

what you think you are 'Placing' and actually are 'Placing', are different files. You can flip up to a print size you can read but then you only see a small part of one page. It takes so long to do this that I often thought I had made a mistake and started pressing other buttons. This in turn would cause all kinds of problems. Not much fun.

On the large screen you can read the print with 2 pages up at one time. The Mac is very fast, and a pleasure to use. Of course an IBM compatible with a 80486 chip and a large screen would make life a lot easier. But the interface would still be different from other programs you use on the IBM and would require extra time to learn...

As you 'Place' articles you can flow the text around spaces you leave for graphics. You can also flow all the articles together to make one document or keep them separate. If all the articles are going to have the same format and you're expecting to make changes, having one big document is an advantage.

If you have one document you get essentially the same effects as using a wordprocessor. Make a deletion or insertion and everything reformats itself. If they are separate articles then changes in one can cause it to overrun a later article. Trying to hand format a half dozen articles is not fun, is prone to lots of errors, and is very time consuming.

Once you have 'Placed' all your material you can select any amount and change parameters to your hearts content. Very easy to try changes out and see what document looks like.

Although you can certainly use PM as a wordprocessor, for anything

over a few paragraphs I would use a regular word processor and 'Place' the finished document in PM.

If it sounds interesting you'll probably find it worthwhile to get some help as you start. An experienced colleague or a continuing ed course makes it a lot more pleasant to learn.

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Sticky Keyboards on the Laser128

The Laser 128 is the most successful of the cheap Apple II clones. Recently, however, we have been plagued with keys that either did not respond when depressed or demanded several successive taps before reluctantly responding. Since these computers are out of warranty, we decided to try to fix them ourselves. It turns out to be a simple operation to do despite the label on the base which says "no user serviceable parts inside."

You will need a fine bladed screwdriver, a Phillips screwdriver, diagonal pliers, four 2 inch blocks, and several pencils with clean erasers on them. The following step-wise procedure should be followed.

1. Turn off the computer and remove all attachments including power and monitor leads.

2. Turn the computer over and

remove the nine screws which hold the case together. There is a screw in each corner, one in the center of the front and sides and two shorter ones next to where the handle is attached to the case.

3. Turn the computer right side up again. Turn it so that the keyboard is away from you. You are about to remove the plastic strip that covers the rear of the computer. It's the strip with the red warning label on it and the raised letter descriptions of the various points of attachment.

4. The plastic strip is held in position with small clips which engaged as the strip was pressed into place. Release the right hand third of the strip by putting the fine-bladed screwdriver into the right edge and prying it back. There are two clips on that edge which should come loose. Now pry the top of the right third and release it.

5. Now do the same to the left third of the strip to release it.

6. There are two clips in the top of the middle third and one at its base. Pry with the screwdriver to release them. The plastic strip will come off.

7. Note how the handle rests in slots in the case. That is how it must be replaced when the case is reassembled.

8. Turn the computer so that the keyboard is before you and lift off

the top cover.

9. Lift the keyboard unit and slide it towards you an inch or so. Look down behind it and you will see where it is attached to the computer unit with four white plugs sitting side by side. Disconnect the plugs. Use the blade of the screwdriver to help loosen the plugs and slide them off the pins.

10. It is best to work on the keyboard without pressure on the keys. Turn the unit so that the keys are underneath and support it at each corner on the four blocks. There's a rubber block stuck to one edge of the unit. Take care not to knock it off. [It's not vital if you do remove it - the computer will work without it].

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An Animation of Distillation
Part IV
The Falling Drop

In this part of our series on the animation of a distillation I shall discuss the display of a drop of liquid falling and adding into a liquid pool. The coding will be designed to integrate with the stirrer and flame animations of the earlier parts. This animation is a more ambitious task than the earlier routines and will rely more heavily on the internal CHEMUTIL-2 (1) routines.

The figure 1 shows the essentials of the animation and illustrates some of the terms used. A drop will appear to fall from location TOPDRP to location BOTDRP, then a transient splash will appear and the liquid pool can increase by drawing a line at LIQY. The topmost image of a drop will be displayed at

TOPDRP so we first define that in terms of VTAB and HTAB. Earlier we displayed flame and stirrer by defining new characters and printing them with the CHEMUTIL-2 character generator. It is convenient to do the same for the falling drop. Two new characters are defined using CHARACTER (2) and