# MicroMite*28 Prototype Board Jumper Descriptions

The PCB contains 7 jumpers that allow the selection of power sources and signal routing options for the user. Installed on the board is a FT234XD USB serial converter IC that connects the uMite's console port to the outside world using the USB connector. If used, jumpers JP1 and JP2 need to be installed. JP1 is Rx and JP2 is Tx.
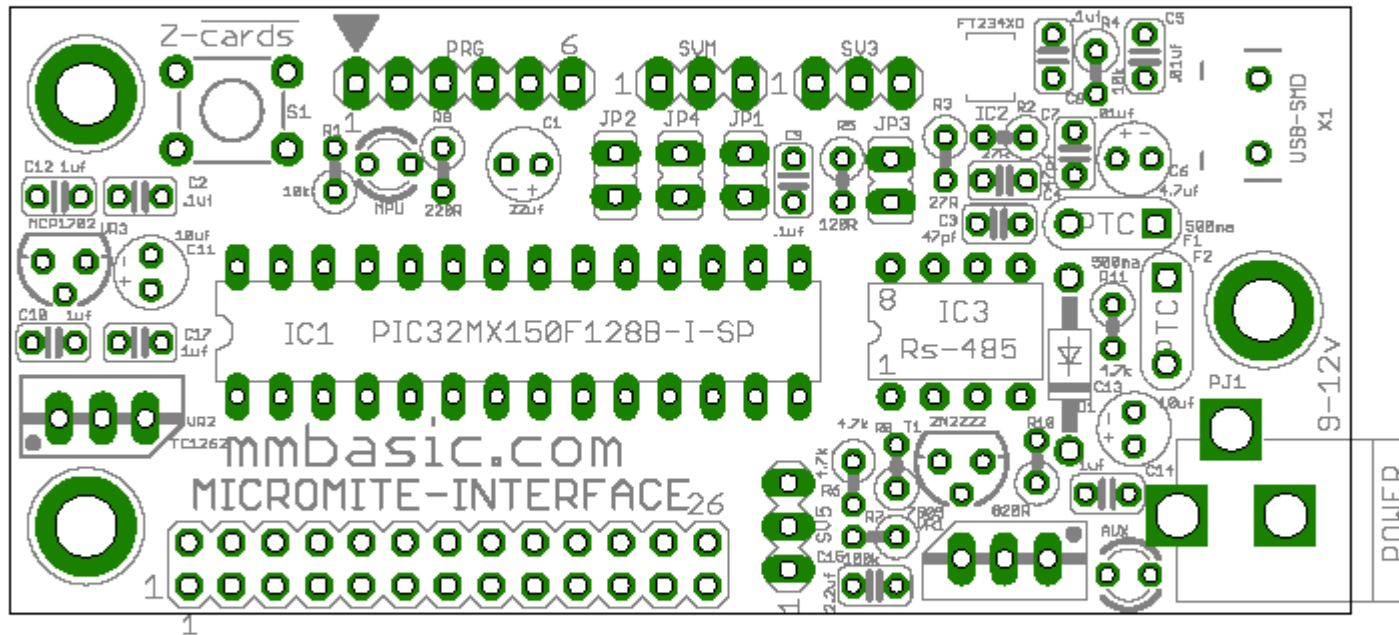
If the board doesn't have the USB converter IC installed, the uMite console port signals can be picked off these jumpers and routed outside for use. JP1 pin 1 is connected to the PIC32's console Rx signal and is an input. Signal range is 0 volts to 3.3 volts. JP2 pin 1 is connected to the PIC32's console Tx signal and is an output.

Jumper JP3 connects a 120 ohm termination resistor across the RS-485 transceiver lines and would be installed if the board is at the beginning or end of the Rs-485 Bus. Using the termination resistor helps keep signal reflections in the long wires from disrupting the transceiver signals.

Jumper JP4 is normally not installed and is used to force the PIC32 IC to erase the currently installed user program inside and reset the core firmware options back to the default settings. To use it, power down the board, install JP4, and power up the PCB. Wait 5 seconds, then, remove power and the JP4 jumper.

The SVM jumper is used to select the power source for the PIC32 IC. If the user jumpers pins 1 and 2, the MCU will get it's power from the USB connectors 5 volt source. If the user jumpers pins 2 and 3, the MCU will source it's power from the AUX power input jack PJ1.

The SV5 and SV3 jumpers are used to select the power source for the Rs-485 transceiver IC. The user has the option of using many different kinds of parts for the socket. Some of the parts use 3 volt power and some use 5 volt power. If you purchased the fully built board, the Rs-485 socket will contain a DS3695 transceiver. This is a 5 volt part and will be used with the SV5 jumper. If the user jumpers pins 1 and 2 of SV5, then the transceiver will source it's power from the USB connector. If pins 2 and 3 are jumped, the transceiver will source it's power from the AUX power input jack JP1. If the user installs a 3 volt transceiver into the socket, then the SV3 jumper will be used to select the power source for the part. WARNING: never install jumpers in the SV5 and SV3 sites at the same time. Use one or the other. Doing so will damage parts on the PCB.

