



# LASER TAG CONFIGURATOR PC SOFTWARE

Play in reality

## SOFTWARE MANUAL

How to create characters, presets, change game settings, write them to laser tag devices, and test saved parameters. How to create statistics data, printout, and publishing in a social network

**LASERWAR USA**

<http://www.laserwar.us>

## ANNOTATION

This Manual is intended to be a self-studying guide of «LASERTAG CONFIGURATOR» configuration software for laser tag devices setting. The guide describes how to create characters, presets, changing game settings, write them to laser tag devices, and test saved parameters. The guide also describes how to create statistics data, their saving, printout, and publishing in a social network.

Numerous pictures make the guide available not only to professionals but also to inexperienced users.

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# 1 Introduction

This guide is intended for users who are responsible for creating characters and presets, changing game settings, writing them to laser tag devices, testing saved parameters, and creating statistics data.

The nature of this guide expects that the User is basically familiar with WINDOWS Vista/7/8 (8.1)/10 and has the basic skills to work with it. To speed up the process of getting acquainted with the work of «LASERTAG CONFIGURATOR» (hereinafter - the program) you are recommended to study this guide directly on the running system.

The content of the drawings, examples, etc., provided in the guide, is conditional, unless others are mentioned, and serve only to illustrate the relevant actions of the User.

## 2 Program Objectives

The program is designed to configure the game settings for laser tag devices. Now the game managers can create characters and presets, share them, and players can download them to their game kits.

The program includes the following groups of functions:

- Creation and editing of game characters;
- Editing of presets and creation of your own.
- Writing the specified parameters to laser tag devices;
- Testing saved game settings immediately after configuration.
- Creating game parameters for [extra devices](#) and writing them to laser tag devices;
- Creating, saving and publishing game statistics in a social network.

## 3 Operation conditions and the program structure

### 3.1 Technical and software requirements

- OS Windows Vista, Windows 7 (x 86, x 64), Windows 8 (8.1), Windows 10.
- Intel Pentium III 866 MHz processor and above.
- RAM 512 MB or more.
- Hard disk (the installed program is about 39 MB).
- Screen resolution-at least 1024x768 pixels.
- NET Framework 4.5.
- PDF viewer.

### 3.2 Software installation

LASER TAG CONFIGURATOR is easy to install. Everything needed is in a single file-installer. You can download the Setup file in "Laser tag configurator" section

<http://lasertagoutdoor.com/download/LASERTAGSetup.exe>

of our site. Next, run the installation file LASERTAGSetup.exe, and follow the instructions in the Installation Wizard (Pictures 1-4).

IMPORTANT! If NET.Framework 4.5 is not installed on your computer, then while the Internet connection must be active you installing the program. In this case NET.Framework 4.5 will be downloaded and installed automatically. If you are not connected to the Internet, the program will not be installed.

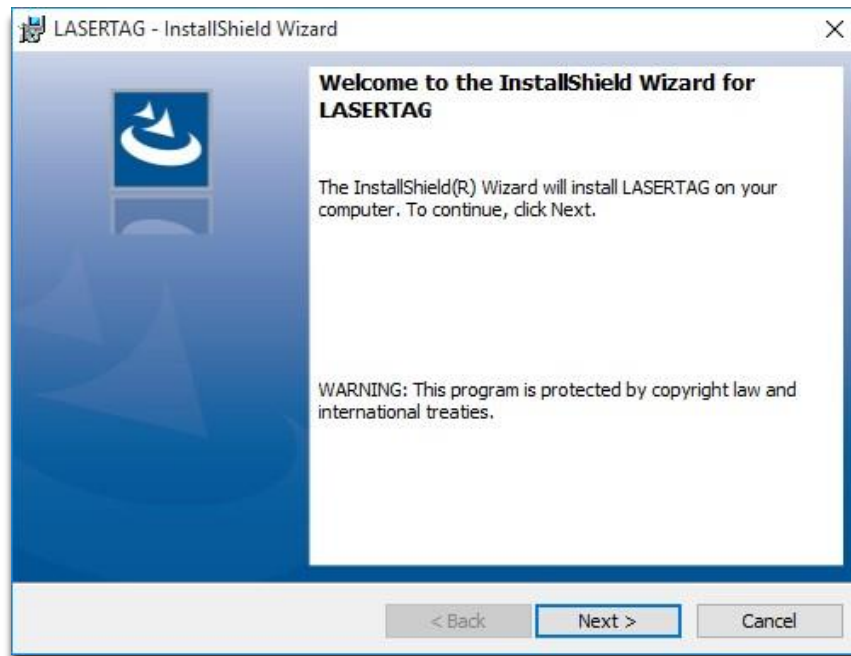


Figure 1

Click on "Next".

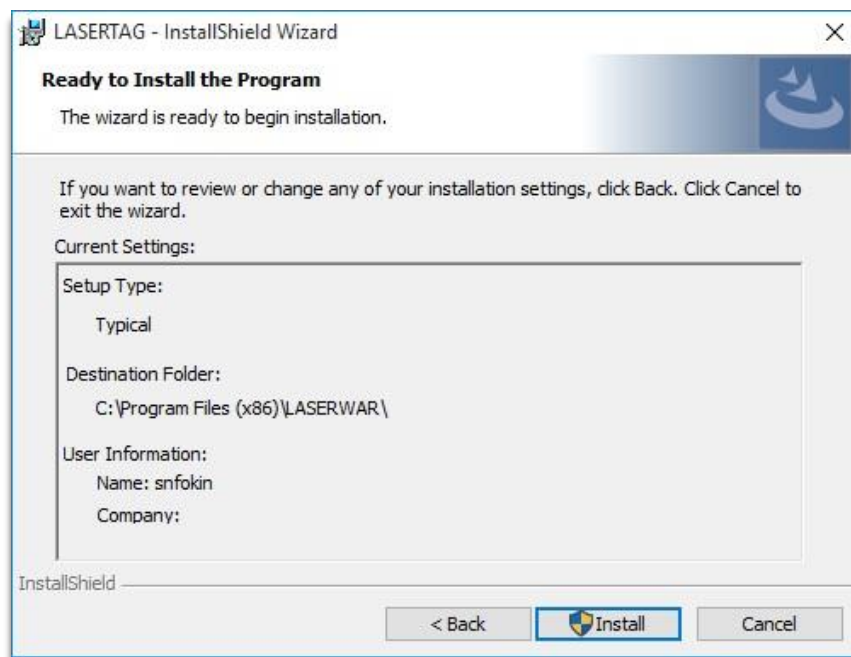


Figure 2

The program destination folder by default is: <System disc:\Program Files\LASERWAR\>. Click on "Install" to start the installation process.

