

QUASAR PROJECT AS3117v3.1 – ASSEMBLED PICALL PIC PROGRAMMER

IMPORTANT WARNING!

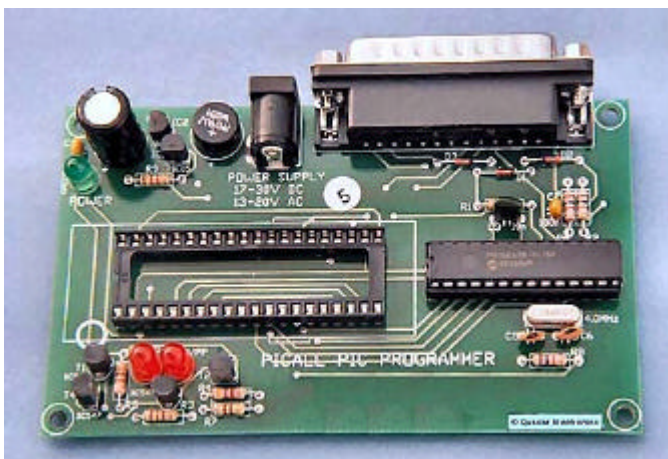
To avoid damaging your programmer, please ensure that devices are placed in the programming socket with the correct orientation and position as indicated in the PICALL software interface. The programming socket should be empty when powering the programmer up or down. We will not accept liability for consequential losses arising from the use of this product in any circumstances.

HARDWARE

The picture below shows the assembled and tested version of our **3117v3.1 PICALL PIC Programmer** with the 40 pin DIL socket already fitted.

Please note that we do NOT solder the programming socket in place but instead leave this open for you to choose from either:

- the 40 pin DIL socket supplied by us as standard (limiting you to 28/40 pin devices)
- our optional 40-pin Wide ZIF socket (Order Code ZIF40W – order online at <http://www.quasarelectronics.com/zif40w.htm>)
 - . This allows the full range of 8, 18, 28 and 40 pin devices to be programmed.
- or your own programming socket.



DOCUMENTATION

The documentation for the kit version of this programmer is provided below for your reference. To start using your programmer please jump to '**TESTING**' section on page 3 below AFTER reading the rest of this page.

CONNECTING UP

Ensure that the programmer is not placed on or near any metallic objects as this may cause a short circuit and damage to the programmed firmware PIC (there is a charge of £19.95 for replacement).

Connect the programmer to the parallel port of a PC using a straight-through 25 pin M/F cable (our Order Code LDC136). A 17-30VDC or 13-20VAC plug-in power supply is required (our Order Code PSU010, PSU020 or PSU235).

Some people have complained that finding power supplies to provide 17VDC is difficult. We also make Kit 3135 which will convert an input voltage of 6V – 12V DC up to the 17VDC needed by 3117.

SOFTWARE

Please download the latest version of the **PICALL software** from our website at:

<http://www.QuasarElectronics.com/software.htm>

The PICALL software as downloaded will operate **fully functional** with this programmer. There is no additional registration fee to pay.

For the full list of programming abilities of this programmer and other important information please refer to the Help section of the software.

SOFTWARE UPDATES NEWSLETTER

Please join our e-mail newsletter at

http://www.quasarelectronics.com/mailling_list.htm

to receive information on new products and other useful information. For the latest software/hardware information please refer to the www.picallw.com website.

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This kit is designed for use with the PICALL software to program virtually all 8 to 40 pin DIP *serial* and *parallel* programmed PIC's. If you require an ISP programmer please look at our kit 3144, which also programs the 18F/18Cxxx chips.

The PICALL software is available in both DOS and Windows versions. We suggest you download the PICALLW (Windows) software as this will work under W9x/2K/NT and XP. PICALLW is where all the software development and support is now going. Version 10c is the official release but the latest Beta version may enable you to program a wider range of chips. PICALLW supports other PIC programmers such as our kits 3081, 3096, 3119 and 3144. You can also change the settings manually to suit other types of programmers that use the same (original David Tait) design of programmer.

You must download the PICALL software from:

<http://www.quasarelectronics.com/software.htm#3117>

Both the DOS and Windows AVR versions of the software automatically operate in fully registered mode when used with this kit. Software updates are available from our website free of charge. IC3 carries the pre-programmed firmware that enables the software to run in fully registered mode. Do NOT attempt to copy the firmware as this will damage it and your warranty will be void. Replacements are charged at £39.95.

