

JETLOG®

empowering 24x7 readiness™

Reviewers Guide

The JETLOG 24x7 PowerNapping Module
for the Handspring™ Visor™ Handheld Computer Series



Visor Reviewer's Guide

Thank you for reviewing the pioneering JETLOG 24x7 PowerNapping Module for the Handspring Visor. This guide provides you with general information about Power Napping, module features, software, and pricing.

For detailed user guidance or emulator sessions, please download the Reference Guide and "Emulate24x7PowerNap_v5.prc" at www.jetlog24x7.com/downloads.html

For additional information, please visit www.jetlog24x7.com, www.jetlog.de, or contact:

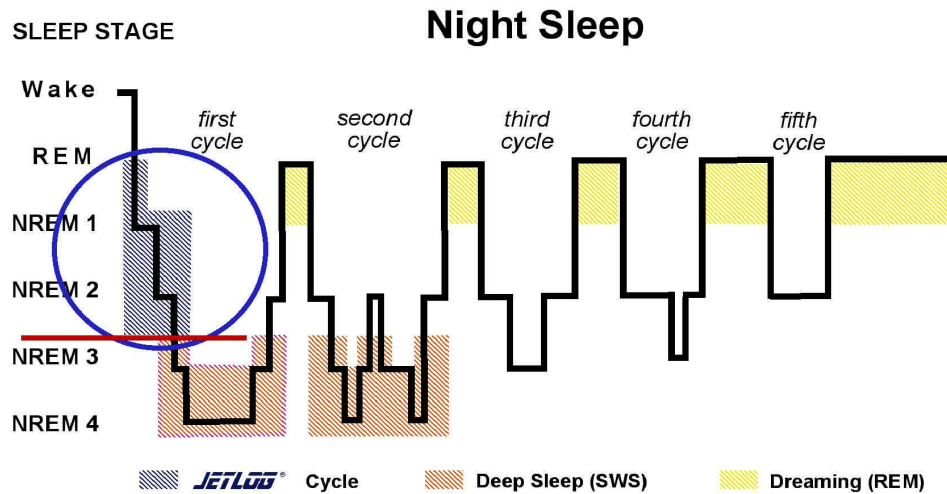
Main Phone Line at Switzer Communications (415) 945-7070 or
Karim Daghbouche at JETLOG Corporation +49-172-5436368

Summary

The JETLOG 24x7 PowerNapping Module unveils the world's first physiological wakeup for Strategic Napping.

The Springboard™ Module is a Power Napping Enabler suitable for anybody-anytime-everywhere providing *Maximum Fatigue Recovery in Minimum Time*™.

JETLOG®'s state-of-the-art sensor interface times PowerNaps according to the most beneficial sleep stages allowing rapid fatigue countermeasure deployments following proven and reliable napping strategies, which are recommended by NASA.



The key innovations and functions of the JETLOG 24x7 PowerNapping Module include:

- Maximum Fatigue Recovery in Minimum Time
- Patented touch-sensor for Deep Sleep prevention compliant with NASA Napping Policy
- Individual wakeup call recordings via Visor microphone
- Discrete wakeup calls with included headset
- Easy-to-use 24x7 PowerNap software – based on PalmGear's "all times - all categories" No. 1 freeware offering, BigClock 2.8 by Jens Rupp
- Cross-functional sensor, timer, alarm, and world time applications
- Free configuration of sound options and screen layouts

The JETLOG 24x7 PowerNapping Module has a suggested retail price of \$99.99.

Napping Policy Background

Fatigue

The term "fatigue" defines the decreased capability of doing physical or mental work, or the subjective state in which one can no longer perform a task effectively. If fatigue increases, performance becomes more variable and decisions less reliable:

- Reduced speed of physical reaction time and speed of thought processes
- Increased tendency to make mental errors and flawed judgments
- Increased false responding, or responding when a stimulus isn't present
- Increased memory errors and lapses
- Reduced vigilance and motivation

NASA Nap

These significant damaging effects of fatigue prompted the US Congress in 1980 to request NASA's Ames Research Center to study fatigue thus leading to the creation of "The NASA Ames Fatigue/Jet Lag Program". In 1991, the name of the program was changed to the "Fatigue Countermeasures Program" in order to provide a greater emphasis on the development and evaluation of fatigue in general.

