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(54) **CONTACTLESS POWER FEED APPARATUS  
AND POWER TRANSMISSION METHOD**

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(57)

**ABSTRACT**

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A power reception device 3 includes: an estimation circuit 28 estimating a load resistance of an entire contactless power feed apparatus 1; and a reception-side communicator 27 transmitting an estimated value of the load resistance of the entire contactless power feed apparatus 1 to a power transmission device 2. The power transmission device 2 has a power supply circuit 11 supplying AC power to a transmission coil 12 supplying power to the power reception device 3. The power transmission device 2 further includes a control circuit 18 decreasing an input/output gain of a transmission-side DC-DC converter 31 included in the power supply circuit 11 by a predetermined amount when the estimated value of the load resistance is less than a predetermined allowed lower limit, and maintaining or increasing the input/output gain when the estimated value of the load resistance is equal to or greater than the predetermined allowed lower limit.

