

Simply Sleeping with Rhythmedics® Somnius™

User Guide for Somnius Ver. 3.1, including Flicker Fusion, Internal EMR Detector and AlphaWave DreamMachine

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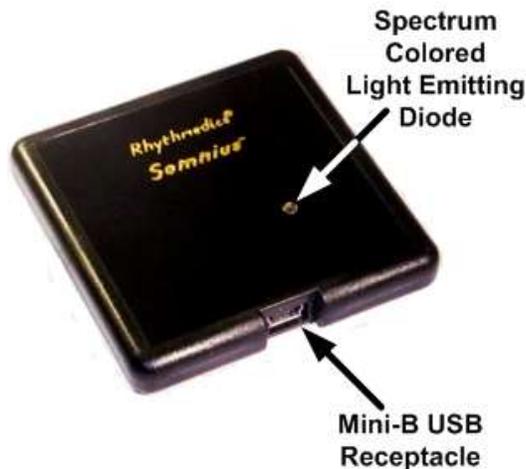
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1. Introduction

Using your Rhythmedics® Somnius™ is as simple as connecting it to its USB power adapter and sliding it under your pillow to start simply sleeping better. Your Somnius comes with a universal 5V USB power adapter, and a Type A USB to Mini-B cable for connecting to your computer for upgrades. Somnius with firmware versions 2.5 and later also include the ability to detect ElectroMagnetic Radiation, which is covered in a later section of this User Guide.



When power is first applied Somnius runs a series of internal tests, verifying the processor, its memory and the Bio-Pulse emitters are functioning properly. When all self-tests pass the Spectrum Light Emitting Diode (SLED) turns red then shifts to orange, yellow, green, turquoise, blue and finally white. This is followed by four colored flashes to indicate the instrument's serial number and two more colored flashes for the software version.

Figure 1 - Somnius Front

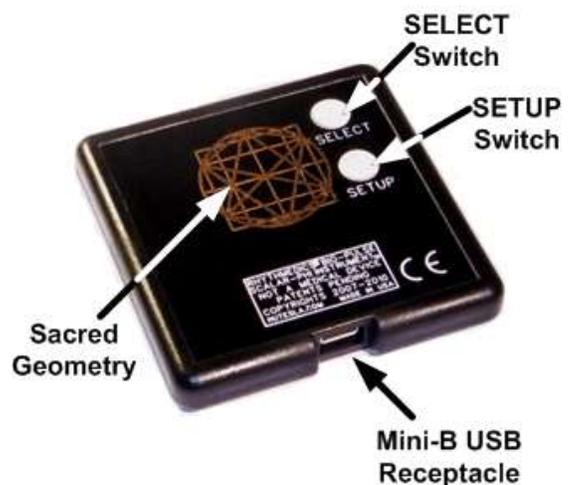
Somnius then loads the last sleep preset program that was run for a complete cycle and flashes the color indicator for that program as a color wave, going from dim to bright, then dimming until off. Somnius is shipped to begin with Preset #1, Deep Sleep, which is indicated as a red color wave when running.

Somnius can hold up to 8 different preset programs, each with its own unique color to help you identify which one is selected and running. The 8 available preset program colors are: 1-Red, 2-Amber, 3-Yellow, 4-Green, 5-Turquoise, 6-Blue, 7-Purple and 8-White. Somnius also includes the ability to measure, report and run you Personal Wellness Number which flashes Violet twice every ten seconds and is explained in a later section of this User Guide. Somnius will flash a color wave every 15 seconds to indicate which preset program is running. Some presets change the color while running to indicate the relative level of brainwave entrainment is being emitted and is explained in the section detailing each preset sleep program later in the document.

2. How to Change Preset Programs

There are two white dome switches on the bottom of Somnius. The upper one is labeled SELECT and the lower one is labeled SETUP. These can be seen in the figure below. Changing preset programs is done while Somnius is running by pressing and releasing the SELECT dome switch. This is best accomplished by holding Somnius in your left hand with your thumb on the front of Somnius to the left of the gold lettering which reads *Rhythmedics®* and your left forefinger on the back of Somnius. You should feel a slight bump which is the SELECT dome switch under your forefinger. While Somnius is powered on and being held between your thumb and forefinger as described, firmly squeeze Somnius between your thumb and forefinger until you feel a slight ‘give’ or ‘detent’ under your forefinger and then release the pressure. The SLED will flash an Amber color wave to indicate Somnius has changed to Preset #2. Somnius with firmware versions 2.7 and later support adding a 20 minute “prepare for sleep” program that starts with a higher frequency to more closely match brainwaves in individuals that find it difficult to fall asleep. When a preset is selected with the “prepare for sleep” feature active, the preset SLED will flash a double ‘heartbeat’ rather than the single wave to indicate it is active. This is explained more fully in section 4 [Choosing a Preset Program](#).

Figure 2 - Somnius Back



Squeezing Somnius between your thumb and forefinger again in the same position until you feel the ‘give’ in the SELECT dome switch and then releasing the pressure will select Preset #3 and the SLED will flash a Yellow color wave. Repeating this process will step through all the presets 1 to the last and then back to Red for Preset #1. Pressing and holding the SELECT dome switch for more than 4 seconds will start the internal EMR detector explained in a later section. If the EMR detector is accidentally started as indicated by the SLED flashing Blue four times, simply press and release the SELECT dome switch once more to revert to Somnius’ normal operating mode. To see a list of all installed preset programs on your Somnius, connect it to your computer using the included USB cable while pressing the SETUP dome switch until the SLED flashes Green on and off rapidly and opening the NUTESLA.HTM file on the

enumerated Rhythmedics flash-drive. This is explained in the section on *Updating your Rhythmedics Instrument*. Somnius will ‘remember’ the newly selected preset program only after it has run this preset for one full cycle, which takes from 90 to 110 minutes. After running the newly selected preset the next time you plug Somnius into its power adapter it will run that preset program after completing its start-up tests.

