SALVO [FINIS]

USER'S GUID
V 1.0

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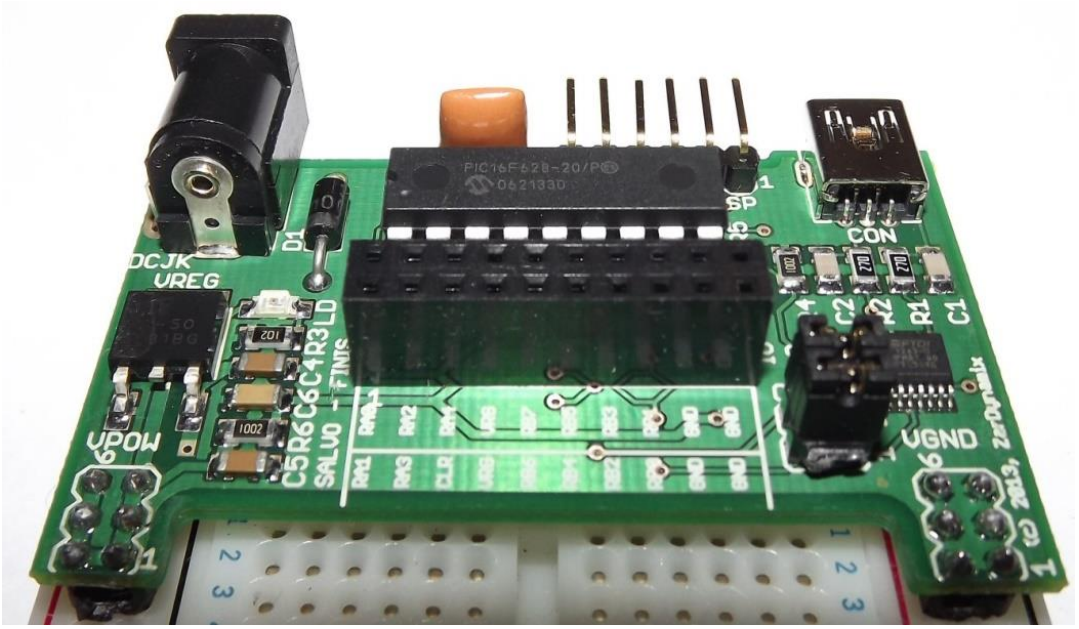
Introduction

The Salvo [FINIS] is one in a series of new experimenter's PCBs aimed specifically at the PIC enthusiast. The [FINIS] is designed to be added to a bread board, clipping on to the edge of the bread board in booster pack or add on style as shown below.

Owing to the design, which enables ease of use and extensibility at a whole new level the Salvo [SERIES] are ideally suited for on the fly project development, experimentation or training sessions enhanced by a reliable PIC based embedded tool.

The [FINIS] caters to certain members of the 18 PIN device families for 16Fxxx and 16F1xx devices. Owing to PIN out differences between the two families, jumpers have been provided where applicable such that the Salvo [FINIS] is adaptable for use with alternative devices to those on the supported list.

NOTE: Shown in image is the PIC16F628, sold separately



Product Features

Mechanical Description

Shown below is a recommended way in which the Salvo [FINIS] can be attached to a bread board. Be advised that the [FINIS] is designed for a bread board which has removable sides so the width is slightly more than a bread board whose sides do not detach.

Once connected, the PCB is secure and balanced therefore there is no see – saw action as a result of the PCB overhang. 6 x 2.54 MM facilitates secure mounting per side and also provides power connections from the Salvo [FINIS] to the bread board.

Power is supplied to the PCB via a 2.1 MM DC jack and then onto an LD1117A – 5. The LD1117 is a low drop out regulator and therefore battery packs can be used instead of a bench top power supply if such is not available.

Interfaces

The primary interfaces on the user side are the following:

Interface	Description
DCJACK	2.1 MM DC JACK through hole
ICSP	6 way 2.54 MM header compatible with Microchip's ICSP interface required to program a microchip
MINI – USB	5 PIN Mini USB connector connecting the FT230x supports up to USB 2.0
20 WAY IO	I/O header tracking all usable IO from the PIC to the header labelled I/O.

DCJACK

The 2.1 MM DC jack is used to connect a suitable DC (DO NOT CONNECT AC OR INVERTED DC) power supply to the Salvo [FINIS]. No more than 1A can be drawn as the voltage regulator can only supply up to 1 Amp

NOTE: 1 Amp is the maximum rated current however maintaining this current draw can result in damage to the voltage regulator, voltage output drop and eventual failure of the component.

ICSP (In Circuit Serial Programming)

The ICSP Header is compatible with the Microchip ICSP interface and is used to program the target device with either boot loading code or production firmware. A PICKIT 2 or PICKIT 3 can be used; PICKIT 3s are easier to come by and are recommended as they provide support for the latest PIC devices.

