

## ELP-3000

December 1994



Display method: RGB liquid crystal shutter projection system  
 LCD panel: 1.3-inch high-temperature polysilicon TFT  
 Resolution: 307,200 (VGA: 640 x 480) x 3, total resolution: 921,600  
 Light source: 150 W metal-halide lamp  
 Optical system: Dichroic mirror separation and prism combination  
 Screen size: 21 to 300 inches  
 Color reproduction: Full color (16.77 million colors)  
 Brightness: 500 lux, 250 lm at 40 inches  
 Dimensions: (W) 285 x (D) 413 x (H) 149 mm, including lens  
 Power consumption: 220 W  
 Weight: 7.7 kg

### Product Features

The high-performance ELP-3000 (EMP-3000 in Europe and Southeast Asia) multimedia liquid crystal projector represented a combination of Epson device superiority and space- and energy- saving technologies. This compact projector was the size of an A4 file, and weighed about 7.7 kg. But despite its small size and lightness, the ELP-3000 offered VGA resolution at three times the brightness of previous models, and represented a dramatic leap for the new data projector market.

Epson developed a new liquid crystal panel, a critical component that largely determines the quality of projected images, specifically for this projector. The panel was of a high-temperature polysilicon TFT design, measured 1.3 inches diagonally, and had 307,000 pixels. The panel boasted a high aperture ratio and could project bright, beautiful images even in an undarkened room. Also, with the optical technology accrued at Epson over long years, the product also succeeded in making efficient use of electrical power (a light source). Yet, even while using a lamp smaller and less power-hungry than other companies' projectors, the ELP-3000 trebled their brightness levels. The lamp's low power consumption also made it possible to suppress heat generation, so that the sound of the cooling fan could also be kept down.

As a data projector, the ELP-3000 was also very easy to use with a PC. The ELP-3000 did not require a converter or adapter to be plugged into a PC or video system; connection was performed simply, using a single cable. The projector was able to detect the computer type from among DOS/V, Macintosh, and NEC-98 systems. It was also capable of distinguishing among NTSC, PAL, and SECAM video signals.

### Background

Projector research and development began in the middle of the 1980s, with the application of high-image-quality, polysilicon TFT LCD panels used in pocket television sets. In 1989, the world's first LCD projector, the VPJ-700, was announced. Afterward, the company continued development of a video projector, but difficulties continued to emerge. Amid these circumstances, in 1992, Epson set its sights on developing a data projector with the goal of creating presentations using a PC. A cooperative system combining the resources of the company's finished products businesses and its liquid crystal display business succeeded in synthesizing liquid crystal displays and precision processing technology. The result of this was the emergence of the ELP-3000 in 1994.

### Impact

With its small size, light weight, and brightness three times as strong as the competition, the ELP-3000 amounted to a dramatic leap forward for the projector market. The development of the ELP-3000 won several prestigious Japanese awards including the Minister of International Trade and Industry Award, the top prize at the 1997 (10th) Chunichi Industrial Technological Prizes, as well as the National Commendation for Invention's Asahi Shimbun Invention Prize. The birth of the ELP-3000 opened the door not only to Epson's success in the projector business, but also in the high-temperature polysilicon TFT liquid crystal panels that constitute the heart of the projector. Both finished product and electronic device businesses created a synergy that supported each other, and drove Epson forward.