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MOVING REHABILITATION FORWARD™

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TENS/NMES WITH HAN WAVEFORM

Extensive range of programs – 8 TENS and 6 NMES Programs

The HAN TENS Waveform, further differentiates PRIMERA from the rest

The PRIMERA features a proven circuit with over 10 years of reliable performance

Complete package includes: PRIMERA Unit, Carrying Case, Battery, Leadwires, Dura-Stick Electrodes, Back Support Belt and User's Manual

Two-year Warranty

Technical Specifications

- Dual channel: individually isolated circuits
- Type: Constant Current
- Low Battery Indicator: If the battery goes below 6.9 volts +/- 0.2 Volts the battery symbol will flash on/off once every second
- Waveform: Asymmetrical, rectangular bi-phasic with zero DC current
- Open Electrode Detect: If an open circuit is detected at the output of channel A or B the output current will be reset at zero
- TENS and NMES Amplitude: 0 - 80 mA

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TENS/NMES WITH HAN WAVEFORM

The HAN Waveform *A Brief History of TENS*

- 1965 - Melzak and Wall "Gate Control Theory"
- 1970 - First High Frequency TENS devices marketed
- 1979 - Cheng and Pomeranz landmark study
- 1979 to 1991 - no significant findings addressing the basic techniques of low and high frequency in TENS
- 1991 - Dr. Ji Sheng Han at the Neuroscience Research Institute, Beijing Medical University in Beijing China
  - Extensive research into electro-acupuncture and the role of endogenous opioid peptides in pain control, found:
    - LOW frequency stimulation accelerates the release of two opitates in the brain to manage pain
    - Slightly HIGHER frequencies accelerate the release of a third opitate in the spinal cord, effectively reducing muscle spasm
- Dr. Han, found the best parameters for pain and spasm reduction is a precisely controlled sequence of:
  - Dense-and-Disperse (DD) modes of stimulation where 2 Hz is alternating with 15 or 70 Hz, each lasting for 3 seconds
- Under these Han parameters all three types of opioid peptides are released simultaneously

Han J.S., Terenius L. Neurochemical basis of acupuncture analgesia. Annu Rev Pharmacol Toxicol. 1982;22:193-2202.Han J.S. A mesolimbic neuronal loop of analgesia. *Advances in Pain Research and Therapy*. 1987; 10:219-243
Han J.S. The role of CCK in electroacupouncture analgesia and electroacupuncture tolerance. In: *Multiple CCK Receptors in CNS* (Dourish CT, et. al., Eds) Oxford, New York, 1992, pp 480-502
Han J.S. Acupuncture activates endogenous system of analgesia. *NIH Consensus Development Conference on Acupuncture*. November 3-5 ©1997 National Institute of Health, Bethesda, MD, pp 55-60

ORDERING INFORMATION

77615	PRIMERA™ TENS/NMES Complete Unit Contains: Manual, Lead wires (2), Garment Belt, Battery, and Electrodes in the Plastic Case
77616	PRIMERA™ Unit Sliding Back Cover
77617	User's Manual
77618	Plastic Carrying Case
77619	Leadwire Set - 2 each
77620	Electrode Positioner Belt for the Back
200001-001	Battery, Energizer 9-volt
42182	Dura-Stick+ 2" Round Reorder Electrodes (Includes 10 packs of 4 electrodes in each pack)

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