History of release of new versions of software
(updates of "firmware" of the microcontroller)
for the device of lucid dreaming «DreamStalker Expert»

Version 020.

1. Added the ability to update the Wi-Fi module software;

2. The problem with downloading files via the Web interface, which sometimes occurred after visiting the device statistics page, has been fixed.

The Wi-Fi module program is updated to version V2.4.0.0 via the Internet. The file of the new "firmware" of the Wi-Fi module is downloaded directly from the manufacturer's website. Of course, for this method of updating, you need to connect to a Wi-Fi network. Use your Wi-Fi router, which "distributes" the Internet in your living room, or turn on the router mode (modem mode) on your smartphone. The Wi-Fi network name and password for connecting to the Wi-Fi network must contain only Latin letters and numbers. If, for example, the password or network name contains special characters "%?&$#", etc., then to perform the update, the current password must be changed to a new password that will meet the specified requirements.

The installation procedure is as follows. First, as usual, the software update of the "DreamStalker Expert" device is installed to version V020 (keep in mind that you cannot install the V020 version update on the device if for some reason you do not want to update the built-in software of the Wi-Fi module). Now update the "firmware" of the Wi-Fi module. For this purpose, a file must be created in the root directory of the memory card router.txt containing only two lines with the following information:

Name: NNNNNNNNNN
Pass: PPPPPPPPPP

NNNNNNNNNN is the name of the Wi–Fi network, PPPPPPPPP is the password to connect to this Wi-Fi network. The maximum length for the network name and password is 25 characters.

Such a file on a memory card can be created using the USB disk function of the device (please do not forget about safely disconnecting from the computer) or using a card reader that supports microSDHC cards.

To start updating the "firmware" of the Wi-Fi module, simultaneously press and hold the middle [CHECK] and right [WI-FI] buttons of the "DreamStalker Expert" device for 3 seconds. The launch of the Wi-Fi module update mode will be displayed on the display. The process of downloading and installing a new version of the "firmware" can take up to 5 minutes (the usual update time is 1.5 minutes). The actions of the device are displayed on the display. Do not turn off the device and interrupt the update by any other means until it is completed independently. It is recommended to connect the device to the charger during the update. If the battery level is low, the device will not allow you to start the process of updating the Wi-Fi module.

Version 019.

1. Added protection against static discharges, eliminating false button triggers when the device rubs against an object that creates a static charge. For example, some brushes that can be used to clean suede easily create static charges.

2. Change the buttons for uploading a file in the Web interface. Now the file selection button will be displayed the same way exactly in the design that is adopted for displaying all buttons in the device, regardless of different browsers and operating systems.

3. The problem with downloading files via the Web interface in the Mozilla Firefox browser has been fixed.

This version of the "firmware" of the device (V019) requires mandatory updating of the Wi-Fi module firmware to version V2.2.0.0 or higher, and therefore can only be installed on the device in which the Wi-Fi module with the updated "firmware" is installed.

Version 018.

An issue has been fixed that occurred on individual devices when exiting the battery saving mode by pressing one of the buttons.

Version 017.

Optimized power consumption of the device in the battery energy saving mode.

Version 016.

1. Made adjustments to the function of the USB-drive driver;
2. Fixed line numbering in statistics files;
3. Fixed date and time of creation of statistics files.

Version 015.

1. The USB-drive function has been transferred to the display menu. Now you can connect the device to the USB-port of the computer just for charging, and the USB-drive is turned on through the menu when you need it; To turn off the USB-drive, use the safe shutdown function on the computer.
2. Changes to the Web-interface function.

Version 014.

Technical update that optimizes I2S-bus settings (audio data reception and transmission). Adjusted DMA (Direct Memory Access) controller settings to service the I2S-bus. Important changes have been made to the Wi-Fi communication function.

Version 013.

A technical update that resolves software incompatibility of components. Added automatic detection and support for the modified file download format to use the latest "firmware" of the Wi-Fi module microcontroller (version 2.2.0.0).

Version 012.

Added special settings that allow you to flexibly change almost all possible parameters of the algorithm for detecting eye movements. Also, the device "DreamStalker Expert", in addition to the "standard" and "customizable" algorithms, receives a new "adaptive" algorithm for detecting eye movements, which works using new settings that allow you to modify the parameters of eye movement detection directly during the analysis, adjusting the algorithm to best determine the REM phase (REM phase) in complex cases. At the same time, the "adaptive" algorithm does not require complex and numerous settings. Unlike the "customizable" algorithm, the new "adaptive" algorithm is configured only by the threshold of sensitivity of eye movement sensors, as a "standard" algorithm. It should be noted that the "adaptive" algorithm itself changes the established sensitivity and returns to it back when necessary. Similarly, there is a restructuring of other parameters during the operation of this algorithm. This allows users not to

puzzle over different, difficult to understand and numerous settings, but easily and simply get a quality result if suddenly the "standard" algorithm does not always respond to the dream that has begun.

When the eye movement monitoring mode is enabled, a line with information will now be displayed on the display: 1P-Q03/S12-10s-002m. Where 1P is the number of the analysis period (can be the 1st or 2nd), Q03 is the current quantitative sensitivity parameter, S12 is the current parameter of the sensitivity threshold of the eye movement sensor, 10s is the remaining duration of the analysis period (every second decreases), 002m is the number of detected eye movements during the analysis period (if the analysis period is extended, this value can not only increase, but also decrease, since in this case the analysis period shifts in time, discarding the old data values). In the monitoring pauses, the display will show a countdown of the remaining pause time in seconds.

