



## Stamp bangs out plastic circuits

Today's transistors are etched from silicon wafers in a multi-step process that involves laser beams, chemicals and clean rooms. A simpler process would make for cheaper computer chips, and a gentler process would allow for transistors of different materials.

Researchers from Lucent Technologies' Bell Laboratories have found a way to stamp out plastic transistors that range from 150 nanometers to 250 nanometers long, which is around twice the size of today's commercial silicon transistors. A nanometer is one millionth of a millimeter.

The method could eventually be used to stamp out plastic circuits for uses like flexible electronic displays.

The stamping process is simple and doesn't require clean rooms, and making the stamps is relatively simple as well. The stamps are cast silicone rubber covered with metal.

The stamping method can also be used to add electrical contacts to films of organic material that are one molecule thick. The method promises to make it easier to investigate the electrical properties of organic materials.

The stamping process could find practical use in three to five years, according to the researchers. The work appeared in the February 3, 2003 issue of *Applied Physics Letters*. -TECHNOLOGY RESEARCH NEWS

February 26/March 5, 2003

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