3. Preset Sleep Programs

The enhanced version of Somnius comes preconfigured with 8 Preset Programs. The included Sleep Presets are:

3.1. Deep Sleep

Deep Sleep is the factory default preset that starts when Somnius is used the first time. It is a 12 hour program with 8 sleep cycles using natural sleep brainwave frequencies. (Flashes a Red colored wave when selected and when running) Deep Sleep produces the most natural sleep using frequencies that follow classic sleep cycles. The first sleep cycle is 110 minutes in duration, to allow time to drift off to sleep when first retiring to bed. Then each successive sleep cycle during the night gets progressively shorter in duration emulating natural sleep and to assist in waking up after 7 ½ to 8 hours of sleep. This preset is best used if your bed time relatively consistent each night, otherwise you should unplug and restart Somnius at bedtime each night to ensure a consistent sleep routine.

3.2. Solfeggio Sleep

Solfeggio Sleep, a 12 hour program using the Solfeggio frequencies blended with brainwave sleep frequencies. (Flashes an Amber color wave when selected, and then changes colors and flash type to a two flashes every 15 seconds to indicate which sleep stages are being induced by the Bio-Pulses emitters. Purple and White indicate Dream sleep; Blue and Turquoise for Stage 1, lighter sleep; Green for Stage 2, light sleep; Yellow and Amber for Stage 3, deep sleep; and Red for Stage 4, deepest sleep). Like #1 Deep Sleep, Solfeggio Sleep also has a gradually shortening sleep cycle through the night, and it produces the Solfeggio scale of chakra frequencies during the night. The first sleep cycle begins with a grounding frequency and the second sleep cycle produces the Root Chakra frequency. The third sleep cycle produces the Sacral Chakra frequency, the fourth produces the Solar Plexus frequency and so on through the night. This

sleep program may also be used during daytime meditations to improve clarity and to clear the mind of unwanted thoughts. This sleep preset is especially useful for persons working through life's challenges during sleep periods, and may induce vivid or lucid dreams.

3.3. *Dream Sleep*

Dream Sleep, a 12 hour sleep program with higher brainwave frequencies to encourage lighter sleep during R.E.M. periods to help in remembering dreams. (Flashes a Yellow color wave when selected, and then changes colors and flash type to a two flashes every 15 seconds to indicate which sleep stages are being induced by the Bio-Pulses emitters. Purple and White indicate Dream sleep; Blue and Turquoise for Stage 1, lighter sleep; Green for Stage 2, light sleep; Yellow and Amber for Stage 3, deep sleep; and Red for Stage 4, deepest sleep). Dream Sleep was created for persons who report they never dream. We all dream, we just don't all remember the dreams. Dream Sleep is intended to help awaken you during the dream (Rapid Eye Movement R.E.M.) portion of sleep to facilitate remembering dreams. Like Solfeggio Sleep, this preset can induce vivid and lucid dreams.

3.4. *Deeper Sleep*

Deeper Sleep, a 12 hour program with even lower brainwave frequencies for the deepest sleep. (Flashes a Green color wave when selected, and then changes colors and flash type to a two flashes every 15 seconds to indicate which sleep stages are being induced by the Bio-Pulses emitters. Purple and White indicate Dream sleep; Blue and Turquoise for Stage 1, lighter sleep; Green for Stage 2, light sleep; Yellow and Amber for Stage 3, deep sleep; and Red for Stage 4, deepest sleep). Unlike the other presets, Deeper Sleep does not alter its sleep cycle length during the night and was created specifically for persons with insomnia as it produces the lowest sleep frequencies. This preset is recommended for individuals whose bedtime varies dramatically each night and for those that find it difficult to fall asleep or stay asleep.

3.5. *Energy Sleep*

Energy Sleep, a 12 hour repeating sleep program that flashes turquoise when selected and is designed for individuals who want to boost energy levels during sleep to awaken recharged in case of an emergency situation such as police and

fire fighters. This preset is also recommended for persons with ASD. This preset may interfere with normal sleep patterns and should not be used by those having difficulties sleeping.

3.6. *Deepest Sleep*

Deepest Sleep, a 12 hour repeating sleep program that flashes blue when selected and features the lowest possible brainwave entrainment frequencies for the deepest possible sleep. Each ultradian sleep cycle is 90 minutes in length and features frequencies below 6.8 Hz. This preset changes SLED colors after the first five minutes following the same color pattern as explained in the Deeper Sleep preset to assist in identifying what stage of sleep is being entrained.

3.7. *New Meditations*

New Meditations, a 90 minute repeating program with Solfeggio Chakra meditation that flashes purple when selected. It begins with grounding frequencies then moves you through the Chakras from Root to Crown and beyond to Expanded Awareness. It then brings you back through the Chakras from the Crown to Root and then re-grounds you. The SLED starts with Purple when selected and then switches to Red for the Root Chakra, then Amber for the Sacral, Yellow for Solar Plexus, Green for heart, Turquoise for Throat, Blue for Third Eye, Purple for Crown and White for Expanded Awareness.

3.8. *Memory Sleep*

Memory Sleep, a 12 hour repeating sleep program that flashes White when selected. This program is helpful in recalling memories and in supporting healthy psychotherapy work.

4. Choosing a Preset Program

Your Somnius comes preconfigured to start with Preset Sleep Program #1, Deep Sleep, the Red wave indication, and it is recommended all new users start with this sleep program. Somnius should be placed 12 to 18 inches from your head for the first few nights. Somnius sleep presets produce a repeating 12 hour sleep cycle, which runs continuously so you do not need to stop and start or restart Somnius each night, unless your bed time changes by more than +/- 45 minutes each night. Preset #4, Deeper Sleep, and #6, Deepest Sleep have fixed length sleep rhythms of 90 minutes each to induce the deepest sleep cycles. The remaining sleep entrainment preset programs produce gradually shortening sleep rhythms through the night to encourage natural waking after 7 to 8 hours of sleep.