Version 011. A technical update that improves stability. It is recommended to install.

1. Correction of the settings of the software driver connecting the CPU and the Wi-Fi module in order to eliminate possible instability of the Web-interface when using Wi-Fi modules from different manufacturers;
2. On the Web-page of the device settings added output of information about the installed software of the Wi-Fi module. Information is always displayed in a minimized form at the very end of the page in the software update section;
3. Transcranial stimulation testing mode added to production test;
4. Changed settings of the software driver of the I2Cbuses used to control the display, audio processor, accelerometer, as well as for the possible connection of external sensors.

Version 010.

1. Increased to 40 maximum sensitivity threshold settings of the eye movement sensor;
2. Minor fixes to the descriptions of the Web-preferences page.

Version 009. The function of automatic calibration of battery charge measurement has been adjusted. On individual devices, after turning off (by the ON/OFF switch) and then turning on the power, a slightly reduced battery charge could be shown. Now the calibration value is remembered in non-volatile memory. After turning off and on the device, the exact battery charge will always be shown.

Version 008.

1. The customizable algorithm of eye movements added the setting "EMS - Auto-prolongation of analysis periods", which includes the extension of the monitoring period when eye movements are detected. When eye movements are detected (exceeding the threshold value set in the sensitivity setting of the Sensor Sensitivity sensor), the monitoring of eye movements is extended for the full duration of the established analysis period (set in the "EMS - Duration of the analysis period" setting). Thus, if during the set time of the analysis period at least one eye movement with an amplitude above the established threshold of sensitivity of the sensor is extended, then the monitoring of eye movements becomes constant and is not interrupted by pauses between analysis periods ("EMS - Pause between analysis periods"). It should be noted that the resulting elongated or permanent monitoring does not lead to an actual increase in the time of the analysis period, the analysis period simply becomes "sliding" in time, and the calculation of eye movements still occurs only within the duration of the established analysis period. The trigger occurs when received in one or two analysis periods (setting "EMS - The number of periods of analysis") the desired number of eye movements (setting "EMS - Quantitative Sensitivity"). The introduction of the setting "EMS - Auto-prolongation of analysis periods" allows you to make the most informative monitoring of eye movements at the most important moments of time, saving battery energy during periods of absence of dreams;

2. Added a function that performs a smooth increase in the brightness of light hints. Enabled by setting "Smooth increase of the Light Hints" (can take only two values: 0 - off, 1 - on). If the setting is enabled, the first light flash of hints will always be displayed at the level of 10% of the set brightness of the "Light Hints Brightness (LHB)" prompts. Then, with each flash, the brightness will automatically increase and grow to 100% for the last flash. Smoothness depends on the number of flashes. The more flashes, the more smoothly the brightness increases. For example: the frequency of hints is 2Hz, the duration is 5 seconds. This means that there will be 10 flashes in a series of hints in 10% increments. Thus, the 1st flash will have 10% brightness, the second - 20% ... 10th flash - 100%. A special case when there is only one flash in the series. For example: hint frequency 1Hz, duration 1sec. This means that there will be 1 flash in the series. In this case, the brightness of the flash will be immediately 100% regardless of the inclusion of the "Smooth increase of the Light Hints" setting, since this flash is the first and last, and the last flash should always have 100% brightness.

Version 007.

1. With transcranial stimulation enabled, the corresponding information messages are now added to the statistics file at the moments when this function starts and ends its work;
2. In the Web-settings of the device added additional configuration for the initial activation of the transcranial stimulation function with a user agreement;
3. Added special. Quick language switching function for pre-sale provisioning.

Version 006.

1. Increased to 30 maximum possible value of quantitative sensitivity of the eye movement sensor (can be used only in the configurable algorithm when setting the longest possible periods of analysis of eye movements);
2. Changed SDIO driver settings (SD-card interface).

Version 005. Fixed bug and added descriptions of functions in the Web-interface.

Version 004. Added selection of the algorithm of the eye movement sensor. A standard algorithm is preserved, which requires the detection of 3 eye movements (setting the quantitative sensitivity of the sensor) in each of the two analysis periods (lasting 10 seconds. with a pause of 10 seconds) to trigger the device and issue hints. Added a new customizable algorithm that allows you to change the duration of the analysis periods, the duration of the pause between the analysis periods, the number of periods of analysis of eye movements and the quantitative sensitivity of the sensor to trigger the device and issue hints.

Version 003. Changes in the production test in terms of checking RGBLEDs. It is allowed to turn on the Wi-Fi interface when the battery is low if a charger is connected to the device.

Version 002. Changed the generation of the serial number of the device. When upgrading from version V001, if you have a variant of the device "Expert ST", "Expert SM" or "Expert SMT", you must inform thee-mail address info@claps.me serial number and device option for obtaining a new license activation code. The license code should then be activated in the display menu. The serial number of the device is available for viewing in the display menu.

Version 001. Initial version of the program.

Different versions of modern devices for lucid dreaming can be bought in the online stores:

- https://claps.me/catalog/pribory-dlya-osoznannykh-snov/

- https://www.etsy.com/shop/DreamStalkerShop

Page of the device «DreamStalker Expert» in the online store «CLAPS»: https://claps.me/ds-expert.

Official site of the device «DreamStalker Expert»: https://www.dreamstalker.info/.

DreamStalker Expert Technical Support Group: https://vk.com/dreamstalker.expert.

Official site of the developer of the device «DreamStalker Expert»: https://www.razrabotka.pro/.