C S Technology Ltd

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PIC40 - Prototyping Kit for 40 pin Microchip PIC microcontrollers.

Examples:- 16F877, 18F452, 18F4520 & 18F4550 etc.

The kit allows easy prototyping of the 18F4550 USB part too.

Everything shown in the picture to the right is included in the kit except the PIC micro. The crystal supplied can be 4MHz or 10MHz if specified when ordering; otherwise 4MHz will be supplied. We suggest 4MHz for the USB 18F4550 and 10MHz for the 16F877 series and the 18F452 & 18F4520 series etc.

With USB the 4MHz crystal is multiplied to 96MHz inside the PIC and then divided to 48MHz for the USB peripheral and microcontroller core clocks. Many other crystal and divider combinations are possible; please see the PIC data sheet.

All parts and the PCB are RoHS compliant and can be soldered with tin/lead or lead free solder.

The PCB is a high quality, gold plated, double sided PTH (plated through hole) 1.6mm FR4 (Fibreglass) board 89 x 80mm in size and includes a large prototyping area with pads on both sides of the board.

The 5V power supply for the PIC can be selected to be from the on-board 5V regulator, the Microchip ICD connector or USB, both the +5V and 0V power rails are extended along the top & bottom edges of the board for easy access.

An onboard RS232 level converter buffers the PIC UART to/from the 9 pin D connector, which is tracked for connection to a PC serial port. The RTS & CTS lines are also buffered and brought to CN9. The RS232 interface can be disconnected from the PIC using jumper links in CN6.

The USB socket can also be disconnected from the PIC using jumper links in CN6, this would be useful if using a non USB PIC, but powering from a USB cable.

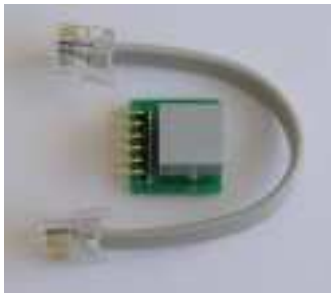
A 5 pin programming header is also provided to allow in-circuit programming from other programmers e.g. the MELABS serial or USB programmers.

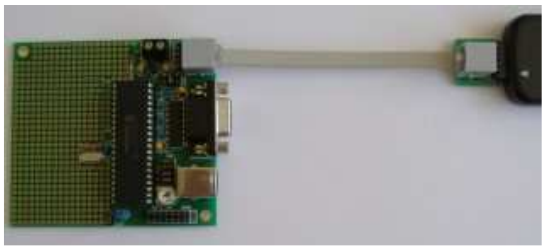
The 470nf USB decoupling capacitor can be disconnected from the PIC using CN7.

In addition there is a connector for a standard LCD display together with a contrast variable resistor, the display is tracked to the lower nibble of Port D, R/W is grounded for write only, and the RS and E signals are left uncommitted and available on pads for connection to any port pin.

Microchip Pickit 2 and PicKit 3 programmers can be connected via the ICD connector using our adaptor cable kit available from our website and pictured to the right.

Note that if using a PicKit 3 programmer the target must be powered and the PicKit 3 needs to sense the target power for it's output buffers, therefore fit 2 jumpers to CN4.