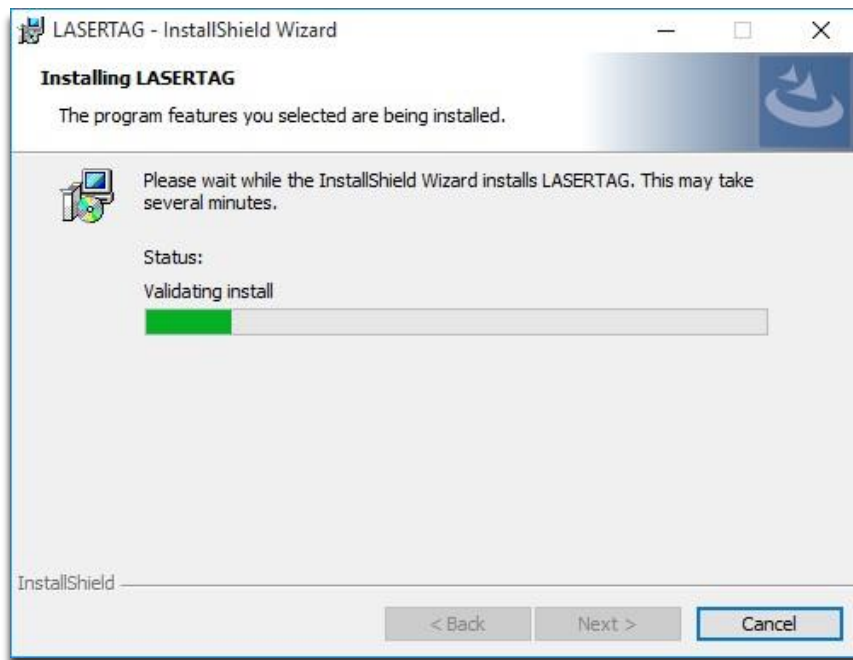


Figure 3

Please wait for the installation to finish. It will take a few seconds.

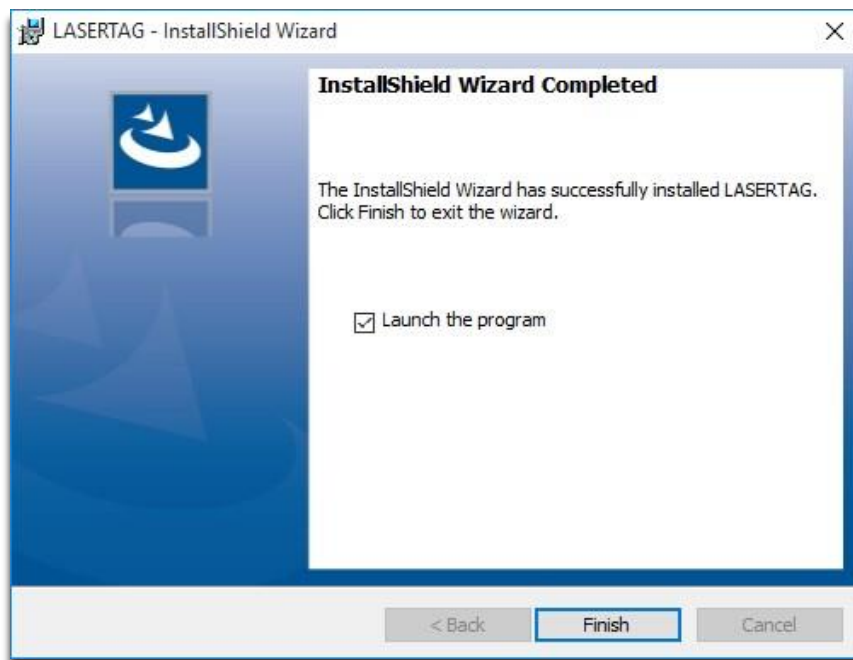


Figure 4

After you have successfully installed the program, check "Launch the program" checkbox to run the software, or clear it to do it later.

Click on "Finish". The installed program takes about 39 MB on your hard disk.

### 3.3 Starting the program

LASER TAG CONFIGURATOR can be started with standard operating system tools. To do it, run the URLASERTAG.exe file or shortcut that is automatically created on your desktop after the installation is finished. Program will display the screen (Figure 5) while loading.



Figure 5

You can turn off this screen from the settings menu, which allows you to speed up the process of software starting.

The main program window is shown in Figure 6.

