

What Are TEAclippers?

TEAclippers are portable, target-powered firmware programmers. The size of a postage stamp, they can be easily transported and plugged in to the target circuit. Their limited-download capability ensures keep control over your intellectual property.

If your products are TEAclipper-ready, you can:

- Subcontract manufacture securely, knowing your subcontractor is unable to make more units than they claim.
- Send out upgrades and bug fixes to customers, who can perform the upgrade themselves.

Devices currently supported include most PIC microcontrollers and BASIC Stamps. Contact us regarding support for other devices.

How TEAclippers Work

TEAclippers are loaded with firmware using *HexWax Explorer* software and the TEAclipper USB adapter. Individual serial and random numbers are supported.



PICs are then programmed by temporarily inserting the TEAclipper into the target device's circuit. The connection can be a PCB header or simply leaning against plate-through holes on a PCB.





TEAclipper

Programming a target PCB



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Manufactured to RoHS, WEEE & ISO9001:2001 standards



Page 1 17-Nov-07

TEAclipper Ready At Zero Cost

How to be TEAclipper-Ready

To be TEAclipper-Ready, you simply need to add five plate-through holes to your PCB. In most applications, you can simply insert the TEAclipper into the holes and apply gentle sideways pressure to ensure a good electrical contact. *Adding the holes costs nothing!* It's worth integrating it in every PCB you design, just in case you might want to use it later.

If you envisage frequent reprogramming, or if your firmware is 64K+ bytes, you might consider adding a header socket to ensure good connection over an extended period.

Connections for PIC Microcontrollers



If any of the Vpp, PGC or PGD pins serve another purpose in the circuit, these connections must be isolated so that they do not interfere with, nor are affected by, the programming process. Refer to the TEAclipper data sheet if you use the PGM pin during programming, or your PIC requires 5V supply during programming and your operating voltage is lower.

Connections for BASIC Stamps



Operator Instructions

Here's the instructions you need to give to the user. It's simple enough that even your customers can do it:

- 1. Power up the board.
- 2. Insert the TEAclipper into the holes and apply gentle sideways pressure to ensure a good electrical contact. If no LEDs light up, plug it in the other way round.
- The LEDs will flash during programming. When programming is complete, the green LED will stay lit, pulsing gently.
- 4. If, at the end, you get repeated red flashes, count the number of flashes and report to your supplier for diagnosis.