Somnius with firmware version 2.7 and later support adding a 20 minute “prepare for sleep” program that starts with a higher frequency to more closely match brainwaves in individuals that find it difficult to fall asleep. When a preset is selected with the “prepare for sleep” feature active, the preset SLED will flash a double ‘heartbeat’ rather than the single wave to indicate it is active. Whenever this feature is active the preset length is modified slightly to allow repeating 12 hour sleep cycles so Somnius begins the selected preset and preparation program at the same time each night.

4.1. *Difficulty Falling Asleep and Taking Sleep Medications*

If you are having difficulty falling asleep and are currently taking sleep medications, continue taking your same dose. Do not reduce the dosage until sleeping better with Somnius and only with the prescribing physician’s approval. Sleeping medications may create a dependency and abruptly stopping is never recommended. Plug Somnius in when you are ready to retire for the evening and change from preset sleep program #1 Deep Sleep to Preset #4 Deeper Sleep, that starts with the Green wave and then changes colors while running to indicate what stage of sleep is being emitted. After Somnius has run the newly selected preset it will remember it and start on Green #4 each time it is powered on.

Slide Somnius under the fitted sheet under your pillow to help keep it in place during the night. The closer Somnius is to the back of your neck the more it will influence your sleep. If your bed time does not change more than 45 minutes either direction then you can leave Somnius running continuously.

With Somnius running Preset #4, Deeper Sleep, and your head resting on your pillow, flex and release each muscle group from your head to your feet to release unwanted tension that can distract from sleep. Keep all other electronics (cell phone, alarm clock, laptops, etc.) at least an arm's length away from your head.

If you continue to have difficulties falling asleep or experience waking during the night and have difficulty falling back asleep, here are some more suggestions to help identify why this may be occurring.

Preset #4, Deeper Sleep, changes the color of the SLED as the sleep cycle progresses through the night from a single Green wave when starting to two flashes every 15 seconds to indicate which sleep stages are being emitted.

4.2. *Awaken During the Night and Difficult to fall back to Sleep*

If you awaken during the night and cannot easily fall back to sleep, and you are using either preset #3 Deeper Sleep or preset #5 Deepest Sleep, look at the color being emitted by Somnius to indicate in what stage of sleep you were awakened. If Somnius is flashing White, Purple or Blue, it is likely you awoke during or just after a dream. It is normal to awaken briefly when dreaming as our brainwave activity occurring during dream R.E.M. (Rapid Eye Movement) portions of sleep is similar to waking states. If Somnius indicates you were in these dreaming stages of sleep when awakened, try to remember if you were dreaming and what it may have been about. Somnius will begin the next cycle of sleep within 10 to 15 minutes by emitting gradually lowering frequencies of Bio-Pulses to lead you back to sleep. You may want to keep a notepad and pen nearby to write down anything that occurred during the dream or that may be on your mind and interfering with being able to relax and fall back to sleep.

If Somnius is emitting Yellow, Amber or Red then you were awakened during the deeper stages of sleep and indicates you were awakened by something such as a loud noise, someone disturbing you, a pet jumping on the bed, or a biological imperative to empty your bladder. If the SLED is Yellow, Amber or Red, try to identify what might have awakened you.

If Somnius is flashing Turquoise or Green, or if the colors are widely different from night to night, then this may indicate an underlying health problem that may need to be addressed with your physician. Sometimes medications can interfere with your sleep and the warnings or side-effects should be checked to see if this is the

case. If this is so, often simply changing the time of day the medications are taken, with the prescribing physician's guidance, is all that is required to reduce the sleep interference. Never make changes to your medications and doses without consulting with the prescribing physician.

Restart Somnius just prior to retiring to bed to ensure its starting at the beginning of a sleep cycle when you go to sleep. You can use the Sleep Log at the end of this User Guide to track your sleep observations.

If Preset #4, Deep Sleep does not adequately address your sleep needs, or if you wake up after a few hours of sleep every night, change Somnius to Preset #6, Deepest Sleep, which begins with the Blue wave. This preset uses even lower frequencies to help attain brainwave entrainment in the deepest stages of sleep. You may find yourself a little groggy upon waking with Deeper or Deepest Sleep presets #4 and #6, so plan to get a full night of sleep.

5. Simply Sleeping with Somnius

With Somnius connected to its power adapter and the adapter plugged into an active wall power outlet, and the desired sleep program selected as explained in the previous sections, slide Somnius under your pillow with either side facing up.

