

MOBILE COMMUNICATION SYSTEM, TRANSMITTING
DEVICE, RECEIVING DEVICE, AND METHOD

ABSTRACT

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A transmitting device for a mobile communication system employing a multicarrier scheme includes a mapping unit configured to map control information to subcarriers in a subframe; an inverse
10 Fourier transform unit configured to inverse-Fourier-transform a signal of the mapped control information; and a transmitting unit configured to wirelessly transmit a transmission signal including the inverse-Fourier-transformed signal to a receiving device. The
15 control information is mapped to control frequency bands that are discontinuous in the frequency domain and are provided across the subframe separately from frequency bands for a shared data channel. The mapping is performed such that the control information for the
20 receiving device mapped to one of the control frequency bands is transmitted at the same time as the control information or the shared data channel for the receiving device mapped to a different frequency band.