

Title (en)

DIGITAL WAVEFORM GENERATION FOR ELECTROSURGICAL GENERATORS

Title (de)

DIGITALE WELLENFORMERZEUGUNG FÜR ELEKTROCHIRGISCHE GENERATOREN

Title (fr)

GENERATION NUMERIQUE DE FORMES D'ONDES POUR GENERATEUR ELECTROCHIRURGICAL

Publication

**EP 0836433 A1 19980422 (EN)**

Application

**EP 96915135 A 19960603**

Priority

- IB 9600551 W 19960603
- US 47134495 A 19950606

Abstract (en)

[origin: WO9639088A1] An electrosurgical generator (10) has an improved design for generating output waveforms using a microprocessor (15). The waveforms are generated in the form of a serial digital output from the microprocessor (15). The serial digital output is transformed into an electrosurgical RF output in an amplifier stage. The improved design also includes a monitoring circuit to continuously monitor the serial digital output by time-averaging the output, and then comparing that value with a threshold. The electrosurgical generator (10) comprises a microprocessor (15), an algorithm in the microprocessor (15) capable of toggling an output port of the microprocessor (15), an output amplifier (16), an adjustable high voltage DC power supply (17), a patient circuit including an active electrode (12) and a return electrode (13). The electrosurgical generator (10) may further comprise a mode selector (20) for selecting one of a plurality of pulse patterns in the serial digital output, and a plurality of command sequences in the algorithm, where each command sequence is designed to produce one of the plurality of patterns. There may also be a tank damp circuit (22) for reducing the amplitude of voltage spikes in the electrosurgical output, and a pulse suppression circuit. The monitoring circuit comprises a low pass filter (19) and a comparator to verify operation of the waveform generator.

IPC 1-7

**A61B 17/39**

IPC 8 full level

**A61B 18/12** (2006.01)

CPC (source: EP)

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Citation (search report)

- [A] WO 9509577 A1 19950413 - VALLEYLAB INC [US]
- [A] US 5167658 A 19921201 - ENSSLIN FRIEDER H [US]
- See references of WO 9639088A1

Designated contracting state (EPC)

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