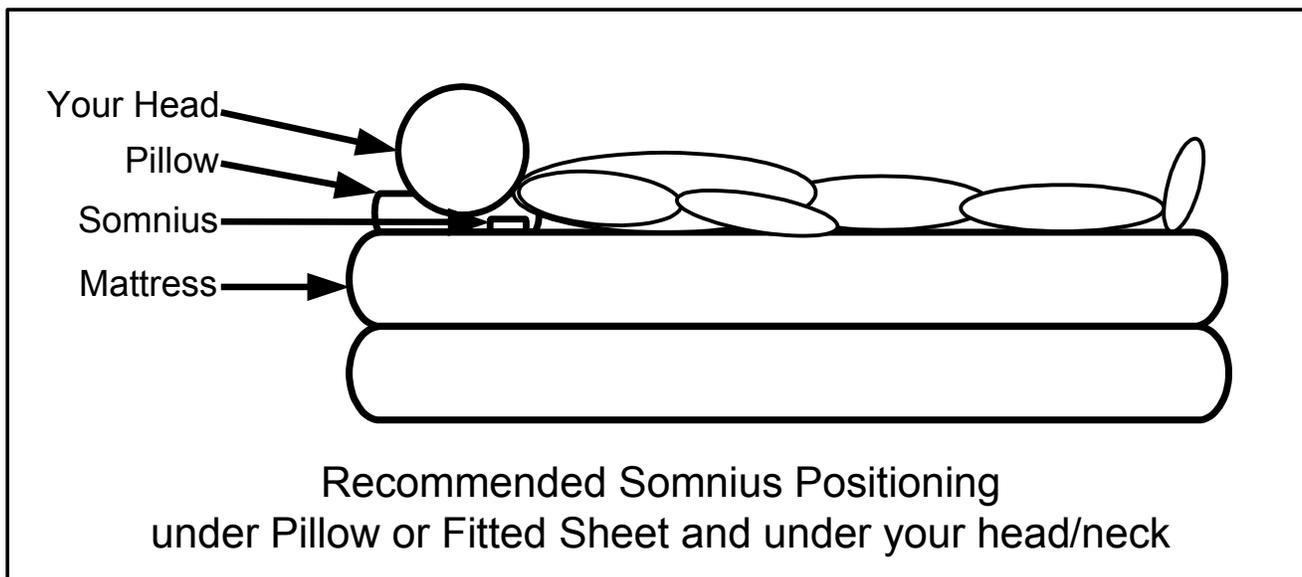


Figure 3 - Locating Somnius under Your Pillow

Alternatively, you can place Somnius on your nightstand or headboard, with the bottom side up to avoid the flashing SLED indicator from disturbing your sleep. Somnius produces a torus (donut) shaped field of healthy energies approximately 3 feet (1 meter) in diameter. Somnius can be used by one or two people. When used by two people it should be placed on top of the mattress (preferably under the fitted sheet) and centered between the pillows. To prevent Somnius from sliding off the mattress or out from under the pillow, it should be placed under the fitted bottom sheet or mattress pad to hold it in place. Once Somnius is turned on the first night at bed time it can be left on continuously. It is not necessary to unplug it in the morning. If your sleep time changes by more than plus or minus 45 minutes each night you should restart Somnius by unplugging the power adapter, waiting five seconds and reconnecting the power at your bedtime.

It is normal for Somnius to get warm when left running in a confined space. Somnius is still safe to use in this condition and does not present a hazard.

The last page of this User Guide contains a Sleep Log to facilitate you tracking your sleep changes with Somnius. It is highly recommended to use the Sleep Log for at least the first two weeks.

6. For Energy Sensitive Individuals

Individuals who are sensitive to subtle energies may ‘feel’ or ‘sense’ Somnius is near them when running. While Bio-Pulses are non-sensory and non-invasive, meaning you cannot feel, see or hear them directly, they do cause brainwave entrainment, much like watching a flickering flame can cause a trance-like state. The Fibonacci number quartz crystal at the heart of all Rhythmedics instruments ensures all the frequencies produced by Somnius are pure and healthy. If you do experience any sensations when Somnius is running it may indicate your body’s energies are out of alignment and it may take a few days for them to shift into harmony with the Fibonacci number based frequencies. If this is the case there are two methods to facilitate this shift. First, it is recommended to use Somnius during the day on Preset #7, New Meditations, near your work area. Because of Somnius’ unique method of blending frequencies to produce Bio-Pulses, it will not put energy sensitive individuals to sleep during the day if Somnius is located at least 18 inches away from you. Never use Somnius when driving or operating machinery. After using Somnius during the day, return it to your bedside and place it on your nightstand running Preset #4, Deeper Sleep face down, to prevent the flashing SLED from disturbing your sleep. Within a few days you will find your energies have shifted to be in alignment with the Fibonacci based Bio-Pulses and can use Somnius under your pillow without any sensations other than a great night of sleep.

The second method is explained in the next section, measuring and running your Personal Wellness Number. Running this program when going to sleep the first two or three nights of using Somnius will help to smoothly shift your body’s frequency into a healthier state.

7. Your Wellness Number (Flicker Fusion Frequency)

Your Rhythmedics Somnius includes the ability to measure and report your personal Wellness Number, also referred to as your Critical Flicker Fusion (CFF) number. It is recommended to read this section fully in advance of measuring your Wellness Number. After reading this section you can run the test multiple times to get familiar with the procedure.

Flicker Fusion is the rate at which a distinctly flashing on and off light appears to fuse into a constantly illuminated light. It was discovered in 1945 during testing of WWII pilots returning home after the war with Post Traumatic Stress Disorder that their recovery could be measured objectively by tracking their flicker fusion

frequency, which NuTesla calls the Wellness Number. The higher the numbers the further along the pilots were in their recovery. Your wellness number is a personal indicator of your overall wellness. Due to differences in the physiology of our eyes you cannot compare your wellness number to someone else's. This feature is intended to allow you to track your personal wellness level. The higher your wellness number, the higher your personal wellness level.

NuTesla discovered that in addition to being useful for tracking your personal wellness, your flicker fusion frequency can be used to assist in shifting your body's frequency to a healthier state by emitting your personal frequency. For this reason, after following the directions below to measure and report your Wellness Number, Somnius will then use your flicker fusion frequency to run a ten minute program during which time we recommend you place Somnius under your pillow, lie down and relax to your personal frequency.

Flicker Fusion occurs when our eyes see a rapidly flashing light increase in frequency (the number of times it turns on and off in one second) until the light appears to be steadily lit, and conversely when a rapidly flashing light which appears to be lit continuously decreases in frequency until we can perceive a change in the illumination. Research going back to the early 1900's has shown the higher a person's flicker fusion frequency is (the more times in one second that a rapidly flashing light crosses the threshold of appearing to be steadily lit to flickering) indicated better overall wellness and lower stress levels.

There are three phases of CFF mode. The first phase is measurement, where your CFF rate is measured using a Red flashing SLED and the dome switches are used to adjust the rate up and down. The second phase is reporting the measured CFF rate as your personal 3 digit wellness number (from 10.0 to 89.9). The third phase is generating your CFF rate through the Bio-Pulse emitters to strengthen your resistance to unwanted alpha brainwave interruptions.

To activate this feature press and hold the SETUP switch for 1 second and release it. If you press and hold SETUP for 5 seconds it will cause Somnius to switch-over to the flash-drive mode discussed in a later section. The Spectrum LED will flash Red 6 times to indicate your Wellness Number testing is beginning. After these 6 flashes the Red SLED will appear to be lit continuously when it is actually flashing very rapidly.

