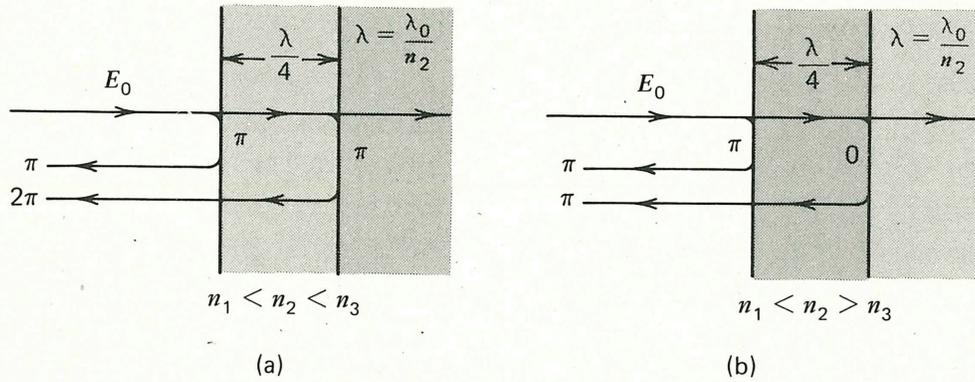
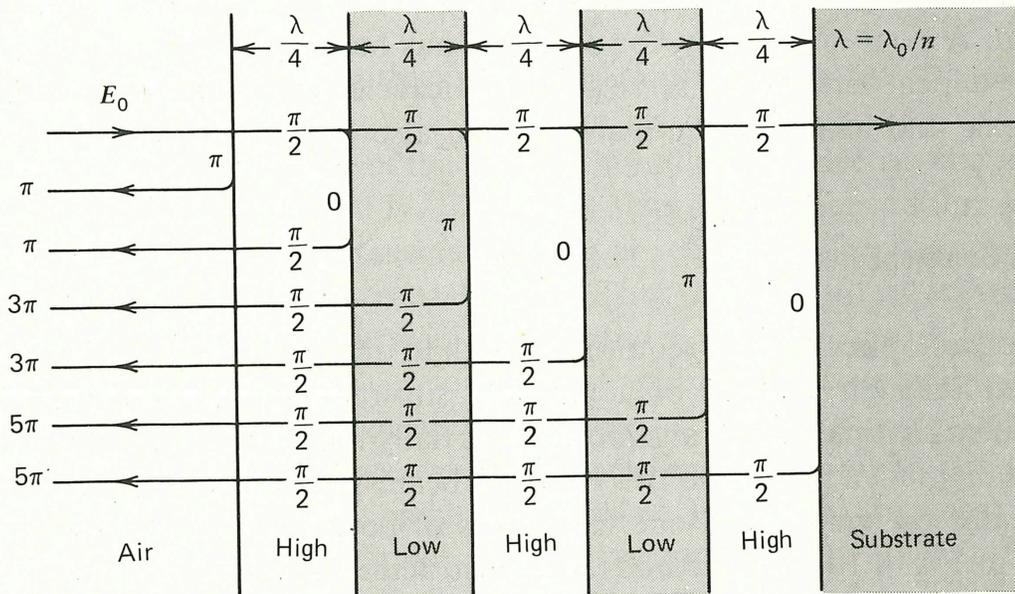


## Dielectric Coatings



**Figure 4.8.** Quarter-wave layer coatings. (a) An anti-reflection coating. The rays reflected from both interfaces are  $180^\circ$  ( $\pi$ ) out of phase with each other. (a) A reflection-enhancing coating. The rays reflected from both interfaces are in phase providing constructive interference for the reflecting rays.



**Figure 4.9.** A 5-layer reflector. Alternating layers of higher and lower refractive index materials provide multiple reflections all in phase. This produces constructive interference at the design wavelength and an efficient nonabsorbing reflector.