Sys∗Stim® 240 Specifications

General Specifications:

Input:	100-240VAC , 50/60 Hz
External Fuse:	1.0 A, 250 V, GDC/S506 5 X 20 mm, Time Delay 2 X T1.0, AL250V
ETL and C-ETL Listed:	Model ME 240 (9801427)
Classification:	Protective Class I Equipment and Internally Powered Equipment Type BF Equipment Enclosed equipment without protection against ingress of water. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with nitrogen oxide.
Certification	The Sys∗Stim 240 complies with the light-emitting and laser product performance standards set forth in the Code of Federal Regulations, Title 21 (Food and Drugs), Parts 1040.10 and 1040.11.
US Patent:	D593684
Weight:	4.5 pounds (5.5 pounds with battery)
Dimensions:	13" (L) x 8" (W) x 8" (H)
Temperature	
Operating:	50°F to 104°F
Nonoperating:	-40°F to 167°F
Humidity:	
Operating:	30% to 75% Relative Humidity at 104°F
Non-Operating:	5% to 95% Relative Humidity, non-condensing
Treatment Time:	1-60 minutes
Optional Battery:	Rechargeable Smart Lithium Ion Battery Pack rated at 10.8Vand 4.8Ah

Waveform Specifications:

Interferential (IFC, 4-Pole)

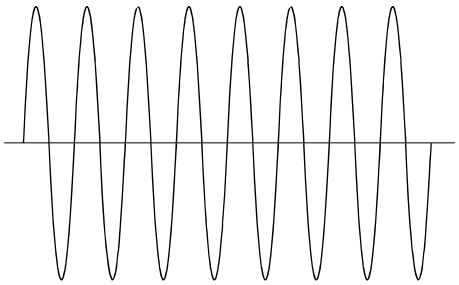

Figure 1—Interferential Waveform

Waveform Type:	Sinewave
Polarity:	None
Current:	0-100 mA peak, 500Ω load
Carrier frequency:	2500, 4000 or 5000 Hz
Interference frequency	0-250 Hz
Frequency Modulation:	Low set: 0-250 Hz High set: 0-250 Hz
Preset Frequency Sweeps:	1-15 Hz, 80-150 Hz, 1-150 Hz
Amplitude Modulation:	10%, 40% and 100%
Type:	CC or CV
Available Channels:	Channels 1 & 2

Premodulated (IFC, 2-Pole)

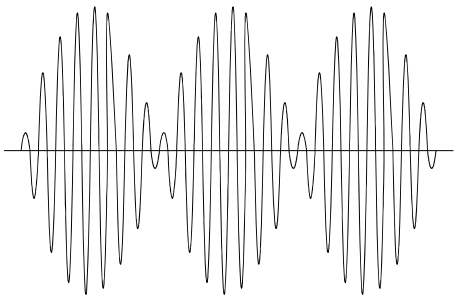

Figure 2—Premodulated Waveform

Waveform Type:	Amplitude modulated sine wave
Polarity:	None
Current:	0-100 mA peak, 500Ω load
Carrier frequency:	2500, 4000 or 5000 Hz
Interference frequency:	1-250 Hz
Frequency Modulation:	Low set: 1-250 Hz High set: 1-250 Hz
Preset Frequency Sweeps:	1-15 Hz, 80-150 Hz, 1-150 Hz
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CC or CV
Available Channels:	All

Medium Frequency (Russian)

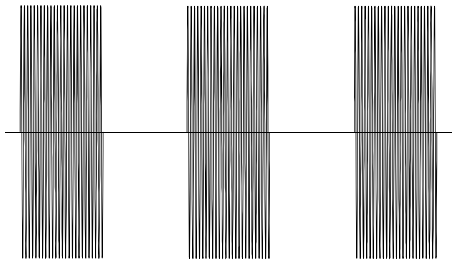

Figure 3—Med. Freq. Waveform

Waveform Type:	Burst modulated sine wave
Polarity:	None
Current:	0–100 mA peak, 500Ω load
Frequency:	2500 Hz
Duty Cycle (%):	10, 20, 30, 40 and 50
Burst Frequency:	20-100 bps
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CC or CV
Available Channels:	All

Biphasic

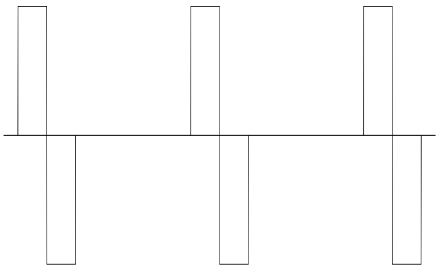

Figure 9.4—Biphasic Waveform

Waveform Type:	Amplitude modulated sine wave
Polarity:	None
Current:	0–100 mA peak, 500Ω load
Frequency:	1-200 pps
Phase Duration	20-400 µs
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CC or CV
Available Channels:	All