Hold Somnius between your thumb and forefinger close to your face with the SLED directly in front of your dominant eye and your forefinger finger on the SETUP switch to press it when you see a definite flickering of the SLED. As the program runs the on and off times are lengthened and the apparently constantly lit Red SLED appears to start flickering, which to some looks like water boiling when staring directly into the Red SLED. As the frequency continues to slow this boiling appearance begins to be more pronounced where there is still no time when the SLED appears to be off. As the frequency continues to slow this flickering becomes a distinct on and off flashing.

Pressing the lower SETUP dome switch will cause the flickering to decrease one step and stops the automatic slowing of the flicker rate for measuring. Pressing and holding the lower SETUP dome switch will decrease the flickering rate more quickly.

Pressing the upper SELECT dome switch will cause the flickering to increase one step and stops the automatic slowing of the flicker rate for measuring. Pressing and holding the upper SELECT dome switch will increase the flickering rate more quickly.

Once you press either the SETUP or SELECT dome switches two things occur. First, the automatic decreasing of the flickering rate is suspended (the SLED continues to flash at that rate) and secondly, a 5 second timer starts which ends the measuring if it times out. If either switch is pressed, the flickering rate is adjust up or down accordingly and the 5 second timer is restarted. It is recommended to take some time to press and release the two switches, separately, to adjust the flickering rate up and down until you are satisfied it is at the point of fusing to a constantly on light.

After releasing both switches the five second timer expires and the measuring phase ends. The Red SLED will turn off and Somnius will then report your two digit Wellness Number as two series of colored flashes. The first series of flashes uses the white SLED to count out the tens digit in multiples of ten (four white flashes is 40, 5 white flashes is 50), the second series of flashes uses the green SLED to count out the ones digit (6 green flashes is 6). Adding the two series of flashes together yields your personal Wellness Number (46 or 56 from the example above). The upper limit is 89. If the ones digit is a zero it will be reported by a single flash of the Blue SLED (the tens digit cannot be zero). If you counted 5 white flashes then saw a blue flash your Wellness Number would be 50.

After flashing your wellness number Somnius flashes the red SLED at your personal wellness frequency to indicate it is running a 20 minute therapy session using your personal Wellness Number. This red indication occurs continuously while your personal frequency is being emitted. Pressing either the SELECT or SETUP dome switch during this time will restart the measuring phase of your Personal Wellness Number to help in identifying changes to your brainwave activity during this exercise. After 20 minutes of not pressing either dome switch Somnius restarts the previously run sleep program. Record and compare your Wellness Number over time to assess your overall wellness. It is recommended to measure and record your personal Wellness Number on a regular basis to track your overall wellness, such as once a week. A higher number shows an improvement in wellness. If you do not press the SETUP switch the test will end and Somnius will start running the previous sleep program without reporting any Wellness Number. To exit the Wellness Number program during its twenty minute operation press and hold SELECT to increase the flicker fusion rate until the red SLED turns off and then release the dome switch.

8. AlphaWave DreamMachine

This mode of operation is based upon the DreamMachine designed and built by Bryon Gyson in the 1970s to generate alpha brainwave activity. Gyson's device used a bright flickering lamp to generate flashes of light of between 8 to 12 flashes per second. NuTesla's AlphaWave DreamMachine uses the Bio-Pulse emitter array to induce alpha brainwave entrainment and the Spectrum LED (SLED) changes colors and flashes at the same rate to indicate the alpha frequency being emitted. There are 6 unique and separate alpha brainwave emissions possible by NuTesla's DreamMachine. The highest frequency is 15 cycles per second or sometimes referred to as Hertz or Hz, and the SLED flashes white at this same rate. This is the initial high alpha frequency when the mode is started as explained below.

Because alpha frequencies can induce profound states of awareness and deep relaxation, it is intentionally a two-step process to enter this mode. The first step to entering AlphaWave DreamMachine mode is done by starting CFF mode by pressing and releasing the SETUP dome switch. The second step must be done before the SLED finishes flashing Red 6 times by pressing and holding the SELECT dome switch until the Red SLED stops flashing. When the SLED stops flashing Red release the SELECT dome switch and the SLED will begin flashing White on and off.

The beginning high alpha frequency is 15 Hz as indicated by the SLED flashing White. Pressing the lower SETUP dome switch will step to the next lower alpha frequency of 12 Hz as indicated by the SLED flashing Purple. Successive pressing of the SETUP dome switch will successively step to lower and lower alpha frequencies until the lowest frequency of 7.83 Hz (Schumann's Earth Resonance) is reached as indicated by the SLED flashing Amber and finally 6.8 Hz as indicated by Red flashing. Successive pressing of the SELECT dome switch will successively step to higher alpha frequencies until the highest frequency of 15 Hz is reached as indicated by the SLED flashing White. The table below indicates the 6 available alpha frequencies, their respective SLED color, and reported benefits and effects of each frequency from <http://ElectroHerbalism.com>.

Table 2 – AlphaWave DreamMachine Frequencies, Colors and Effects

- 15 Hz – White; Centering, expansion to higher states of awareness, used to stimulate mental clarity, Associated with Crown chakra.
- 12 Hz – Purple; Centering, doorway to all other frequencies, mental stability, transitional point, time seems faster, To stimulate mental clarity, Associated with Third-eye Chakra, Expression/self in society
- 10 Hz – Blue; enhanced release of serotonin & mood elevator, universally beneficial, safest frequency, especially for hangover & jet lag. dominant alpha frequency, clarity, normalcy, anti-convulsant, circadian rhythm re-sync, activate kidneys, raise body temp, more serotonin, Good when trying to correlate information by the subconscious, Learning a foreign language, Associated with Solar Plexus/Manipura chakra, Spiritual wisdom, self-healing, Increased alertness (caused by an increase in norepinephrine + serotonin & a decrease in melatonin), sense of well being & decreased pain (caused by increase in beta-endorphins), Adrenal Stimulant, Significant improvements in memory, reading & spelling are reported, Treatment for Attention Deficit Disorder/Hyperactivity

8 Hz – Green; The central Alpha wave frequency to open pathways to past life regression, reported to improve Lymphocytes, and DNA repair. Associated with Heart chakra, Physical energy, Love and personal expression.