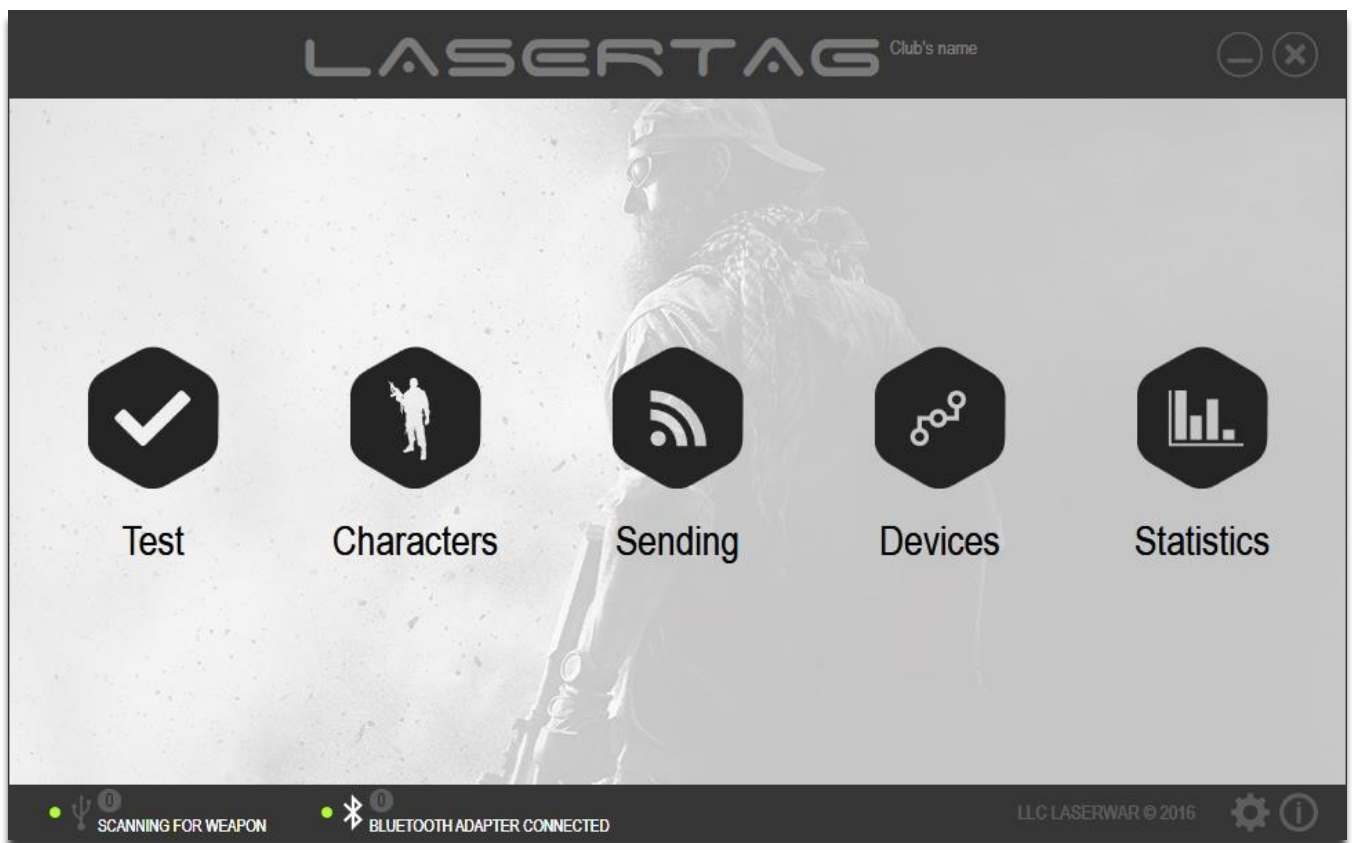


Figure 6

You can customize this window by adding the name of your company to the title bar, as it shown in Figure 7. The entered value appears at the top of each program window and in game statistics.

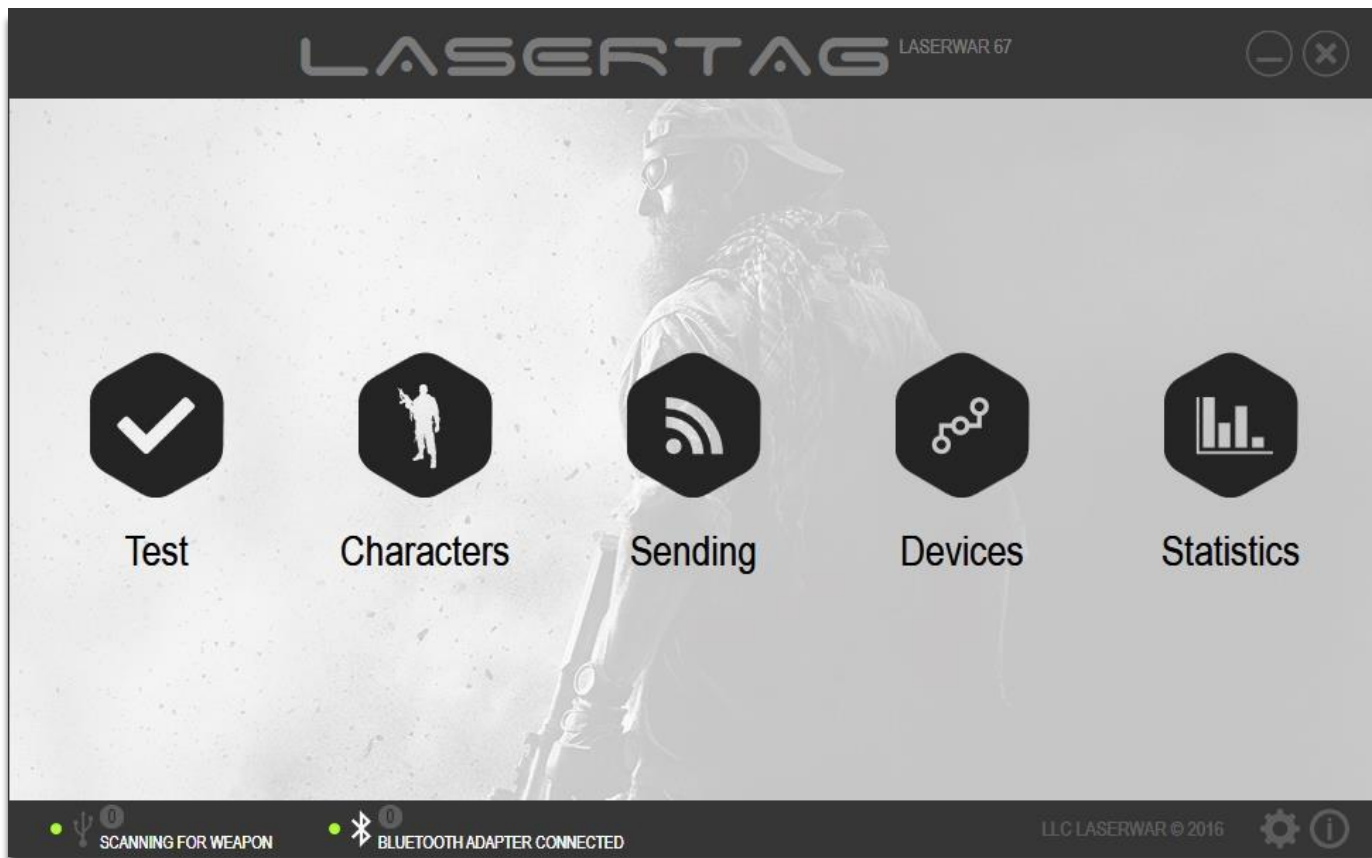


Figure 7


Adding company name to this window title is described in 3.7 section.

### 3.4 Program structure

The central part of the main program window (Figure 7) shows the program sections (described in Chapter 4):

1. **Test** – reading and testing of customized devices (work with this section is described in **4.1**);
2. **Characters** - creation, editing, or deleting game characters for 8,9 generation devices (work with this section is described in **4.2**);
3. **Sending** – writing the settings, as well as saving presets and additional parameters, such as team color and Player's ID (working with this section is described in **4.3**);
4. **Devices** – Changing parameters of additional devices, such as "Hostage" game kit or a grenade launcher (work with this section is described in **4.4**);
5. **Statistics** – collecting, printing and publishing of game statistics in a social network (work with this section is described in 4.5).

To start working with the section, click on its icon.

To close the section and return to the main program window, click on "Back"  button at the top of the window.

Information area at the bottom of the main window is described in detail in 3.9.

### 3.5 Laser Tag Devices Compatibility

Laser tag configurator is compatible with the following game kits of laser tag devices:

- Wired kits, starting with the firmware version 4.77 from 21.09.2011;
- Wireless kits, starting with the firmware version 4.084 from 01.11.2013;

As well as additional devices:

- [Command post](#);
- [Smart Kit](#);
- [Medkit](#);
- Armored vehicles demolition system "Kupol"
- Artefacts;
- [Universal remote](#);
- [Remote PRO](#);
- "Hostage v. 5" kit;
- [A vest/helmet](#);
- Grenade launcher.

