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(57) **ABSTRACT**

A multiplexing circuit, an interface circuit system, and a mobile terminal, to resolve a problem that a charging current significantly decreases when a headset is used during charging of the mobile terminal. In a multiplexing circuit, a first switch circuit transmits a right-channel audio signal on a right-channel transmission end to a first external transmission end; a second switch circuit transmits a left-channel audio signal on a left-channel transmission end to a second external transmission end; when a second on voltage is received, but a first on voltage is not received, an isolation circuit transmits the second on voltage to a third switch circuit; and when the first on voltage and the second on voltage are received, the isolation circuit pulls down the third switch circuit, and isolates a ground end from a second on voltage end.

