

According to the present invention, a method for controlling a multistage N-by-N switching device is proposed. The switching device contains $N = 2^n$ input and $N = 2^n$ ($n = 1, 2, \dots$) output two-position integrated optoelectronic switches that form a pyramidal structure. The input and output switches are connected to each other by N^2 intermediate communication lines. The proposed method consists in providing optical signals with the same wavelength at each input of the switching device. The wavelengths of the input optical signals are cyclically repeated at every $M = 2^m$ ($m = 1, 2, \dots, n - 1$) inputs. The inputs and outputs of the switching device are connected by the input and output switches according to a specified program. The device provides for effective protection against interferences.