### 3.6 Connection of laser taggers and additional devices

#### NOTE!

**Laser Tag guns of 7-9 generations** can be connected with PC via Bluetooth-base

**Laser Tag guns of 4-7 generations** and additional laser tag devices of all generations can be connected with PC only via USB-base.

To work with Laser Tag configurator laser tag guns of 7-9 generations should be connected with PC via [Bluetooth Base](#) as shown in Figure 8.1. Bluetooth Base is the device for receiving data from laser tag guns with Bluetooth protocol.



Figure 8.1

You can use your own Bluetooth adapter or built-in adapter in your laptop but is highly recommended to use LASERWAR certified adapters.

If you have 4-7 generations laser tag guns or you need to configure some additional laser tag devices you should use [USB Base](#) (the device for receiving data from laser tag devices with the infrared rays) should be connected to your computer or laptop, as shown in Figure 8.2

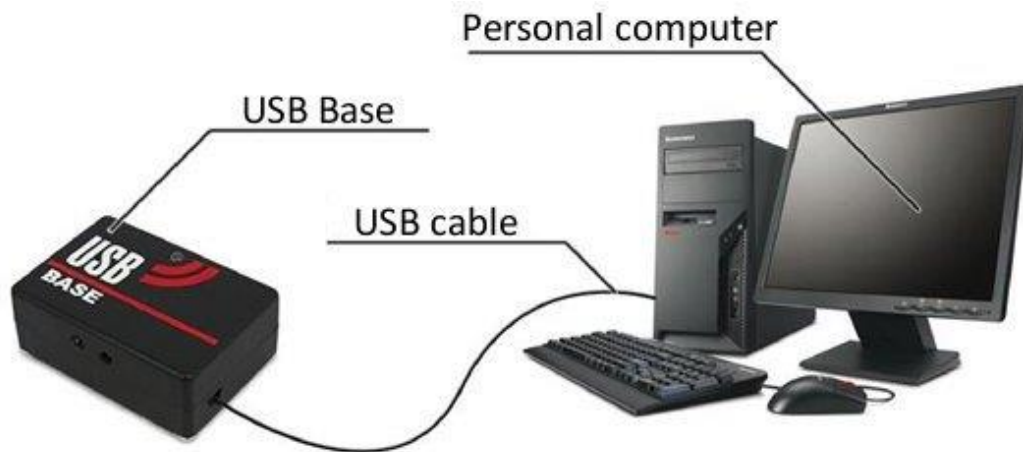


Figure 8.2

USB Base driver is automatically installed when you set up the program (this process is described in section 3.2). The first time you connect the base, Windows will automatically find and install the required driver. When the installation is finished, the color of USB Base light will change to green.

When you connect Bluetooth Base or USB Base, the message at the bottom of the program window changes from "Search for USB Base" and "Scanning for Bluetooth adapter" to "Scanning for weapon", and the green light appears (the example is shown in Figure 9).



Figure 8.3

to "Scanning for weapon", and the green light appears (the example is shown in Figure 9).

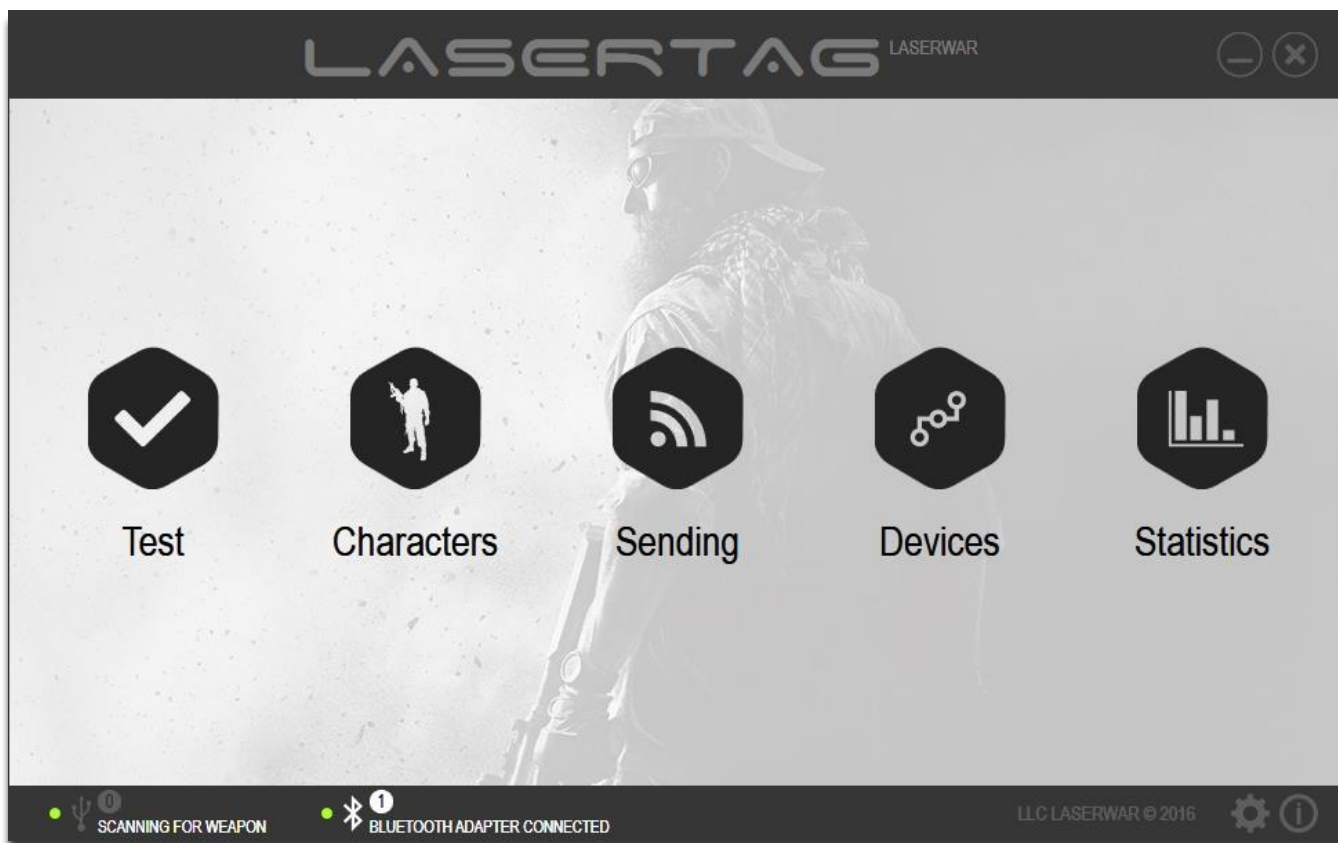


Figure 9

### 3.6.1 Starting taggers of 4-7 generations in game mode

To start laser tag guns of all generations in the game mode, just turn on the tagger power button. You will hear "Testing successfully completed". Then turn on the band. If the laser tag gun is properly connected with the headband, the headband LEDs start flashing.