These are some of the devices that this kit currently programs:

Serial PIC devices:

PIC12C5XX	PIC12CE67X	PIC16C67X	PIC14000
PIC16C61	PIC16C715	PIC16C62	PIC16C62A
PIC16CR62	PIC16C63	PIC16C64	PIC16C64A
PIC16CR64	PIC16C65	PIC16C65A	PIC16C66
PIC16C67	PIC16C620	PIC16C621	PIC16C622
PIC16C710	PIC16C71	PIC16C711	PIC16C72
PIC16C73	PIC16C73A	PIC16C74	PIC16C74A
PIC16C74B	PIC16C76	PIC16C77	PIC16F83
PIC16CR83	PIC16C84	PIC16F84	PIC16CR84
PIC16C923	PIC16C924	PIC16C642	PIC16C662
PIC16C87X		

Parallel PIC devices:

PIC16C54	PIC16C55	PIC16C56	PIC16C57
PIC16C58		

As new PIC's appear on the market, they can be added by entering them in the *Device.ini* file of the software (or download the latest PICALL version from our website).

HARDWARE

A full description can be found in the **manual.txt** file provided with the software (see SOFTWARE section below). The schematic diagrams are provided below.

Construction. The kit is built on a high quality double sided PTH PCB. Identify and position components using the parts list and PCB legend (use component outlines to ensure correct orientation). Start with the lowest components. TAKE CARE not to over-solder the IC sockets and male DB25 connector (solder can flow down PCB holes and cause shorts between component legs!). Use 14-pin socket for IC3.

We have supplied a 40 pin DIL IC socket for programming. However, to program 8 and 18 pin devices, you will need to use a 40 pin **wide-slot** ZIF socket like our Order Code ZIF40W (order online at <http://www.quasarelectronics.com/zif40w.htm>).

NOTE: To program 64 pin PIC's (16C92x & 17Cxxx) you can buy an adaptor from Microchip or make your own. Only 5 lines need to be taken from the 40 pin socket to the adaptor card (MCLR/Vpp, Vdd, Vss, RB7 and RB6).

COMPONENTS

	PART No.	QTY
Resistors, ¼ W, 5% (gold):		
4K7 (yellow violet red)	R1,4, 5	3
10K (brown black orange)	R2, 6, 8	3
2K2 (red red red)	R3	1
820R (grey red brown)	R7	1
1K2 (brown red red)	R9	1
100nF (104) monoblock	C1, 2	2
10n (103K) Mylar capacitor	C3	1
470uF/35V ecap	C4	1
22pF (22) ceramic	C5, 6	2
1N4148 diode	D1, 2, 3	3
BC557 transistor	T1, 2	2
BC547 transistor	T3, 4	2
78L05 voltage regulator IC	IC1	1
78L08 voltage regulator IC	IC2	1
Programmed PIC16F72 firmware	IC3	1
4.00Mhz crystal	X1	1
5mm red LED	D4, 5	2
5mm green LED	D6	1
28 pin 0.3" IC socket (for IC3)		1
40 pin 0.6" IC socket		1
Bridge rectifier WO2	BRECT	1
Male R/A DB25 connector	K2	1
DC power jack 2.5mm	X2	1
Kit 3117 DSPTH PCB		1

CONNECTING UP

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TESTING

You can use the PICALLW software to test that the programmer is working correctly. Connect power. The green LED should go on. Neither of the red LEDs should turn on. If they do then immediately disconnect power and check component placement and soldering before going on.

- Start the PICALLW software and select the PICALL option in the centre drop down menu.
- Next select Test (under Settings>Hardware) and run the five tests to ensure that the programming is working correctly.
- Clicking on the first 3 tests will show little dots appearing after the test box. If everything is OK the word 'passed' will appear.
- Clicking on Set/Clear VPP and Set/Clear VPP1 will turn the two red LEDs labelled VPP and VPP1 on the 3117 board on/off.

That is it. Click OK and you are ready to start programming.

If you get any Error Messages you can find the explanations at: Help/Contents/Hardware/Picall Hardware/PICALL Error Codes. Kit 3117 is the hardware version "PICALL 3.1 --> 3.3" mentioned in the software documentation.

Please refer to PICALL software Help files for full setting-up details. The software will show you where to place your PIC chip on the board for programming assuming that the hardware and power are connected).

SOFTWARE

You can download the latest version of the PICALLW software (which contains all of the other files mentioned in this document) from our website at <http://www.quasarelectronics.com/software.htm#3117>

PIC RESOURCES

There is a comprehensive list of PIC-related websites on our LINKS pages. Another good PIC website is Microchip Net resources at:

<http://www.geocities.com/siliconvalley/way/5807>

SUPPORT If you have any questions regarding this kit, please contact our Tech Support staff - mailto: support@quasarelectronics.com

INTERESTED IN OTHER KITS?

We also have a new range of USB programmers (Order Codes 3128, 3149, 3150 and 3182) – see our website for full details.

SOFTWARE UPDATES NEWSLETTER

Please join our e-mail newsletter at http://www.quasarelectronics.com/mailling_list.htm to receive information on software updates. For the latest software/hardware information please refer to the www.picallw.com website.

CONTACT US

For details of our complete kit range please visit our website at:

<http://www.QuasarElectronics.com>

or mailto: sales@quasarelectronics.com

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