

OPTICAL TRANSMISSION/RECEPTION APPARATUS

ABSTRACT

An optical transmission/reception apparatus has a coupling portion to be coupled to an end of an optical fiber, through which optical transmitting and receiving signals are transmitted. The apparatus includes a prism for directing the optical transmitting signal to be incident on an end face of the optical fiber when the optical fiber is coupled to the coupling portion. The apparatus also includes a photodetector for receiving the optical receiving signal radiated from the end face of the optical fiber. The prism directs the optical transmitting signal to be incident on the optical fiber with a numerical aperture smaller than a numerical aperture for the optical receiving signal. The prism directs at least a portion of the wavefront of the optical transmitting signal to be coincident and overlapped with only a portion of the wavefront of the optical receiving signal. The apparatus preferably also includes a light source from which the optical transmission signal is incident at the prism. The prism is disposed relative to said photodetector such that the optical receiving signal passes through the prism to be received at the photodetector.

Fig. 3