WHAT IS CLAIMED IS:

1. A digital chip-based digital driving method, for a piezoelectric ceramic transformer, comprising the steps:

acquiring an output voltage of the piezoelectric ceramic transformer after rectification via a high voltage sampling circuit;

sending the acquired output voltage signal to a single chip microprocessor DDS generator, comparing the acquired output voltage with a preset voltage by the single chip microprocessor DDS generator, and adjusting the frequency of the driving signal in a case where a difference between the acquired output voltage and the preset voltage exists;

adjusting a boost ratio of the piezoelectric ceramic transformer by the frequency of the driving signal, so as to output the preset voltage by the piezoelectric ceramic transformer;

in a case where there is a variation in temperature and/or humidity, acquiring an output voltage of the piezoelectric ceramic transformer after rectification via a high voltage sampling circuit;

sending the acquired output voltage signal to a single chip microprocessor DDS generator, comparing the acquired output voltage with a preset voltage by the single chip microprocessor DDS generator, and adjusting the frequency of the driving signal in a case where a difference between the acquired output voltage and the preset voltage exists; and

adjusting a boost ratio of the piezoelectric ceramic transformer by the frequency of the driving signal, so as to output the preset voltage by the piezoelectric ceramic transformer;

wherein a negative ion generating circuit of the digital chip-based digital driving method for a piezoelectric ceramic transformer comprises: a voltage doubling rectifier circuit as a diode voltage doubling rectifying portion, a high voltage sampling circuit as a dividing voltage sampling circuit, a negative ion releasing carbon brush for high voltage outputting and connecting the carbon brush to release negative ions, a feedback voltage signal amplifier circuit as a sampling voltage amplifying buffer circuit, a boost circuit as a driving circuit of the piezoelectric transformer, a piezoelectric ceramic boost circuit as a piezoelectric ceramic transformer boosting transducer module, a current sampling circuit as an overcurrent sampling circuit of the piezoelectric ceramic driving circuit, a single chip microcomputer DDS generator, a temperature-humidity acquiring module, a crystal clock source, a 5V stabilized voltage power supply, and a 12V power voltage input circuit;

wherein the single chip microcomputer DDS generator is electrically connected to the power

module comprising the 5V stabilized voltage power supply and the 12V power voltage input circuit, the crystal clock source, and the temperature-humidity acquiring module, the negative ion releasing carbon brush is electrically connected to the voltage doubling rectifier circuit, the voltage doubling rectifier circuit is electrically connected to the piezoelectric ceramic boost circuit, the piezoelectric ceramic boost circuit is electrically connected to the boost circuit, and the boost circuit is connected to the single chip microcomputer DDS generator.

2. The digital chip-based digital driving method, for the piezoelectric ceramic transformer, according to claim 1, further comprising:

acquiring a driving circuit current of the piezoelectric ceramic transformer by a current sampling circuit, and

turning off the driving circuit in a case where the driving circuit current exceeds a preset current.