

# NEC Update

## Operations Begin at the UC Plant, the World's Most Advanced Semiconductor R&D Facility

In April 1998, NEC began operation of the first-phase line at its UC Plant, the world's most advanced semiconductor R&D facility, located near Tokyo. In the first-phase line, electron beam (EB) exposures and argon fluoride (ArF) excimer laser lithography are used to conduct research on ultrafine process technology at the sub-0.18-micron level. In addition, for the accelerated adoption of new process technologies into mass production, the R&D



area and trial production lines are located on the same floor.

In the future, the UC Plant will conduct R&D on semiconductor production lines with 300 millimeter wafers and process technologies for circuitry down to the 0.07-micron level.

## NEC Launches the World's Fastest Supercomputer

NEC has launched the SX-5 series of supercomputers with the world's fastest processing speeds for commercial use. This series can reach vector processing speeds up to 4 teraflops (4 trillion floating point operations per second), four times the speed of the SX-4 series.

NEC received an order from the French Aerospace Research Agency through its sales partner BULL. This marks the first overseas order for the SX-5 series. We expect to receive orders from research organizations that require massive amounts of scientific and technical calculations.



## NEC Enters Global Market for WDM Optical Transmission Systems

Wavelength division multiplexing (WDM) systems bundle several optical signals of different wavelengths and send them over a single optical fiber. Due to the surge in communications traffic caused by the spread of Internet use, this technology is attracting attention for its ability to expand the capacity of the existing backbone networks of communications carriers. In the rapidly growing Chinese market, NEC recently received orders for leading-edge WDM systems. NEC has already delivered a WDM system to Frontier Corporation, a long-distance carrier in the United States. By leveraging these experiences, NEC aims to expand its worldwide sales and attain a leading position in this field.

## NEC Develops Network Adaptor for Multimedia Home Networks

Accelerating PC processing speeds and the digitization of audiovisual products are ushering in an era in which multimedia information combining video, voice, and data content is readily handled in the home. In tandem with this trend, there is a growing need for high-speed interfaces that enable the integration and connection of PCs, their peripherals, and audiovisual products. NEC has launched the TERMBOY series of network adaptors, which are compliant with a proposed next-generation high-speed interface standard, which was designed as an enhancement to the present industry-standard IEEE1394, for multimedia data transmission via optical fiber and infrared rays. The TERMBOY series helps realize low-cost multimedia networks in the home.



## Development and Design Subsidiary for Next-Generation Mobile Communications Systems Established in Singapore

W-CDMA systems based on code division multiple access technology are currently being developed as next-generation mobile communications systems suitable for handling multimedia information, and its service is expected to start by March 2001 in Japan. NEC will market W-CDMA systems both in Japan and in overseas markets.

To gain a strategic advantage in the huge Asian market, NEC has established NEC Mobile Communications Development Singapore Pte. Ltd., which designs and develops W-CDMA radio equipment. With the new company and a design subsidiary established in the United Kingdom in March 1998, NEC will develop W-CDMA systems that meet specific regional requirements.

## NEC Develops World's Leading SOC

In cooperation with its European semiconductor design center, NEC developed one of the world's most advanced system on a chip (SOC) devices for use in high-performance set-top boxes (STBs) for digital TV broadcasts. Manufactured with 0.25-micron process technology, the SOC combines the MPEG2 (Moving Picture Experts Group Phase 2) decoder necessary to receive digital satellite broadcasts, a 64-bit reduced instruction set computer (RISC) microprocessor, and a range of other ICs needed to handle STB data processing on a single chip. NEC expects orders for this device to expand rapidly.