



Corsham Technologies, LLC

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SS-30 USB Serial Board

Introduction

As are most of our designs, this board was meant to address something that we wanted a better solution to. RS-232 interfaces with DB-9 connectors always need a USB-to-RS-232 converter for use with any laptop and most desktops at this point, so having a pure USB serial interface got rid of some messy cabling on our systems.

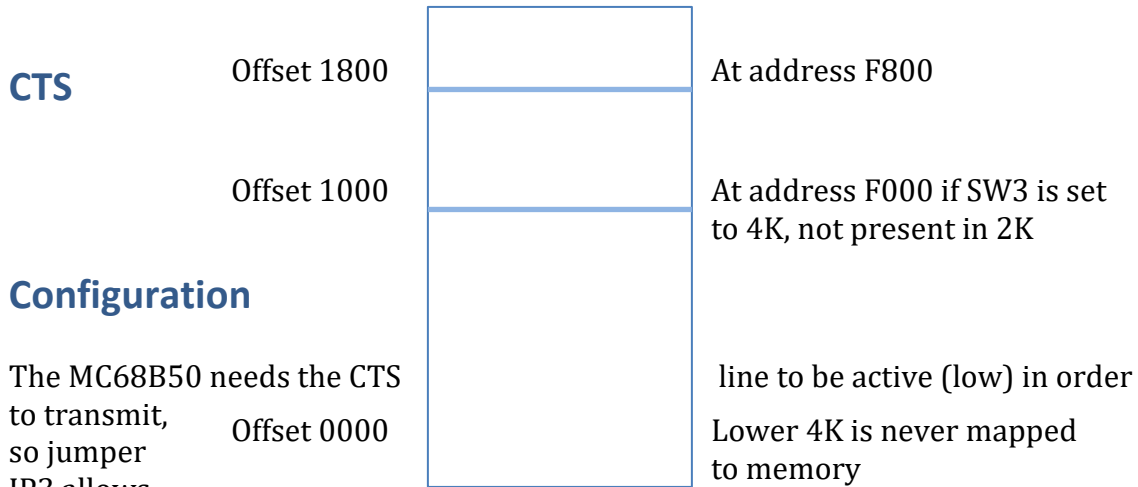
This board is fully software compatible with the original SWTPC MP-S board as well as our SS-30 Serial Board. It uses an MC68B50 ACIA just like the other two boards, so software can't detect any difference between this board and a more traditional serial board.

Features

- Fully software compatible with more traditional serial boards.
- On-board baud rate generator provides 1200, 2400, 4800 and 9600 baud.
- Uses an FTDI USB/serial chip. Supported by all major OSes (Windows, OS X, Linux).
- Connection to your computer is via a USB B connector.
- CTS can be hard-wired or taken from the serial port.
- Jumper for NMI or IRQ interrupts (not normally used).

Baud Rate Selection

The on-board baud rate generator provides x16 clocks for 1200, 2400, 4800 and 9600 baud. The baud rate is set via JP2. The standard SS-50 monitors (SWTBUG and SBUG) assume a x16 clock.



The MC68B50 needs the CTS to transmit, so jumper JP3 allows

the user to select to always force the line low, which is the normal setting, or to take CTS from the serial port (the USB port). Normally JP3 has a jumper between the CTS and GND pins.

Revision History

Version	Changes
1	Initial release

Parts List

Part	Number	Description
PCB	1	Printed Circuit Board (Corsham Tech)
J1	5	Molex 09-52-3101
JP2	1	2x4 jumper block
JP1, JP3	2	1x3 jumper block
C1	1	10uf, 25v electrolytic capacitor
C2, C3, C5, C6	4	.1 uf disc capacitor
R1, R2	2	1K ¼ watt
R3, R5	2	1K
OSC1	1	2.4576 MHz oscillator
LED1, LED2	2	3mm LED (color does not matter)
IC1	1	MC68B50 ACIA

IC2	1	78L05 5 VDC 100ma voltage regulator
IC3	1	4060N counter
IC4	1	FTDI FT232RL
IC5	1	74LVC1T45 buffer/level shifter
USB	1	USB B female connector
	1	24 pin wide IC socket for IC1
	1	16 pin IC sockets for IC3
	2	Jumper for JP2 and JP3