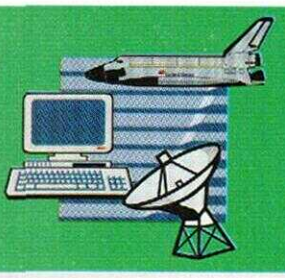
Technology Today

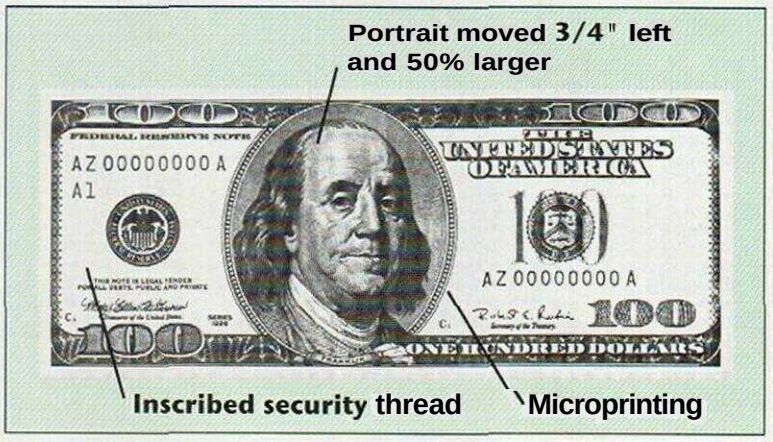


Alan J. Pierce

U.S. Money Goes High Tech

Our currency is about to go through the first major change in appearance since 1929, a change precipitated by development of new desktop publishing technology that has made our paper currency an easy target for counterfeiters. The high tech changes should help prevent counterfeiting in the future.

To combat counterfeiting with new color copiers, two new features have already been added to our currency. The first is a metallic-polyester thread that contains "USA" and the bill denomination repeated through the full width of the bill. You can see this strip from both sides by holding up to a light a reasonably new bill of five dollars or more. The second change is the addition of microprinting of the words, "The United States of America," around the edge of the portrait on the face side of our currency. By using slight magnification you can read this printing, which is only 1/7000" high.

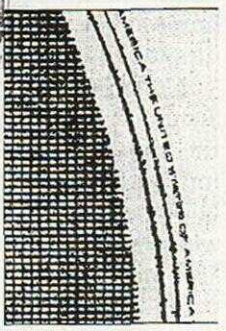


To help prevent counterfeiting, Minolta, Cannon, and many other manufacturers of copy machines have adopted anti-counterfeiting strategies in the construction of their copiers. One system places a nearly invisible identification number on each print the machine makes, thereby making it much easier for law enforcement agencies to track counterfeit documents. The other system uses a computer chip that recognizes the features of our currency and other highly valued documents, such as bonds and government checks. If the chip recognizes these features during the copying process, the printer prints solid black.

In the next round of the technology war on counterfeiting, a new $100 bill will go into circulation in 1996. (See photo.) Then, with each passing year, the government will release another denomination until all denominations above one dollar are replaced. These new bills will have both the microprinting and the security thread. All old currency will continue in circulation until the wear and tear of everyday use leads to its replacement.

The redesign of each bill denomination will incorporate the following changes: Each will keep its current statesman, but the portrait will move 3/4" to the left. The portrait size will increase by 50 percent, but the image will still be a line drawing.

Close-up views show security thread and microprinting.



A second image of the statesman, a watermark portrait, will be added to the face of the bill. Watermarks have been a way of identifying paper since the earliest days of paper making. They are formed during the paper-making process and can't be duplicated with a copying machine.

Each bill will contain a color-shifting ink that will change from green to black, as you shift your viewing angle of the bill. Currency paper will also include confetti-sized colored threads of paper or plastic, added randomly during the paper-making process. These "planchetttes" will provide easy counterfeit detection when the bill is viewed under a special light.

The pattern of lines in the drawing will be so close to moire that the bill's lines will reproduce on the counterfeit bill as wavy lines. One part of the pattern will actually change to read "VOID" if the bill is reproduced.

Recalling the facts

1. Describe two strategies copy machine manufacturers are using to prevent counterfeiting.
2. How has desktop publishing changed the manner in which currency is counterfeited?
3. Describe six changes in the new design of American currency that will help prevent counterfeiling. TD

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