### 3.6.2 Starting taggers of 4-7 generations in configuration mode

To start the V-4-7 game kit in the configuration mode, you should press and hold the Recharge button (or hold the bolt in the retracted position) and turn power on. The game kit will give a special beep indicating starting in configuration mode. Next, you should turn on the headband and place the game kit as shown in Figure 10 (direct the barrel of the gun to the center of USB Base, and place the headband exact opposite USB Base at a distance no more than 2 meters). If the game kit is connected properly, the headband LEDs start flashing.

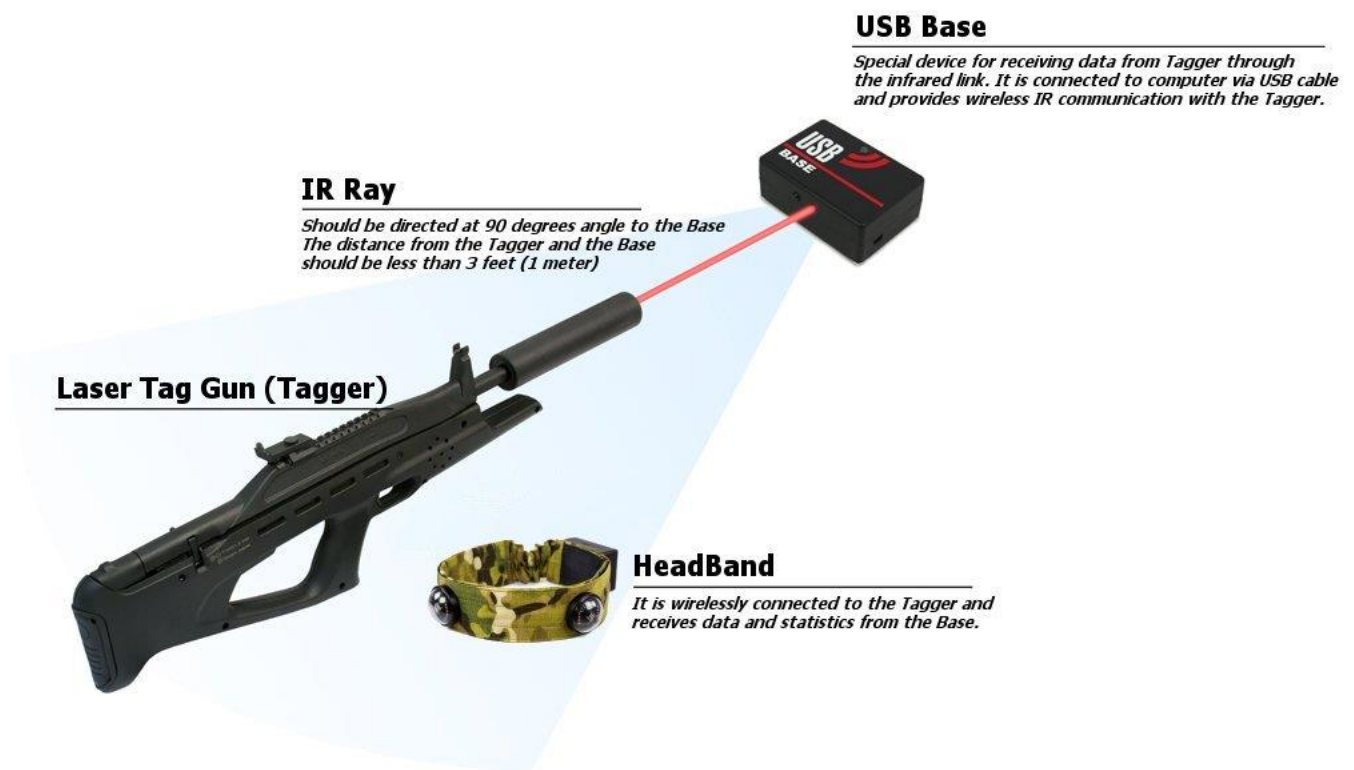


Figure 10

When you connect laser tag devices to your computer using USB Base or Bluetooth Base (in the game mode or in the configuration mode), the game kit settings - the ID and the firmware version are displayed in the main window next to Bluetooth icon (the example is shown in Figure 11).

