

Getting the Most from Your Software Tool Dollar:  
A Brief Look at PCB View Station™ ROI

**Looking at Tools, Looking at the Data**

In these economic times, as in all business climates, you are looking to get the most from your software investments. You've already come to realize that investing in software tools is critical to fully utilizing your most precious resource, your staff. That's why you've already purchased CAD systems, CAM automation systems, DFM tools, and other software. So why buy more tools to look at the data created by your existing tools? A viewer doesn't *add value*, does it?

The simple answer is that PCB View Station™ adds value everywhere CAD data is used. Here are just a few examples:

- Design For Testability (DFT) review of in-process and completed designs by Test Engineering
- Review of component footprints for component placement library development
- Design validation and verification during the prototype lab
- Component and shorts location by the Test Technician
- Design version verification by the Manufacturing Outsourcing Coordinator
- Component replacement and board repair by the Repair Technician

Another way that PCB View Station™ adds value is by keeping your existing CAD and CAM tool seats free for their original purpose, creating designs and CAM files.

**Estimating Time Cost Savings**

How much money PCB View Station™ will save your company depends, of course, on how you use it, but a general estimate can be made with a brief look at how it fits into your work flow.

Let's start by making some general case estimates regarding the work and the workforce. Substitute your own numbers where the numbers here don't match your environment.

Engineer Count = 10

Technician Count = 20

Work Hours Per Year = 2,000  
(general number of annual work hours devoted to "core" job activities)

Engineer Time = \$125 / hour  
(fully burdened cost of an engineer's time)

Time Saved Per Engineer = 1%  
(very conservative estimate of engineer time savings)

Technician Time = \$75 / hour  
(fully burdened cost of a technician's time)

Time Saved Per Technician = 2%  
(very conservative estimate of technician time savings)

PCB View Station™ Cost = \$250  
(promotional per seat cost for Q3 of 2003 only)

Let's put this together and see what it looks like just from the Time Saved point of view.

Total Staff Cost = (Engineer Count x Engineer Time x Work Hours Per Year) +  
(Technician Cost x Technician Time x Work Hours Per Year)  
= (10 x \$125 x 2,000) + (20 x \$75 x 2,000)  
= \$2.5M (Engineering) + \$3M (Technician) = \$5.5M

Total Time Savings = (Engineer Cost \* Engineering Savings) +  
(Technician Cost \* Technician Savings)  
= (\$2.5M x 1%) + (\$3M x 2%)  
= \$25K + \$60K = \$85K

Total PCB View Station™ Cost = \$250 x 30 = \$7.5K

This means that PCB View Station™ would pay for itself in the first two months! Your estimates as to how much time would be saved may vary, but even if they are only one tenth of the conservative estimate applied here, the tool still pays for itself in the first year. Plug your own numbers into the above equation and see how it looks to you.

### **Estimating Design Escape Savings**

Now let's consider another area of potential savings, one where estimating costs is more difficult, but for which the potential payback is huge. This is the area of the *design escape*, an undetected error that manages to slip through the review processes into a fabricated and manufactured version of your product. Here are some rough cut numbers to start with:

Design Escape Cost = \$150,000  
(cost of one design error making it into a "final" or fabricated design)

Design Count Per Year = 15  
(number of designs that become physical product per year for the team)

Chance for Design Escape = 5%  
(likelihood of a design escape occurring)

Design Escape Reduction = 3%  
(very low end estimate of how many design errors can be eliminated by  
increased design review opportunities through use of PCB View Station™)

With these base numbers, let's estimate the potential savings.

Total Cost of Likely Design Escapes =  
Design Count Per Year x Cost of Design Escape x Chance for Design Escape  
= 15 x \$150K x 5% = \$112.5 K

Total Reduction in Design Escape Costs Using PCB View Station™ =  
Total Cost of Likely Design Escapes x Design Escape Reduction  
= \$112.5K x 3% = \$3,375 / year

Granted that this area of savings is fairly speculative, but the potential in this area is real. The numbers for your operation will vary, of course, depending on the number of designs and the likelihood (and history) of design escapes occurring. Put your real numbers in here and see what the results look like.

### **Fine Tuning Your Company's ROI Estimate**

The numbers provided here are estimates. Using numbers that more closely match your company's operating costs, employee models, etc., will help you determine more closely what your savings will be. There are, of course, some costs not accounted for in this simple ROI model, such that those incurred setting up the tool, translating files, and so on. There are also other opportunities for savings as well, such as reduction in use of existing CAD tool licenses, etc.

Here at Sun-Up, we are confident that regardless of how your business operates, PCB View Station™ can become a valuable addition to your formula for success.

**Sun-Up Software**    245 SW Lincoln St #120    Portland, OR 97201  
Tel: 503-841-6179    Fax: 503-477-7789    [sales@sun-up.com](mailto:sales@sun-up.com)    [www.sun-up.com](http://www.sun-up.com)