7.83 Hz – Amber; Earth Resonance, grounding, "Schumann Resonance." anti-jetlag, anti-mind control, improved stress tolerance, pituitary stimulation to release growth hormone (helps develop muscle, recover from injuries, rejuvenation effects) reports of accelerated healing/enhanced learning – "the earth's natural brainwave" Associated with Sacral/Svadhithana chakra, Relationships/Sexuality.

6.8 Hz – Red; Deep relaxation and light sleep. Associated with Base/Muladhara chakra, Physical energy, will to live.

Somnius will continue to operate in this mode until the power is removed or you exit by pressing and holding both SELECT and SETUP dome switches at the same time until the SLED stops flashing and then release both dome switches. Somnius will then revert to its default Energy Sleep mode.

9. Internal ElectroMagnetic Radiation (EMR) Detector

Newer firmware versions (2.5 and later) include the ability to use the Bio-Pulse emitters as an EMR sensor with field strength indicated by both color and brightness of the SLED. To activate the internal EMR detector press and hold the SELECT dome switch as explained in the previous section, until the SLED flashes Blue four times. Release the SELECT dome switch when the Blue flashing begins. In safe EMR environments the SLED should now be illuminated in a continuous Blue color indicating only a slight amount of EMR is being detected. Off indicates no measurable EMR and Blue indicates less than 3 milliGauss (3 thousandths of a Gauss) of field strength. If any other color is seen then the immediate area has a greater level of EMR and the source should be identified and possibly eliminated.

EMR fields diminish rapidly as you move further away from its source and the internal EMR detector will usually need to be placed directly in contact with most EMR sources to indicate its presence. The strength of EMR is indicated by four different brightness levels within the 7 different colors with no illumination as zero field strength, Blue being the lowest safe level below 3 milliGauss and White indicating the highest level of more than 25 milliGauss. As you move the instrument next to an EMR source the brightness of the SLED will increase first and

then the color will change. The table below provides the relative field strength for each color for your reference.

Table 1 - EMR Detector Field Strength Colors

Color	Field Strength
Off	0 mGauss
Blue	1–3 mGauss
Turquoise	3–6 mGauss
Green	6–8 mGauss
Yellow	8–10 mGauss
Red	10–14 mGauss
Purple	14–25 mGauss
White	>25 mGauss

Some extremely strong EMR fields may cause the colors to wrap around and repeat, so if you see the colors changing indicating an increasing EMR field and then the SLED goes off, this is an indication that the field is stronger than the White level.

Our bodies can act like antennas and inductively pass EMR in our space to the sensor. Consequently, it is recommended to hold the instrument either by the outside edges near the bottom or by the USB Cable connected to the instrument to reduce interference from our body's field. The internal Bio-Pulse emitters that also act as the EMR sensors are in a matrix configuration centered around the sacred geometry plated on the back of the instrument. This sacred geometry area is the most sensitive to EMR fields and should be placed directly above and in contact with the suspected EMR emitter.

To verify the EMR detector is working, place it next to a know EMR emitter such as the video display of your computer or near a plug-in power supply. Place the EMR detector on top of any electronic or electrical devices or appliances in your work or living space to identify specific sources of potentially harmful EMR.

The EMR detector is not a calibrated measuring tool and should be used only as a visual reference to identify potentially harmful EMR sources. The EMR detector does not necessarily indicate the frequency of the EMR emissions and thus it will show EMR levels when placed on top of another active Rhythmedics instrument, even

though the Rhythmmedics instrument is producing healthy emissions. If you suspect you have a high level of EMR emissions in your living or work space please contact a specialist in this field to make accurate measurements and assess the potential safety or hazard of the source.

To increase the readability of the detector, press the SETUP dome switch one time to change the constant blue indication to off. In this mode any EMR levels should cause the detector to illuminate blue and then the other colors listed above depending upon the strength of the radiated signal. Repeatedly pressing and releasing the SETUP dome switch will cycle the detector through the range of colors. This is useful when an environment has a more EMR and you want to view only the changes above the initial level.

The EMR detector feature will stay active until you either press and release the SELECT dome switch or remove the power from the instrument.

10. Flash-Drive Mode and Updates

Your Rhythmmedics Somnius includes an integrated Flash-Drive used for updating and upgrading your Instrument, and for reviewing installed preset programs. This feature is only accessible when Somnius is connected to a computer via the included USB Mini-B to Type A cable. Connect Somnius to your computer and press and hold the SETUP switch until the Spectrum LED begins flashing green on and off or green and red. Do not connect through an external USB hub. The first time you connect Somnius to a new computer it will flash red and green while your computer automatically installs the standard device driver for the Rhythmmedics Flash-Drive. A pop-up window may appear prompting you to open the drive to view the files.



Figure 4 - Auto Play Pop-Up Window

There should only be one file on the Rhythmics Flash-Drive named NUTESLA.HTM.