High Volt

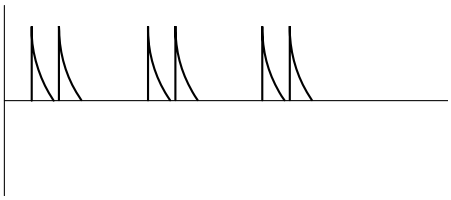

Figure 5— High Volt Waveform

Waveform Type:	Monophasic twin peak
Polarity:	Positive, negative or both
Voltage:	0 to 500 V peak, 500Ω load)
Phase Duration:	~15 µs
Frequency:	10-120 pps
Frequency Modulation:	1-10, 80-120, 1-120 pps
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Ramp:	0.5, 1, 2 or 5 seconds
Type:	CV
Available Channels:	All

Microcurrent

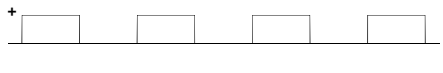

Figure 6—Microcurrent Waveform

Waveform Type:	Monophasic or Biphasic square
Polarity:	Positive, negative or both
Current:	0 –1,000 µA peak, 500Ω load
Phase Duration:	1-1,000 ms
Frequency:	0.5-500 pps
Type:	CC
Available Channels:	All

TENS, Symmetrical Biphasic

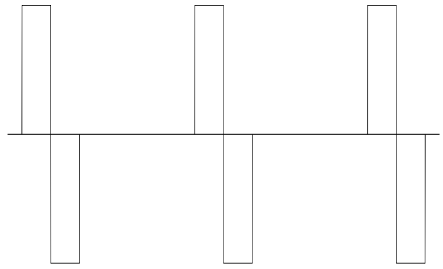

Figure 7—TENS Sym. Waveform

Waveform Type:	Biphasic square
Polarity:	None
Current:	0 –80 mA peak, 500Ω load
Phase Duration:	20-1,000 µs
Frequency:	1-250 pps
Frequency Modulation:	0-250 pps
Amplitude Modulation:	40, 60, 80, and 100%
Burst frequency:	0-30 bps
Type:	CC or CV
Available Channels:	All

TENS, Asymmetrical Biphasic

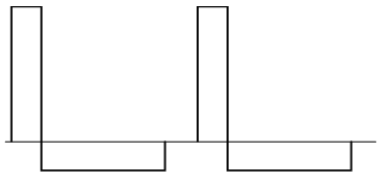

Figure 8—TENS Asym. Waveform

Waveform Type:	Asymmetrical biphasic
Polarity:	None
Current:	0 –110 mA peak, 500Ω load
Phase Duration:	20-1,000 µs
Frequency:	1-250 pps
Frequency Modulation:	0-250 pps
Amplitude Modulation:	40, 60, 80, and 100%
Burst frequency:	0-30 bps
Type:	CC or CV
Available Channels:	All

DC Low Amplitude

Waveform Type:	Continuous DC
Polarity:	Positive or Negative
Current:	0-4 mA DC, 500Ω load
Amplitude Modulation:	
Surge: On (s)/Off (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Recip: Ch1 (s)/Ch2 (s)	5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Manual: 1-240/1-240
Polarity Reversal:	If “On” then at 50% of the treatment time the polarity will reverse.
Type:	CC
Available Channels:	All

Optional Laser Performance:

Output power:	Dependent on Applicator *(automatically sensed)*
Laser diode applicator	80 mW at 785nm
Optional: cluster applicator	500 mW at 660/950nm
Delivered energy:	0.01 to 99.99 Joules
Operation modes:	Continuous and Pulsed
Pulse mode:	
Pulse width:	
Laser	100 µs nominal
Cluster	50% duty cycle
Pulse frequency:	
A)	Continuous
B)	10 Hz, 25 Hz, 50 Hz, 100 Hz, 250 Hz, 500 Hz, 1 kHz, 2.5 kHz, 5 kHz (Pulses per Second)
C)	Sweep from 10 to 5 kHz (inc continuous) in 10 seconds (1 second at each step)
Timer	0 to 99 minutes 59 seconds, 1 second increments (decrementing). Audible signal and output termination at time expiration

Optional Applicator Specifications:

Laser Applicator

Lasing device:	Sanyo Single AlGaAs Diode (Class 3B laser device)
Wavelength:	785 nm ± 10 nm
Power:	80 mW ± 10 mW
Treatment area illumination:	Three Blue LED's (470 nm, visible through eyewear protection that attenuates Infrared/Near Infrared)
Output activation:	Capacitance Switch on Laser Applicator handle
NOHD	Nominal Ocular Hazard Distance is less than 35 cm.
MPE (skin only)	~ 3.3 MPE, less than maximum allowable of 5 MPE
Beam spot	Elliptical beam spot 2.8 mm x 1.1 mm (elliptical beam area of = 9.2 mm^2) at the aperture.
Divergence	Elliptical Beam divergence 18 degrees and 7 degrees
Eye protection	Uvex glasses with a minimum of 80% attenuation in the wavelength range of 780 nm to 860 nm. The Uvex glasses supplied with the unit meet these requirements.

Cluster Applicator

SLD	Twelve 950 nm Super luminescent Diodes
LED	Seven 660 nm Light Emitting Diodes
Total Power	500 mW ± 50 mW
Treatment area illumination	The 660 nm LED's are visible and illuminate treatment area
Output activation	Capacitance Switch on Cluster Applicator handle
Eye protection	Uvex glasses with a minimum of 80% attenuation in the wavelength range of 780 nm to 1200 nm. The Uvex glasses supplied with the unit meet these requirements.

Mettler Electronics Corp.