MINI USB

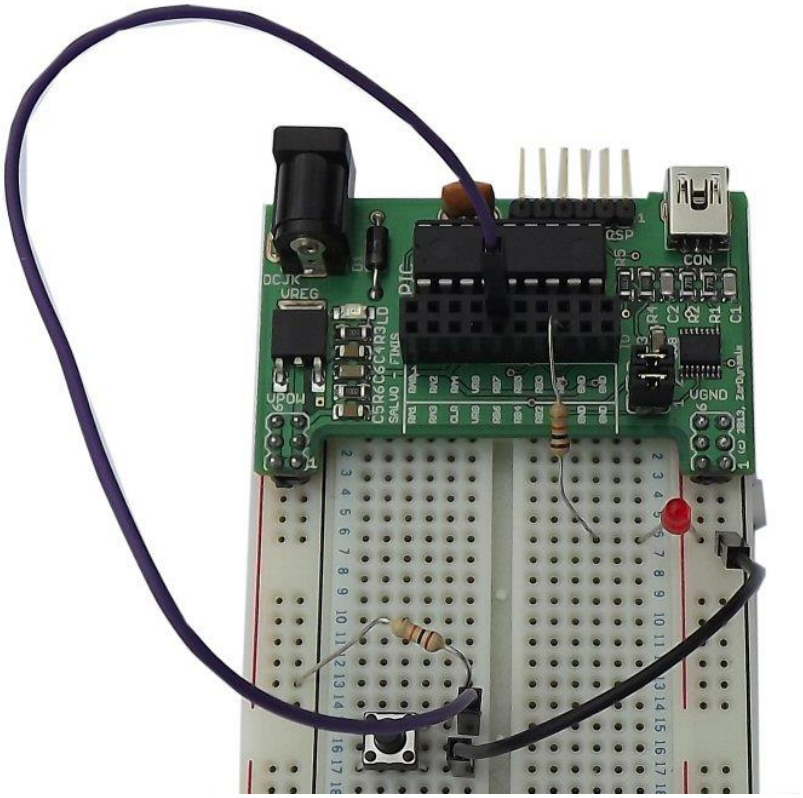
The MINI USB type B connector connects the PCB VIA the FT230X to the PIC. The FT230x is USB 2.0 compatible.

The Type B, USB Mini type connector is quite a common cable and can be purchased from most static or online stores.

20 WAY IO

The 20 WAY IO connects all usable I / O from the PIC device to the header. The easy insertion header enables the user to connect jumper wires from the header to the bread board. As shown below the wire jumpers are being used to connect the header to an LED or a push button.

Notably, the entire interaction with the Salvo [FINIS] is simple and intuitive.

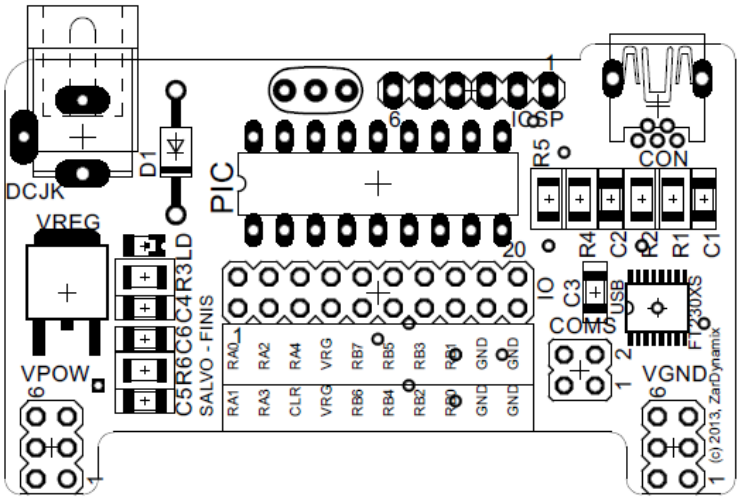


FT230X

The FT230x is one of the latest devices from FTDI which functions as a converter or bridge between the Rs232 output | input from the PIC and converts it to USB compatible protocol.

The COMS header located in the lower right hand corner of the PCB interrupts the Rx | Tx lines from the FT230x to the PIC.

NOTE: For more information, see www.ftdi-chip.com



Family	Individual Devices
PIC16Fxxx	PIC16F627(A), PIC16F628(A)
PIC16F1xx	PIC16F1827, PIC16F1847

NOTE: The devices listed above are devices that have Rx | Tx connections at the required PINS. Other devices will also function, however the COMS jumpers must be removed and wire jumpers used to connect the Rx | Tx connections to the COMs header.

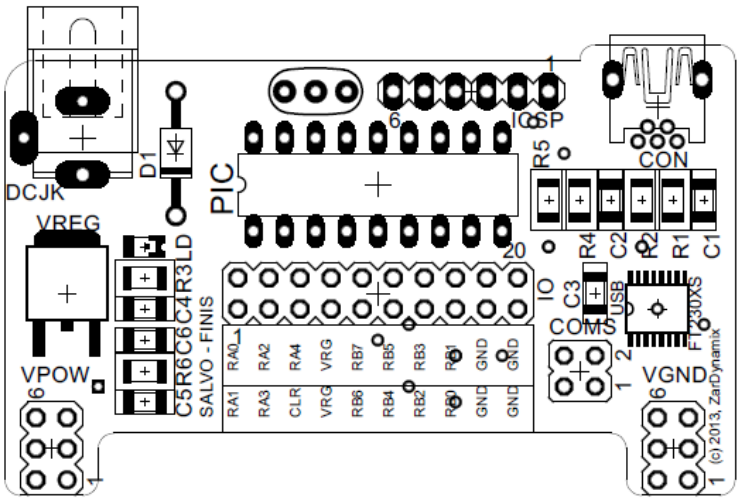
Specifications

NOTE: The Salvo [FINIS] is a manufactured to ISO 9000 standards and is lead free (Immersion TIN)

Item	Description	
Power Supply	• On board, LD117-5 • Reverse Polarity Protection • Power on LED	6 – 9 VDC input Required
IO	All IO from PIC tracked to Header	
Communications	• On board FT230X, Rx | TX headers tracked to PIC with Mini USB connector • Connections interrupted to cater to other device families	
ICSP	On board ICSP header provided	
Oscillator	8MHZ, ceramic	
PIC	Supplied separately	

Layout

The layout for the Salvo [FINIS] is shown below.



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