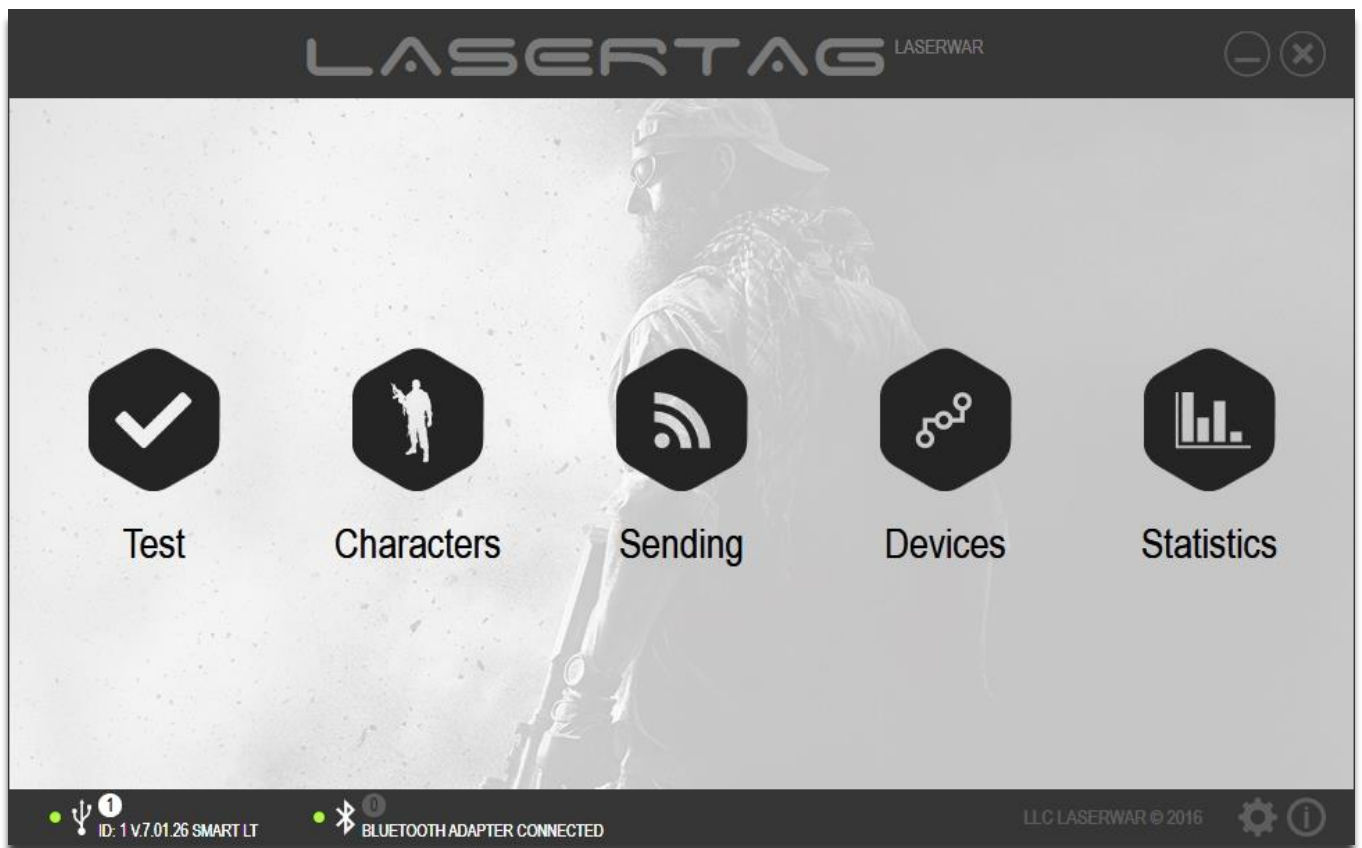


Figure 11

## 3.7 Laser tag device v. 7-9 connection

### 3.7.1 Starting taggers of 7-9 generations in game mode

To start the device v. 7-9 in the game mode, just turn on your laser tag gun. The gun should beep. Then turn on the headband. If the laser tag gun is properly connected with the headband, the headband LEDs start flashing.

### 3.7.2 Starting taggers of 7-9 generations in configuration mode

To start the game kit v.7-9 in the configuration mode, connect a Bluetooth adapter to your computer if your PC or laptop is not equipped with a built-in Bluetooth device (the program displays "Bluetooth adapter Connected" message). Then press and hold the Recharge button (or hold the bolt in the retracted position) and turn on your laser tag gun, but don't turn on the headband. You will hear "Admin mode". Indicator with the number of connected game kits will be displayed at the bottom of the program window (the example is shown in Figure 12).

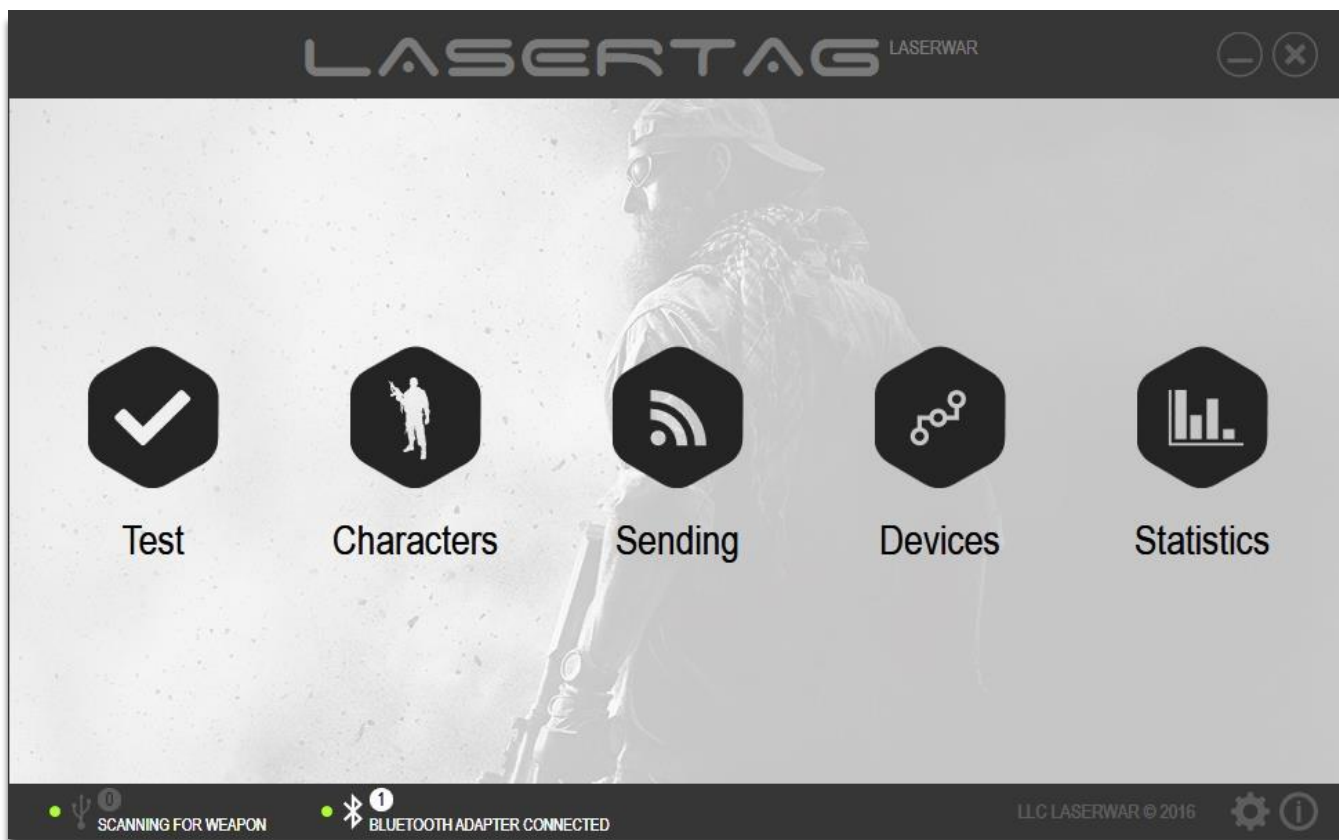


Figure 12

### 3.7.3 Starting taggers of 7-9 generations in boot mode

The software allows firmware online updating (this process is described in chapter 3.9). To update the firmware, the device must run the Boot mode. To do it, connect a Bluetooth adapter to your computer and turn on the laser tag gun with pressing and holding trigger, but don't turn on the headband. The weapon will not produce any sounds, only the green power LED (if any) will appear. You'll see device indicator appeared at the bottom of the window (Figure 12).