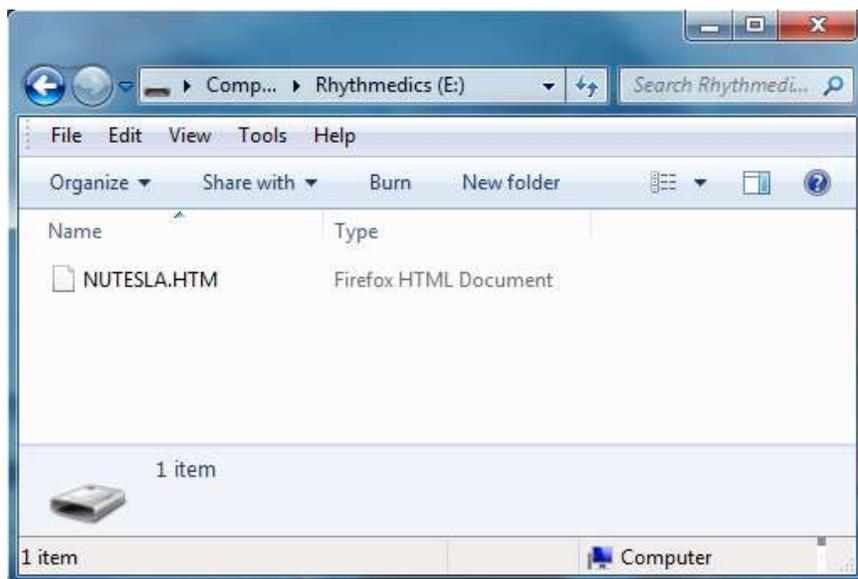


Figure 5 - Rhythmics Flash-Drive Contents

Opening this file will open your default web browser and display the currently installed preset programs. If you are connected to the Internet additional details about your instrument will be displayed. This includes your instrument's Serial Number and Firmware Version as seen in the figure on the next page. NuTesla instruments work best with Mozilla Firefox, Google Chrome and Safari web browsers. Security restrictions in Internet Explorer prevent the complete information from being properly displayed.

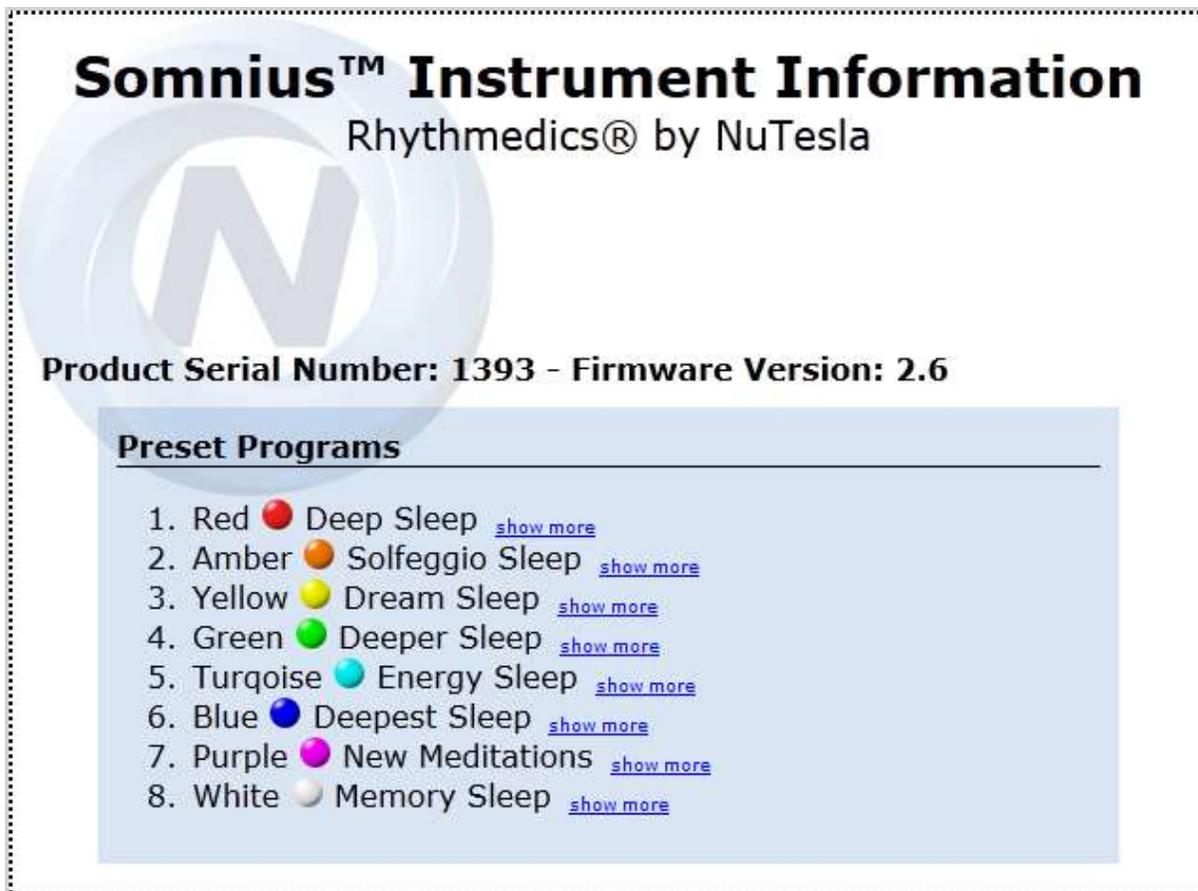


Figure 6 - Somnius Instrument Information

You can exit the flash-drive mode by unplugging Somnius and reconnecting it without pressing any switches or by simply pressing the SELECT switch once.

11. Updating your Rhythmedics Instrument

You must use a Windows or Linux based computer to do updates. If you only have access to a MacOS computer please contact NuTesla for assistance. **Rhythmedics files are not directly executable on your computer, they must be copied to the Rhythmedics flash-drive to work.** Rhythmedics files have an .RMx filename extension, where the 'x' may be any letter or number to identify the specific file type. Program and data updates have a .RMD filename extension and critical updates have a .RMC filename extension. Rhythmedics files are encrypted and may be keyed to only your instrument or may be generally applied. Updates can only be applied to the specific instrument type for which it was developed.

