Many of the technological resources that Minolta has developed over the decades are associated with the ways that people and product systems can input color and image data as well as output that data with superior fidelity and expressiveness. The Company is endeavoring to help its customers make use of those technological resources with even greater facility and effectiveness by providing customers with different kinds of support.

Digitization and networks are exerting a strong influence on the imaging field. People are inputting and outputting a growing amount of image information using an increasingly diverse range of home-, office-, and mobile-use equipment, and the number of image information applications is expected to continue rising. To support those applications, the scope of Minolta's technologies will rapidly broaden during the 21st century.

## Interface Technology

Since its establishment, Minolta has consistently given special emphasis to creating products that anyone can use—products that flexibly match the abilities of users with different skill levels and are easy to use. In line with this emphasis, the Company has avidly pursued the development of user-product interfaces as well as additional product functions that help users utilize new technologies more easily. Due to advances in digital technologies, products and systems are becoming increasingly sophisticated. The number of users who can make the most of such complex technologies without assistance is shrinking. However, Minolta strongly emphasizes product designs that are easy to use and provides a level of user support that rises in parallel with the level of product sophistication.

One representative example of technologies that anyone can use is the auto focus (AF) technologies incorporated into Minolta's optical





An illustration of the imaging unit of products in the CF series of full-color digital copiers/printers



Polynomial surface mirrors used for a multibeam laser scanning system



A data display device incorporating chiral nematic liquid crystals

products. The Company has greatly enhanced AF capabilities with a high-performance microcomputer chip that performs calculations for predictive focusing and other complex tasks. An example in the image information product field is the DiALTA series of multifunctional digital copiers, which have been highly evaluated for their work capacity, ease of operation, and reliability.

## Image Development Reproduction Technology

- **Inputting**—Over many years, Minolta has developed such technologies as aspherical lens, autofocusing, and mechatronics technologies to increase the compactness of its products. In addition to increasing cameras' compactness, aspherical lenses have helped improve picture quality by boosting image portrayal capabilities.
- **Processing**—Minolta's technologies have enabled the development of software products used for image enhancement and color matching. For example, Dimâge Scan Elite features color matching technology that adjusts colors in line with monitor characteristics, allowing users to digitize photographs and use high-fidelity image displays on their monitors for highly precise image compensation processes. One noteworthy application of the Company's intelligent image compensation technology is the PS 7000 book copying system, which copies books opened in an upward-facing position. This product uses automatic image-correction technologies to eliminate shadowing and image distortion near the binding. Minolta's digital PPCs automatically distinguish between the text and photographic portions of the pages they scan. Photographic portions are processed using the New Screen LIMOS imaging system, which senses and reproduces a very high number of tone gradations. Data scanned from remaining portions is compressed to shorten processing and transmission times.
- **Outputting**—Minolta has a wealth of innovative outputting and display technologies. In response to the growing sophistication and application of digital technologies, the Company has developed unique development systems to realize ever-higher image quality, including screen technology for accurately reproducting subtle transitions between tone gradations. Minolta's extremely rapid PLZT optical shutter arrays are making it possible to develop printers and other types of image outputting equipment with greater speed and image resolution. To increase the speed of its digital copiers and printers while maintaining excellent image quality, Minolta has developed a unique multibeam laser scanning optics system that uses a pair of polynomial surface mirrors to minimize wave-front aberration, which reduces the precision of the multiple laser beams' relative positioning and causes image guality to deteriorate. The Company has also developed epochal technologies related to chiral nematic liquid crystals, which have attracted considerable attention due to their potential as reusable media for replacing printed documents in many applications. Chiral nematic liquid crystals' superior viewability and low power consumption offer great advantages with regard to such applications as electronic bulletin boards.