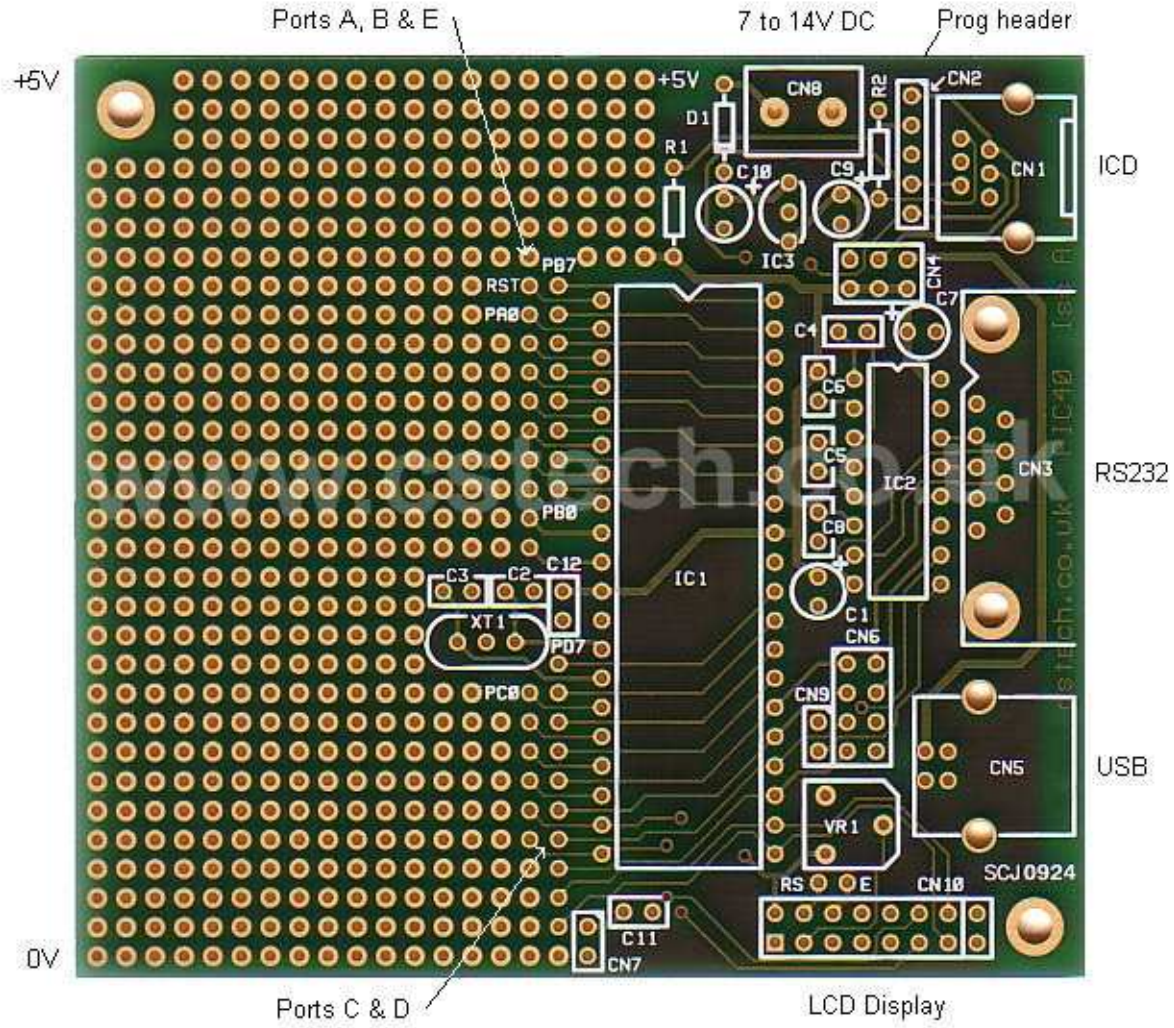


cstech.co.uk PicKit 2/3 to ICD adaptor kit

PIC40 Parts List

Part	Type
IC1	40 pin high quality turned pin IC Socket
IC2	HIN232
IC3	78L05
D1	1N4148
XT1	4MHz or 10MHz (please specify when ordering or 4MHz supplied)
R1	10K
R2	100R
VR1	10K
C1, 7, 9, 10	1uF Tantalum 25V
C2, 3	33pf Ceramic Disk
C4, 5, 6, 8, 12	100nF Multilayer Ceramic (marked 104)
C11	470nf Multilayer Ceramic (marked 474)
CN1	RJ12 Socket
CN2	5 pin Header
CN3	9 pin D Socket
CN4	6 pin Header 2x3 way
CN5	USB 'B' Socket
CN6	8 pins supplied as 2x4 way
CN7, 9	2 pins
CN8	2 way Terminal Block
CN10	14 pins supplied as 2x3 way plus 2x4 way

Other Items:-
PIC40 PCB Issue A
6 x 0.1" Jumpers
Crystal insulator pad



The above display and ready made ribbon cable are available as separate items from our website