As a result of NASA Ames' Fatigue Countermeasure Program, during which pilots were provided with a 40-min., preplanned, in-flight nap opportunity during cruise, the resting pilots maintained almost consistent performance night and day, at the end of flights, and after multiple flight legs.

In addition to minimize the potential negative effects of napping the limitation to 40-min. was designed for transparent implementation into operational environments.

Negative Effects of Naps

The most significant negative effect of napping is *Sleep Inertia*. In a generic sense, it includes the grogginess, disorientation, sleepiness, headaches, and bad mood that accompany awakening out of SWS (Slow Wave Sleep - deep sleep) as well as the sweating and visual hallucinations from awakening out of intense dreaming (REM - Rapid Eye Movement). *Sleep Inertia* is associated with an initial performance decrement immediately upon awakening out of SWS or REM.

The severity of these effects is mainly related to the duration of SWS, intensity of REM and circadian time (internal body clock) of the sleep.

The occurrence of SWS and REM is related to the circadian rhythm. Any circadian disruption, which is caused by e.g., multiple time-zone crossing or irregular duty hours, results in an uncertainty when SWS and REM will occur, and therefore increases the risk of experiencing *Sleep Inertia*.

Since the "NASA-nap" is only a timed nap, NASA's operational validations resulted in peaks of up to 22% of pilots experiencing SWS.

Another negative consequence of a Power Nap is the effect on subsequent sleep episodes: While a nap will improve waking alertness and performance, it might increase subsequent sleep loss by disrupting later sleep periods if it is not properly timed to exclude SWS.

JETLOG Sequence

Deploying JETLOG's award-winning sensor technology prevents all negative effects of napping to occur by timing Power Naps around deep sleep and dreaming.

JETLOG 24x7 PowerNapping Module Hardware

The PowerNapping Module consists of the following hardware components:

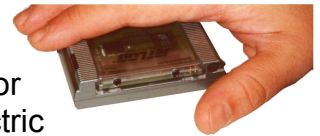
- Flash Memory and PIC Microchip
- Onboard Touch-Sensor
- Headset Jack
- External Sensor Jack

Flash-Memory and PIC Microchip

A dedicated PIC Microchip handles JETLOG's sensor functionality and sound recording/replay. Built-in Flash Memory stores the module's application software, various ring tones, and sound files. User preferences (accessed by JETLOG software) and custom ring tones/recorded sound files are stored in the Visor RAM.

Onboard Touch-Sensor

The JETLOG 24x7 PowerNapping Module comes with an onboard touch-sensor designed to be touched with the right thumb while the respective hand reposes on the screen-down Visor. The sensor measures electric resistance. Our skin provides appropriate electric resistance to determine whether a skin contact with the sensor is established or not. As deep sleep and dreaming go along with a significant drop in our body's muscle tension, the sensor is able to prevent these events with the following setting:



- a body's extremity touches the sensor
- the extremity is in a position to slide off once muscle tension drops



Headset Jack

The use of a headset enables discrete use of the PowerNapping Module. It also provides more reliability to wake up and allows selection of melodic sound files or individually recorded wakeup messages. A headset is included in the package.

External Sensor Jack

The External Sensor Jack is designed to provide a follow-up sensor option. It will enable Springboard independent sensor functionality, hence, more flexibility for the user. An external sensor is not included in the package. Its release will be announced separately.

Product Specifications

Weight:	20g	(0.7 oz w/ headset)
Size:	55 x 57 x 10 mm	(2.165" x 2.244" x 0.393")
Power consumption:	standby:	0.03 mA
	operating:	20 mA

Module Includes:

Onboard Touch-Sensor
Deep Sleep Prevention Compliant with NASA Napping Policy
Built in 24x7 PowerNap Software based on BigClock 2.8 with Intuitive User Interaction
Cross-Functional Sensor, Alarm, Timer, and World Time Applications
Enhanced Wakeup Security via Headset and Extra Loud Speaker Tones
System Feedback via Acoustic Acknowledgment of Nap Sequence Initiation
Discrete Wakeup Calls via Headset
Ready for Individual Wakeup Call Recordings via Visor Microphone
External Sensor Option with already Onboard Jack

Package Contents:

JETLOG 24x7 PowerNapping Module
Headset (2.5mm Connector)
Reference Guide

Requirements:

Springboard compatible handhelds such as the Handspring Visor products.

Product Compatibility:

- Visor
- Visor Deluxe
- Visor Neo
- Visor Platinum
- Visor Pro
- Visor Edge

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