Additional devices can request a PIN code while firmware updating. The default PIN code for all devices is 1234.

## 3.8 Changing settings in 7-9 generation laser tag guns

The program provides a wide range of capabilities to configure operational settings of guns and additional devices. The created settings are available for writing into game kits. Writing the parameters to 7-9 generation guns can be done in Characters, Sending and Settings sections, and has some features revealed in this chapter.

**IMPORTANT.** If you use 7-9 generations guns you can write parameters to multiple gaming kits simultaneously if all parameters are identical.

To write data to your devices, you should connect a Bluetooth adapter to your computer or laptop and run the game kit in the configuration mode (see chapter 3.7). You'll see the Connected Device Search menu appears (Figure 13).

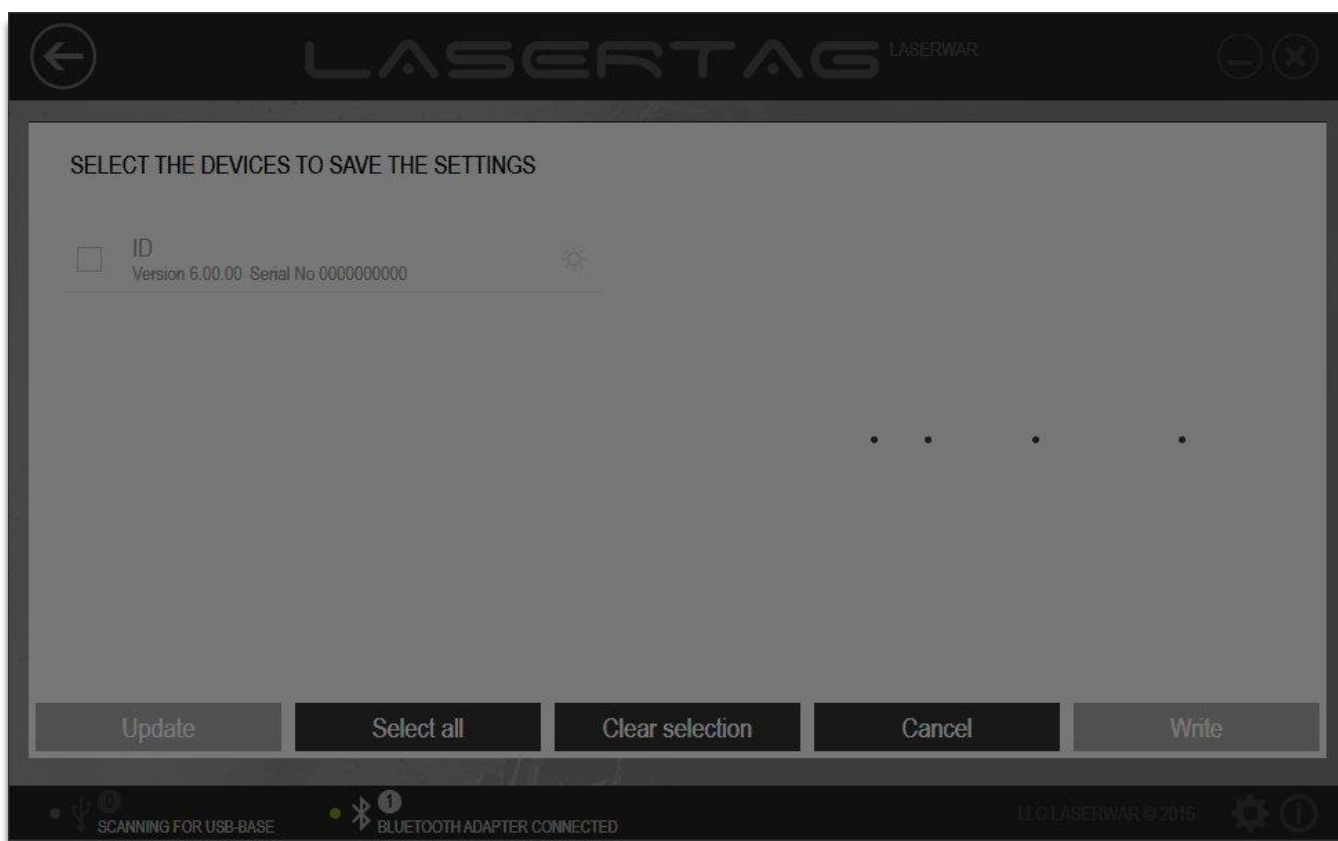


Figure 13

The search for active connections will take several seconds. All found laser tag guns will appear in the program window (see the example in Figure 14).