To enumerate the USB Flash-drive in your Somnius follow the steps below:

1. Insert the USB cable Mini-B connector into the Rhythmedics instrument to be updated before inserting the other end into your computer

2. Firmly press and hold the SETUP switch while inserting the larger flat USB A connector end of the USB cable into a spare USB port directly on your computer (Windows, Mac or Linux computer with USB Flash-drive support). **Do not connect through an external USB hub.**
3. When the Spectrum LED (SLED) on the instrument begins flashing Green on and off, release the SETUP switch
 - a. If the SLED does not turn on, ensure the USB cable is properly inserted into your computer and the USB port is enabled on your computer via your device or driver manager program
 - b. If the SLED flashes red and green this is an indication that your computer is installing the standard USB flash-drive driver, which is normal. Wait for the driver to be installed as indicated by the SLED changing to green only flashing on and off
 - c. If flash-drive is enumerated and the SLED flashes red or yellow on and off only then skip to step 9 to follow the directions to remove the previously failed update files
 - d. If the SLED flashes blue on and off remove the USB A connector from the computer and reinsert it while firmly pressing and holding only the SETUP switch
4. The instrument is now enumerated as a USB flash-drive named “Rhythmics” and you should have an option on the screen to open the drive folder to view its contents. If not, then follow your computer’s procedures to view the contents of a removable media device
5. Open the Rhythmics Flash-drive folder to view its contents. You should see only one file named “NUTESLA.HTM” This file lists all installed preset programs
6. If you received the update via an email message follow your email client’s procedures for saving an attachment, usually clicking on File, and Save Attachment. If downloading from the NuTesla website, then click on the download link and select the ‘SAVE’ option to save the file to your computer.
 - a. When prompted where to save the attachment (the update .RMD file) select a folder or the desktop on your computer. Do not save the file directly to the Rhythmics drive.
 - b. Open the folder containing the update file and copy and paste it to the Rhythmics Flash-drive, or ‘drag-and-drop’ it on the Rhythmics Flash-drive

7. The Rhythmics instrument will process the update file and restart, causing it to logically disconnect from your computer and then re-enumerate. During this process the SLED may briefly flash Red and Green, this is normal. The SLED will change to solid Green when done
8. Your NuTesla Rhythmics Instrument is now updated and ready to use once disconnected from the USB port. You can press the SELECT switch to reset your Instrument and restart it in its base mode.
9. If an error occurs during the update process the SLED will flash Red on and off and an ERROR.HTM file will be generated in the Rhythmics flash-drive folder
 - a. Your instrument will still operate normally if an error occurs, but will not be updated
 - b. Select all files on the Rhythmics flash-drive and delete them at the same time, then repeat steps 5 through 8 one more time.
 - c. If the second attempt fails notify NuTesla Support (support@nutesla.com) via email by copying the ERROR.HTM and the .RMD files from the flash-drive before deleting them again and attaching them to the email message

12. Spectrum LED Indications

In addition to indicating which preset program has been selected and running, the Spectrum Color LED (SLED) is also used to report internal errors. The following is a summary of SLED indicated errors and corrective steps:

- A dim constant red indicates a correctable flash memory error occurred, simply unplug the instrument and reconnect it to the power source with no switches pressed to allow it to self-correct
- Blue flashing on and off indicates an invalid boot attempt, to correct reconnect to your computer with no switches pressed
- Red flashing on and off indicates an invalid boot attempt, reconnect to computer while only pressing SETUP switch. This may also indicate that your computer is missing the standard flash-drive software driver. Rhythmics Flash-Drive mode works with all Windows (XP or later), Mac (OS 10 or later) and Linux/Unix/Ubuntu computers. If Red flashing occurs after attempting to process an update file then the update failed. Open the Rhythmics drive and open the ERROR.HTM file to identify the problem. Even if an update fails to process, your instrument will still

operate normally, simply delete all the files on the flash-drive and restart your instrument. Further details are in the previous update section.

- Red and Green alternating, USB drivers are being loaded by the host computer for the first time your instrument has been identified as a flash-drive; this should change to flashing green on and off when the drivers are successfully loaded
- Red and Blue alternating, invalid boot attempt, reconnect power and ensure no switches are pressed
- Green flashing on and off indicates Rhythmedics Flash-Drive active, no response required
- Green on solid indicates Rhythmedics Flash-Drive successfully processed the update file that was copied to it, press SELECT once to restart the Instrument
- Yellow Flashing indicates command processed, Open README.HTM file and follow instructions
- Green and Blue alternating indicates memory checksum error, restart and if it repeats contact NuTesla
- Yellow and Blue or Yellow and Red alternating indicates Bio-Pulse emitter error, restart and if it repeats contact NuTesla
- Solid White, indicates a flash memory update error, which is self-corrected by removing the USB cable and reinserting it without pressing any switches

13. How Do I Know Its Working?

You can hear Bio-Pulses by placing Somnius flat against the back of a headphone next to your ear. Somnius will not interfere with electronic devices or affect any magnetic media such as magnetic strips on cards or computer disk drives..

Using Somnius near a Negative Ion Generator

Negative Ion and Ozone generators are High Energy Emitting Devices and may produce large amounts of free electrons which could adversely affect Somnius if both are operated from the same power outlet. Always plug Somnius' power adapter into a separate power outlet from any High Energy Emitting Device.

US FCC Part 15 and EU Conformance

Somnius is a Class B Digital Device and complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. FCC ID YAL-585353

Somnius conforms to EU requirements for US defined Class B Digital Devices.

Medical Disclaimer

Somnius is not a medical device. It is not intended to diagnose, prevent, cure, treat or mitigate any illness. Never make any changes in your medications or medical treatment as a result of the use of Somnius without consulting with the prescribing professional. Never place Somnius directly over any electronic medical device, such as a cardiac pacer or insulin pump.

Somnius is a PicoTesla device and is not regulated by the US FDA. Somnius complies with all US FDA Good Manufacturing Practices and published guidelines for Medical Devices. Each Somnius is individually serialized as can be seen in the Flash-drive mode. If any adverse events are suspected with Somnius please discontinue using and contact NuTesla Support immediately (support@nutesla.com). These statements have not been evaluated by the US FDA.

Somnius is protected by US Patent 8,088,057 and other patents pending.

NuTesla.com

MySomnius.com

