

ABSTRACT

On a transmitting side, a coder 101 distributes transmitting signals to a plurality of hierarchies in unit of cell and carries out coding such that an error detection can be performed for each hierarchy, and stores a result to a data buffer 102, thereafter a hierarchical modulator 103 hierarchically modulates the coded signals to have a different quality of each signal, and transmits a result of the hierarchical modulation. On a receiving side, a hierarchical demodulator 123 performs hierarchical demodulation, and picks up cells for each hierarchy, and error detectors 124 and 125 perform error detection for each hierarchy, and outputs a re-transmission request signal of cells in which an error has been detected. The transmitting side retransmits only cells in which the error has been detected. This makes it possible to adaptively control a data transmission rate in accordance with a network state automatically without passing rate selective information between the transmitting side and the receiving side, and to improve transmission efficiency of data.