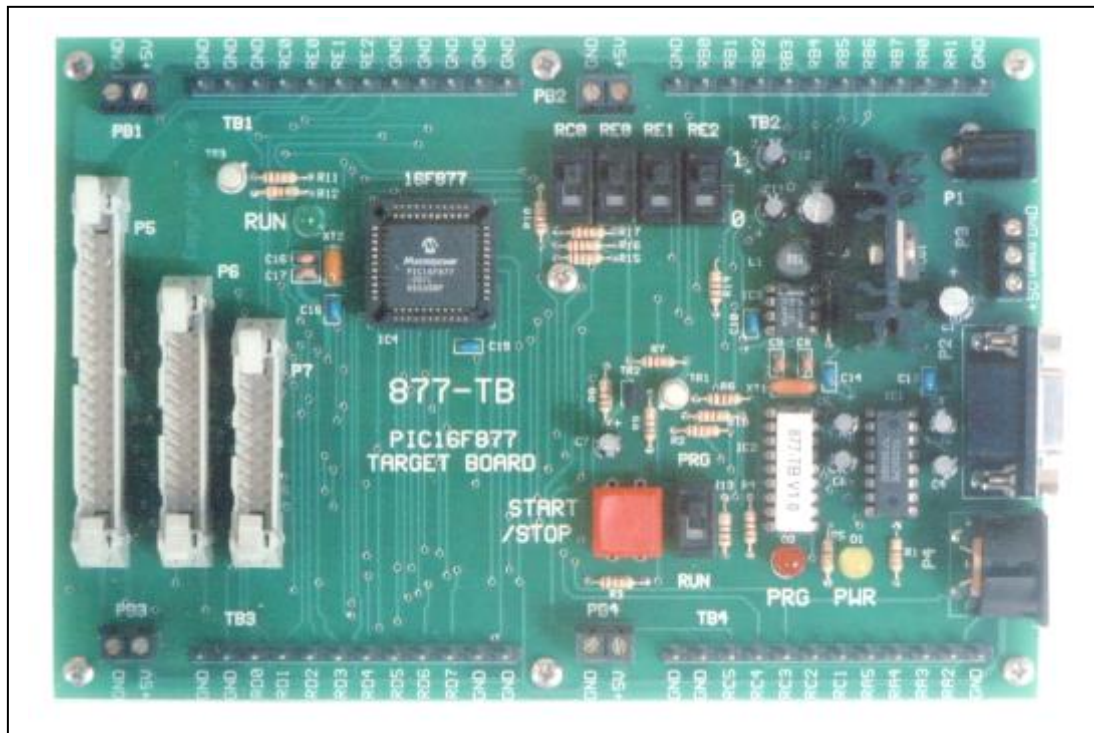


877-DATS

PIC16F877 DEVELOPMENT & TRAINING SYSTEM



Programmable Interface Controllers (PIC) are a family of low cost, easy to use but powerful, RISC (Reduced Instruction Set Computer) type micro-controllers based on the Harvard architecture (separate program and data storage area). Capable of operating at clock speeds of 20 MHz or above, these RISC devices are self-contained systems providing on-chip RAM or FLASH RAM (program area) and I/O.

877-DATS is based on the versatile Microchip PIC16F877 CMOS FLASH device in a 44 pin PLCC package. This highly flexible product can be used for various applications; it is designed for use as a target board or, for educational purposes, is suitable as a classroom training aid. It may just as easily be used as a stand-alone controller. It is linked via the serial port to a PC in order to allow easy downloading of control code developed using Microchip's MPLAB software package or high level language development software.

The 877-DATS consists of the board (size 120 x 180mm), serial port connection is via 9-way D socket. Two IDC connectors (26 and 40 way) permit easy interfacing to peripheral hardware. All inputs and outputs are accessible via **optional*** screw terminal blocks
The 877 target board is mounted on an acrylic sub-plate as standard but customised packaging can also be supplied.

877-DATS standard package consists of the 877-TB supplied in a rugged moulded storage case, the Technical/User Manual on CD-ROM, Power Supply (9V1A), Serial Cable and Disk based Development and Communications software.

An extensive range of parallel I/O applications products and Interface cables are available for Educational and Training needs.
Target systems are also available for many other popular processors and customised designs can be developed to individual customer requirements.

877-TB Hardware Features

- Powerful Microchip PIC16F877 Controller running at 10MHz, with 368 (8 bit) bytes of Data memory (RAM), 256 (8 bit) bytes of EEPROM Data Memory and 8K (14 bit) of FLASH Program Memory.
- High performance RISC CPU with a 35 single word instruction set and an interrupt capability of up to 14 sources.
- Onboard voltage regulation allows the unit to be powered from a simple unregulated 8 to 13V dc via standard 2.1mm power inlet. Alternatively, the board can be powered from a regulated +5V dc source.
- Regulated +5V dc can be sourced from several **optional*** screw terminal connectors around the periphery of the board to power customer's own applications. The unregulated supply can also be sourced from via a screw terminal connector.
- RS-232C Serial Port for downloading program to the onboard PIC (via 9 way D type connector) is also used as a stand alone serial communication port .
- High Speed Synchronous Port (MSSP) with I2C (master/slave)
- Up to 8 x 10bit Analogue Input channels
- 2 Pulse Width Modulation channels
- 3 Timers +WDT
- Up to 5 x 8bit digital Input/Output channels
- Inputs and outputs are accessible via **optional*** screw terminal blocks
- Digital input/output ports are accessible via 26-way and 40-way IDC headers.
- All integrated circuits are socketed for ease of maintenance.
- Robust storage box included

877-DATS Software Features

- Allows download of programs developed on the PC with MPLAB directly to the "on board" PIC.
- Read menu - allows selection of Read options, Blank device checking and Verifying the devices program memory.
- Read Facilities - enable either the full or a selected range of Program Memory, Data or Configuration options to be Read into the PC memory.
- Setting Configuration - controls the WRT, CDP, Code Protect and WDTE.
- Programming Facilities - enable either the full or a selected range of Program Memory, Data or Configuration options to be programmed.
- Load command - loads a binary program to the PC prior to programming.
- In-Circuit Debugging (ICD) - implemented using special hardware features built into the PIC16F877 micro-controller and enables the user to:
 - Start and stop programs from the PC
 - Single-Step programs
 - Set Breakpoints
 - Examine contents of file registers
 - Display 'W' register
 - Display PC & STATUS registers
 - Set file watches
 - Display Special Function Registers (SFRs)
 - Halt user program
 - Continue user program
- SFR (Special Function Register) window - displays all the SFR's of the PIC16F877
- Source window - displays user source code when a HEX file is loaded for programming.
- Watches window - permits the set up of a number of watches and viewing of the contents

To operate the 877-DATS a PC is required running an operating system of WIN95 or higher.

Ordering Information

877 training system877-DATS (specify UK, US or EU PSU)
Screw terminal **option*** and P7 fittedST-OPT877
Experiments Manual (used with APPS-BD).....EXP-877



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