CAUTION: If the user has the SVM jumper connected to pins 1 and 2, using the USB IC to source the power for the PIC32 IC, the user must be careful not to draw to much current from the source. The FT234XD USB IC can only supply a maximum of 50 ma of power. Drawing more current will destroy the USB IC. The PIC32 IC needs half of the current just to get running so not much is left to run external output pin loads. It is preferred to use the AUX supply input for normal prototyping work. Use a standard "wall wart" type supply for JP1.

There are 2 LED's on the board. The green LED indicates when the MCU has power. The red LED indicates when AUX power is connected. The PCB mounting holes are connected to the ground reference pins.

Schematic diagram — MicroMite Prototype Board

Title block:
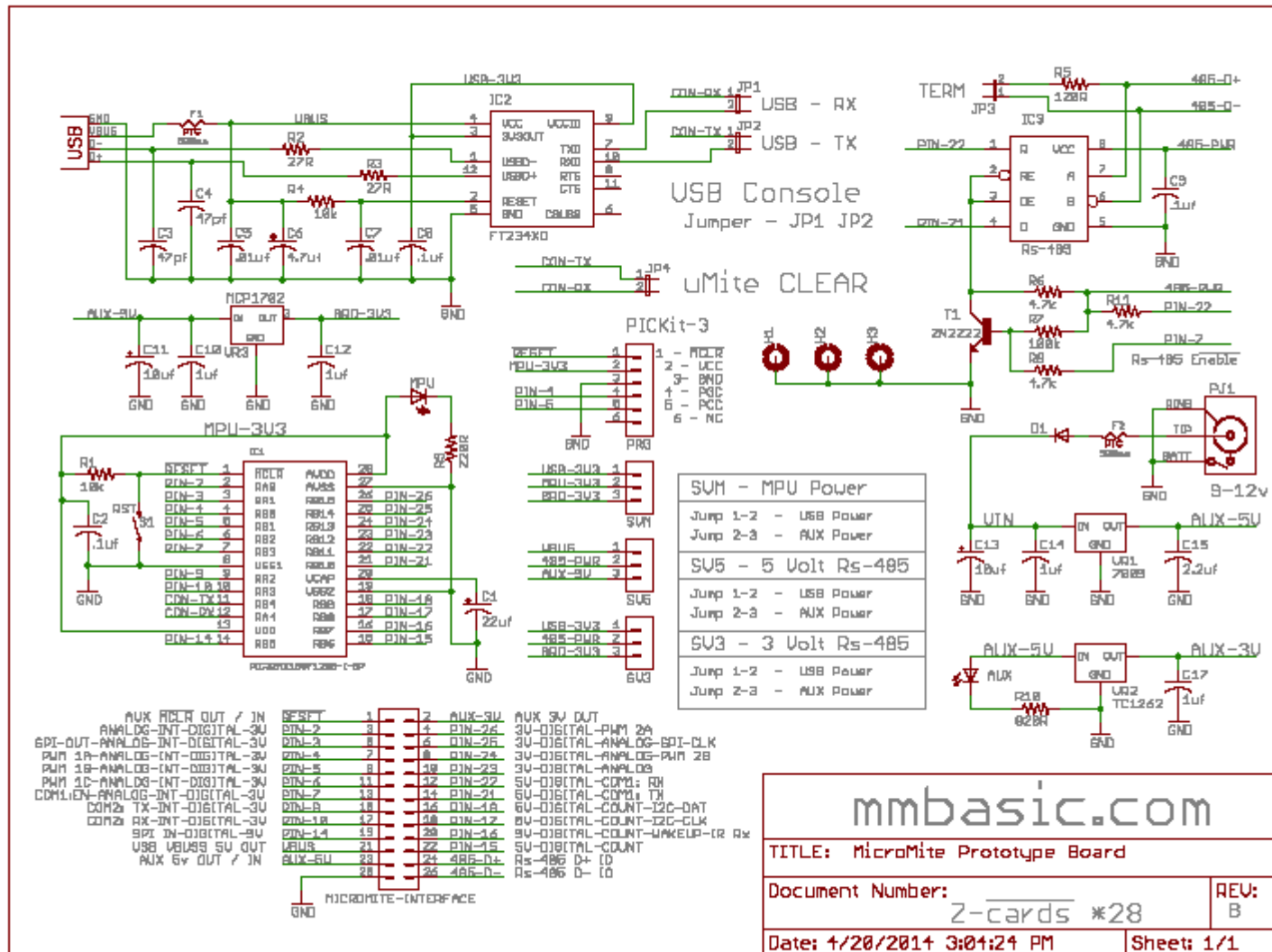
mmbasic.com

TITLE: MicroMite Prototype Board

Document Number: Z-cards *28

REV: B

Date: 4/20/2014 3:04:24 PM   Sheet: 1/1