



ReBuilder[®] Technical Specifications

ReBuilder model 2407 (two channel) and ReBuilder model 300 (single channel)

Electrically isolated output. This is a safety feature so that if an accidental short occurs due to dropping etc. within the unit, it cannot reach the patient. The output from the device is isolated from both the circuit board and the battery. The design of the battery compartment restricts the user to only a 9 Volt battery.

Cross channel leakage is nil. The two output jacks operate on separate (but equivalent) driver circuits and individual transformers are used for each output. The timing circuit that sets the frequency and amplitude of the driver circuits is common to both driver circuits. This means each output is operating at the same frequency and amplitude while being driven by the separate electrical circuits. Both channels are running identical voltage profiles (i.e. there is no voltage difference from channel to channel that would promote cross channel leakage).

Pulse duration: 240 microseconds negative / 1.458 microseconds positive. this is continually adjusted to suit the feedback from the patient and can thus vary +/-15%.

Pulse shape: Asymmetrical, biphasic, with very short positive spike for nerve stimulation combines with a broad peak of longer duration for muscle stimulation. This is followed by a much longer negative curve. Because the area under the curves is equal, no residual charge remains in the nerve or muscle cell. This is a patent pending feature. This waveform exactly duplicates the waveform of a healthy nerve signal much the same as a pacemaker imitates a healthy cardiac signal. This waveform adjusts to the needs of the patient and changes 7.83 times per second.

Pulse repetition rate: Switch-selectable: 7.83 Hz ($\pm 10\%$), 100Hz The pulse rate changes during the treatment session based upon biofeedback from the patient. As the nerve fatigues, it takes longer for the nerve to repolarize to be ready for the next signal.

Peak charge per pulse: 4 microCoulombs (μC)

Pulse amplitude: 0 to 40 V continuously variable

Peak pulse current: 0 to 50 mA

Power source: 9 V alkaline battery (supplied)

Electrode/skin interface:



- Current density = 1.39 mA/sq.cm.
- Power density = .082 Watt/sq.cm.
- Max charge/pulse - 15 μ C
- These metrics will change based upon the way the impulses are delivered to the patient. for example, conductive garments, water bath, or other custom ways prescribed by the physician. Other devices cannot adapt, they deliver the same power density, assuming that conductive 2x2 inch electrodes are used.

Note: It is extremely dangerous to use a common TENS or EMS device to treat neuropathy as it can overload the nerves causing permanent damage because the patient cannot feel the TENS signal properly or safely. The ReBuilder is processor controlled and has real-time biofeedback functions built in that read the patient's electrical parameters and makes constant adjustments to match the patient's immediate nerve function.

Additional Settings: EMS and TENS (the same as the 7.83 impulses, but pulsed at a higher frequency, usually 90hz, depending on the needs of the patient.)

Weight: 10 oz. (with battery)

Dimensions: 3" x 1.5" x 6.5"

Made in the USA.



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