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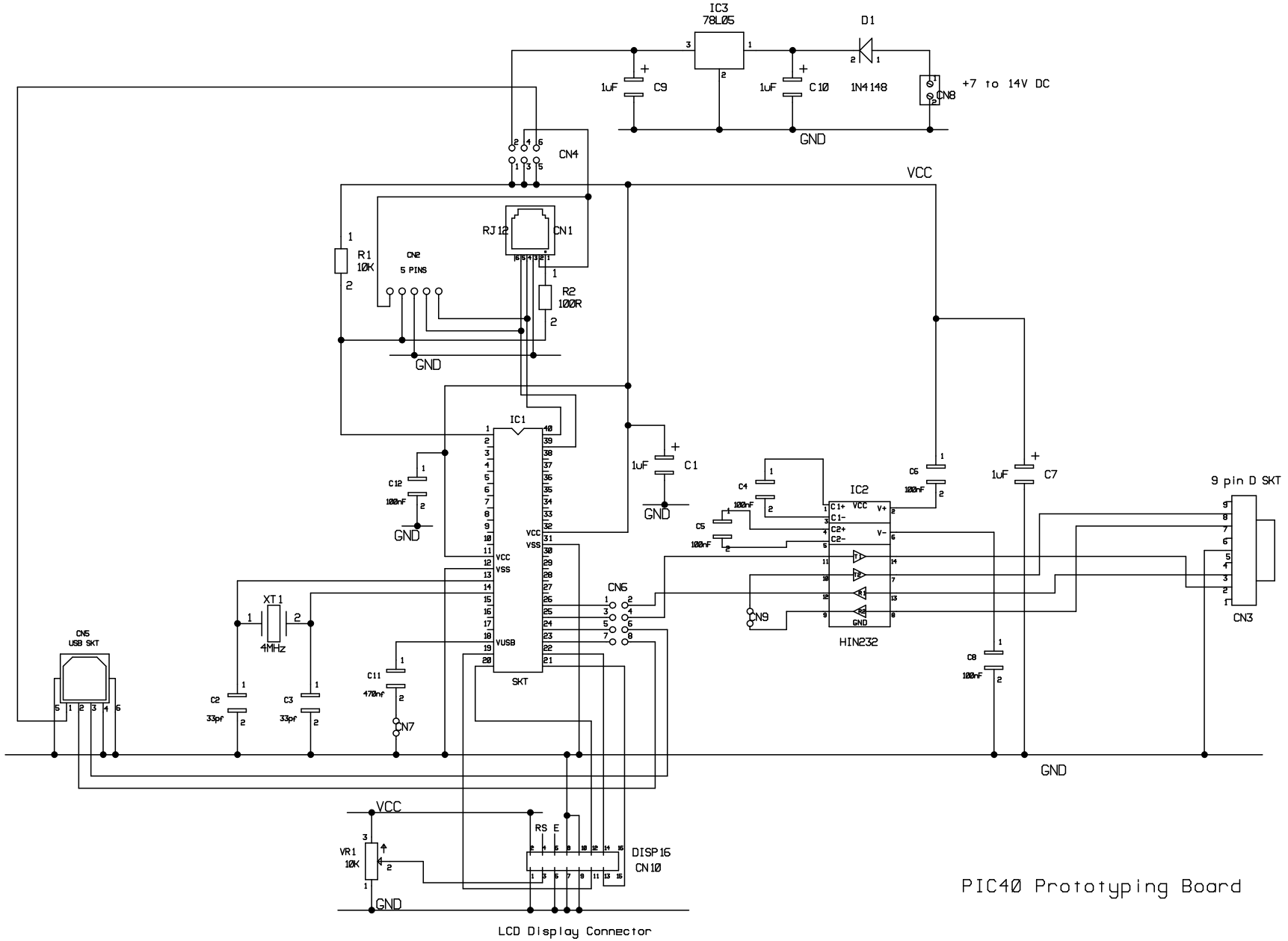
IC3
78L05
D1
1uF
C9
1uF
C10
1N4148
CN8
+7 to 14V DC
GND
CN4
VCC
RJ12
CN1
R1
10K
CN2
5 PINS
R2
100R
GND
IC1
1uF
C1
C12
100nF
GND
VCC
VSS
VCC
VSS
VUSB
SKT
IC2
C1+
C1-
C2+
C2-
V+
V-
T1
T2
R1
R2
GND
HIN232
C4
C5
C6
100nF
1uF
C7
9 pin D SKT
CN3
CN9
CN6
XT1
4MHz
CN5
USB SKT
C2
33pf
C3
33pf
C11
470nf
CN7
C8
100nF
GND
VCC
VR1
10K
RS
E
DISP16
CN10
GND
LCD Display Connector
PIC40 Prototyping Board