

# Portable Low Output Impedance Ultrasound System for Therapeutics Uses & Drug Delivery

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## Technology description

The invention describes a portable and rechargeable high power ultrasound system with a very low output impedance amplifier circuit.

Current ultrasound driving systems are expensive, bulky, and have low energy transfer rates. The present invention relates to a portable, high-power ultrasound system that contains a low output impedance circuit that can transfer more than 95% of the energy it generates to the ultrasound device. Due to its high efficiency, the unit can be run by a rechargeable battery pack and is thus adaptable to a handheld unit with the potential to replace unwieldy and more expensive medical systems as well as RF amplifiers used in research.

## Application area

Therapeutic ultrasound may be adapted as a tool to relieve arthritis, enhance wound healing, and improve rehabilitation

Drug delivery uses

Gene transfer applications.

## Advantages

Portable ultrasound device suitable for ambulatory, military field use

Increased acoustical driving efficiency

Operating in the range from 1 to 10 MHz (relevant range for medical therapeutic ultrasound and HIFU systems).

## Institution

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