

There is an option to select an external clock or the standard crystal 14.7456Mhz. U5 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 XR16L2751 board, follow ESD Safety Procedures. Ground yourself to prevent damage to the any electronic component.

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

Table 1

UART	Package	Reference
XR16L2751	48 pin-TQFP	U4
XR16L2750	48 pin-TQFP	U4
XR16C2850	48 pin-TQFP	U4
XR16C2550	48 pin-TQFP	U4
XR16C2450	48 pin-TQFP	U4
XR16L2752	44 pin-PLCC	U6
XR16C2852	44 pin -PLCC	U6
XR16C2552	44 pin-PLCC	U6
XR16L2750	44 pin -PLCC	U7
XR16C2850	44 pin -PLCC	U7
XR16C2450	44 pin -PLCC	U7

Default setting for the hardware on the XR16L2751 on Table 2

Table 2

JUMPER	FUNCTION
J1- 3&4	IRQ4
J1- 1&2	IRQ3
J11- 1&2	3F8 COM1
J11- 3&4	2F8 COM2
J5- 1&2	+5V TO DUART



Jumper Options on Table 3.

Table 3

JUMPER	FUNCTION
J1- 1&2	1RQ3 (PORT1)
J1- 3&4	1RQ4 (PORT1)
J1- 5&6	1RQ5 (PORT1)
J1- 7&8	1RQ7 (PORT1)
J3- 1&2	1RQ3 (PORT2)
J3- 3&4	1RQ4 (PORT2)
J3- 5&6	1RQ5 (PORT2)
J3- 7&8	1RQ7 (PORT2)
J4	HARD_RESET
J5-1&2	+5V
J3-3&4	+3.3V
J3-5&6	+VREG (NOT INSTALLED)
J6	CLOCK SELECT (XR16L2751-TQFP ONLY)
J7	HDCNTL# (XR16L2751-TQFP ONLY)
J8	POWER SAVE (XR16L2751-TQFP ONLY)
J9	16/68# (FACTORY) (XR16L2751 TQFP ONLY)
J9	CLK8/16 (U4 ALL OTHERS EXCEPT XR16L2751)
J8	POWER SAVE (U4 ONLY)
J9	NOT INSTALLED (FACTORY) (U4 ONLY)
JP1	NOT INSTALLED (FACTORY) (U4 ONLY)
JP2	NOT INSTALLED (FACTORY) (U6 ONLY)
JP3	NOT INSTALLED (FACTORY) (U7 ONLY)
J10	JTAG CPLD
J11- 1&2	3F8
J11- 3&4	2F8
J11- 5&6	3E8
J11- 7&8	2E8
J12	NOT INSTALLED (FACTORY)
J13	NOT INSTALLED (FACTORY)
J14	NOT INSTALLED (FACTORY)
P1	PORT1
P2	PORT2
J15	LOCAL LOOP (UART SIDE) PORT 1
J16	LOCAL LOOP (UART SIDE) PORT 2
JP4	LOCAL LOOP (RS232 SIDE) PORT 1
JP5	LOCAL LOOP (RS-232 SIDE) PORT 2
J23	RS-422/485 RXD1 (OPTION 1)
J18	RS-422/485 TXD1 (OPTION 1)
J17	RS-422/485 RXD2 (OPTION 1)
J24	RS-422/485 TXD2 (OPTION 1)
J32- 1&2	RS-422/485 RTS1 (OPTION 1) DE
J33- 1&2	RS-422/485 RTS2 (OPTION 1) DE
J25- 1&2	RS-422/485 RTS1 (OPTION 1) RE#
J19- 1&2	RS-422/485 RTS7 (OPTION 1) RE#
J22	RS-422/485 TXD1/RXD1 (OPTION 1)
J21	RS-422/485 TXD2/RXD2 (OPTION 1)
J27	IR TX2 (OPTION 2)
J28	IR MODE 0 SELECT (OPTION 2) SEE TABLE 4
J30	IR MODE 1 SELECT (OPTION 2) SEE TABLE 4
J31	SIR MODE OR MIR/FIR MODE (OPTION 2) SEE TABLE 4
J29	IR RX2 (OPTION 2)



TABLE 4

MODE 0	MODE 0	FIR_SEL	RX FUNCTION	TX FUNCTION
1	0	*X	SHUTDOWN	SHUTDOWN
0	0	*0	SIR	FULL DISTANCE POWER
0	1	*0	SIR	2/3 DISTANCE POWER
1	1	*0	SIR	1/3 DISTANCE POWER
0	0	*1	MIR/FIR	FULL DISTANCE POWER
0	1	*1	MIR/FIR	2/3 DISTANCE POWER
1	1	*1	MIR/FIR	1/3 DISTANCE POWER

*Notes: HSDL-2300 used for IR mode
SIR from 2.4 kbps to 115.2 kbps
MIR/FIR 0.576 Mbps to 4.0 Mbps

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