OBJECTIVE LENS, OPTICAL HEAD DEVICE AND OPTICAL DISC REPRODUCING APPARATUS

ABSTRACT

An objective lens having at least two regions of different numerical apertures is configured for focusing a light beam outgoing from a light source as light beams transmitted through the regions of the different numerical apertures on signal recording surfaces of at least two optical discs having light transmitting layers of different thicknesses. Since the objective lens is integrally formed by at least two lens portions, a light beam outgoing from a common light source is focused on signal recording surfaces of at least two optical discs having the light transmitting layers of different thicknesses. An optical head device employing the objective lens and an optical disc reproducing apparatus employing such optical head device are also disclosed.

The objective lens having at least two regions of different numerical apertures of the invention may be a glass lens or a plastic lens.

Figure 2