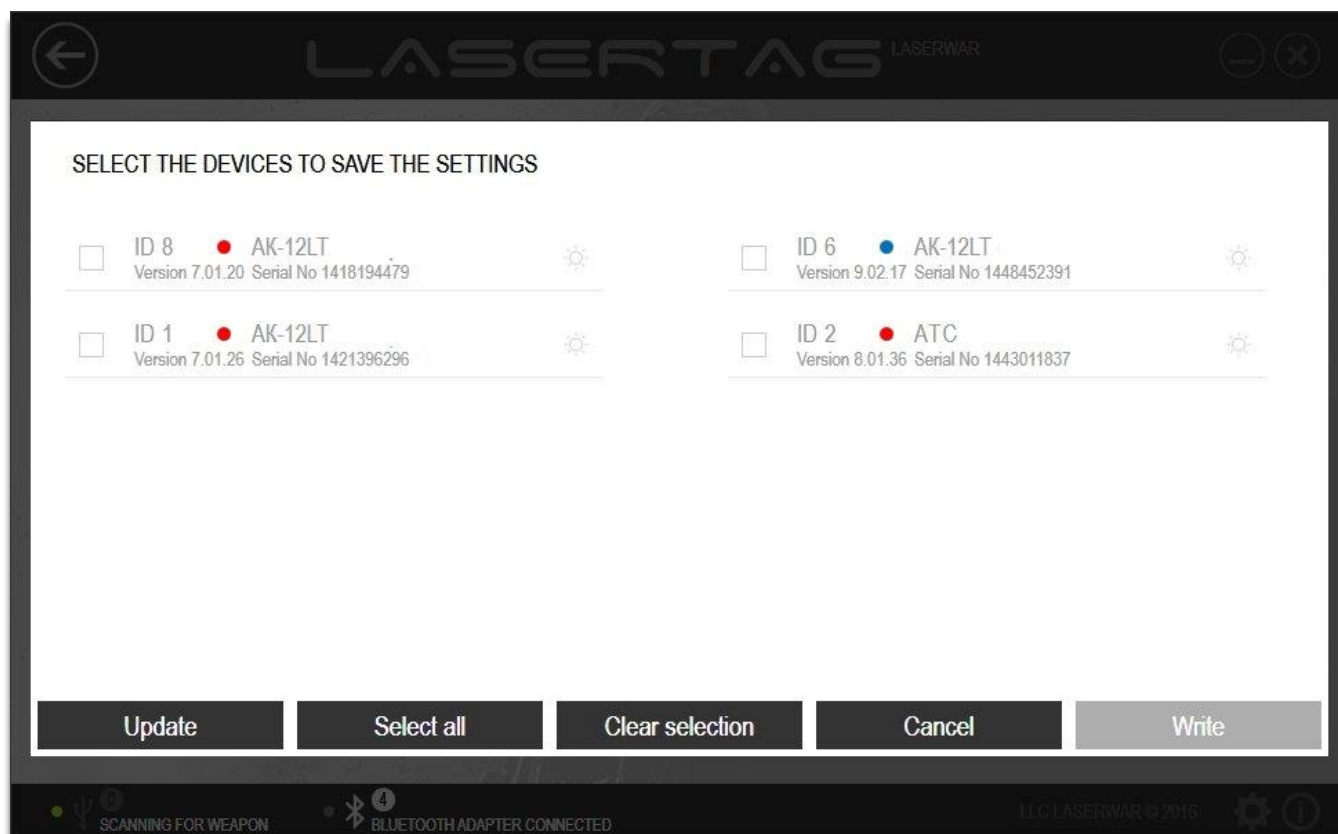




Figure 14

If you need to update the list of connected devices and search them click "Update" button.

Check the boxes next to the names of the kits where you want to write the data to. To identify the connected kit exactly, click on  icon. The relevant device should beep. You can check the boxes next to all of the kits using "Select All" or, on the contrary, clear all the boxes clicking on "Clear Selection".

Click on "Write" to write the data to the selected devices, or click on "Cancel" to cancel the data writing.

### 3.9 Program Setting

Program settings can be changed in the menu shown in Figure 15. To open the Settings menu, click on "Settings" () icon.

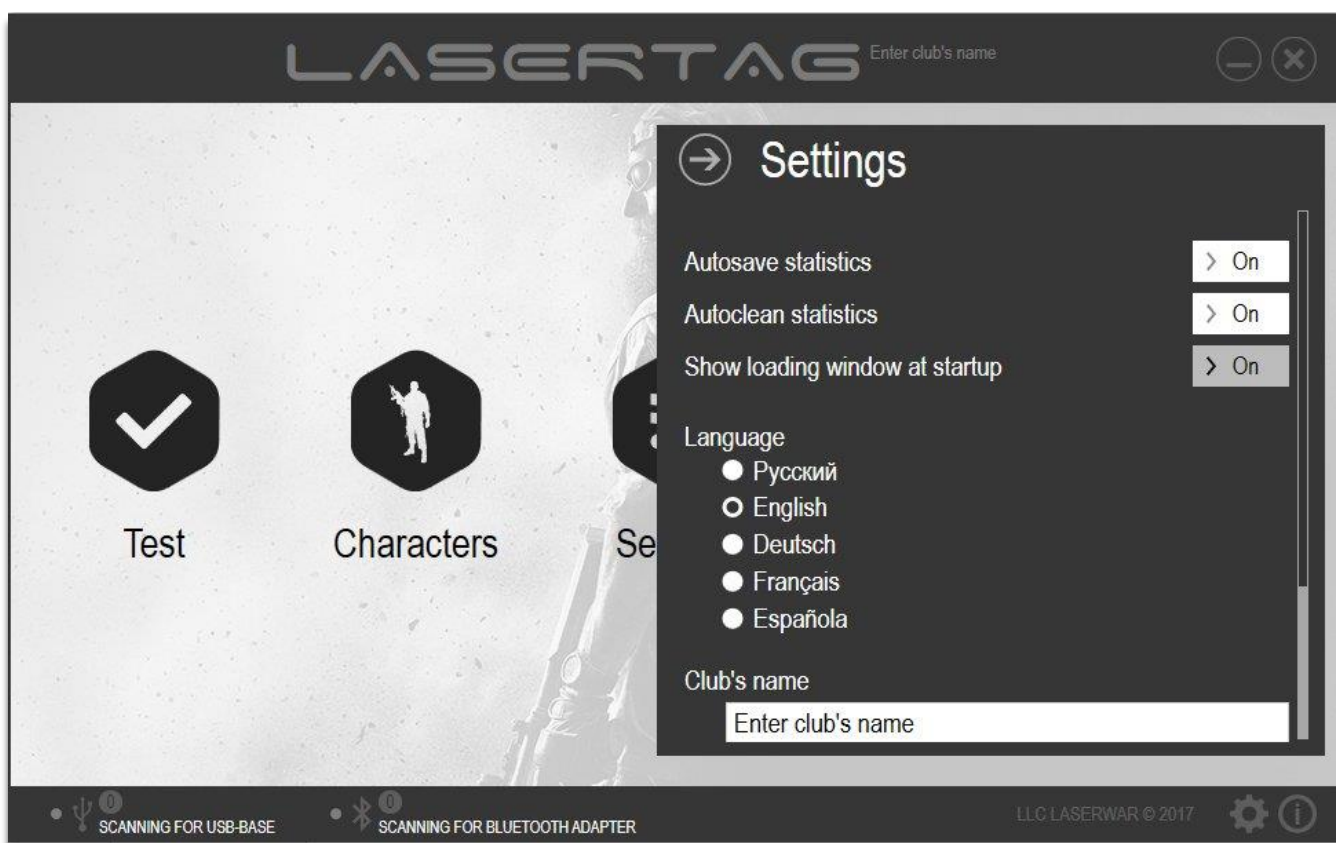


Figure 15

You can turn off the loading screen of the program (Figure 5). To skip this screen and go directly to the main program window (Figure 6), set up a switch "Show loading window at startup" to "OFF." This will speed up the process of program starting.

While reading the device game statistics, it is automatically saved on your computer for further use even after you restart the program. By default statistics are stored in an XML file and its name contains the reading date and time. This process is described in chapter 4.5. To turn off statistics autosaving, select "OFF" in "Autosave Statistics».

Also, the read game statistics are automatically removed from the laser tag gun memory. If necessary, laser tag gun memory cleaning after each statistics reading can be turned off: to do it set "Autoclean statistics" switch to "OFF".

In "Language" section of the program, select the interface language (English, German, French, Spanish or Russian). The example of the main program window in English is shown in Figure 16.

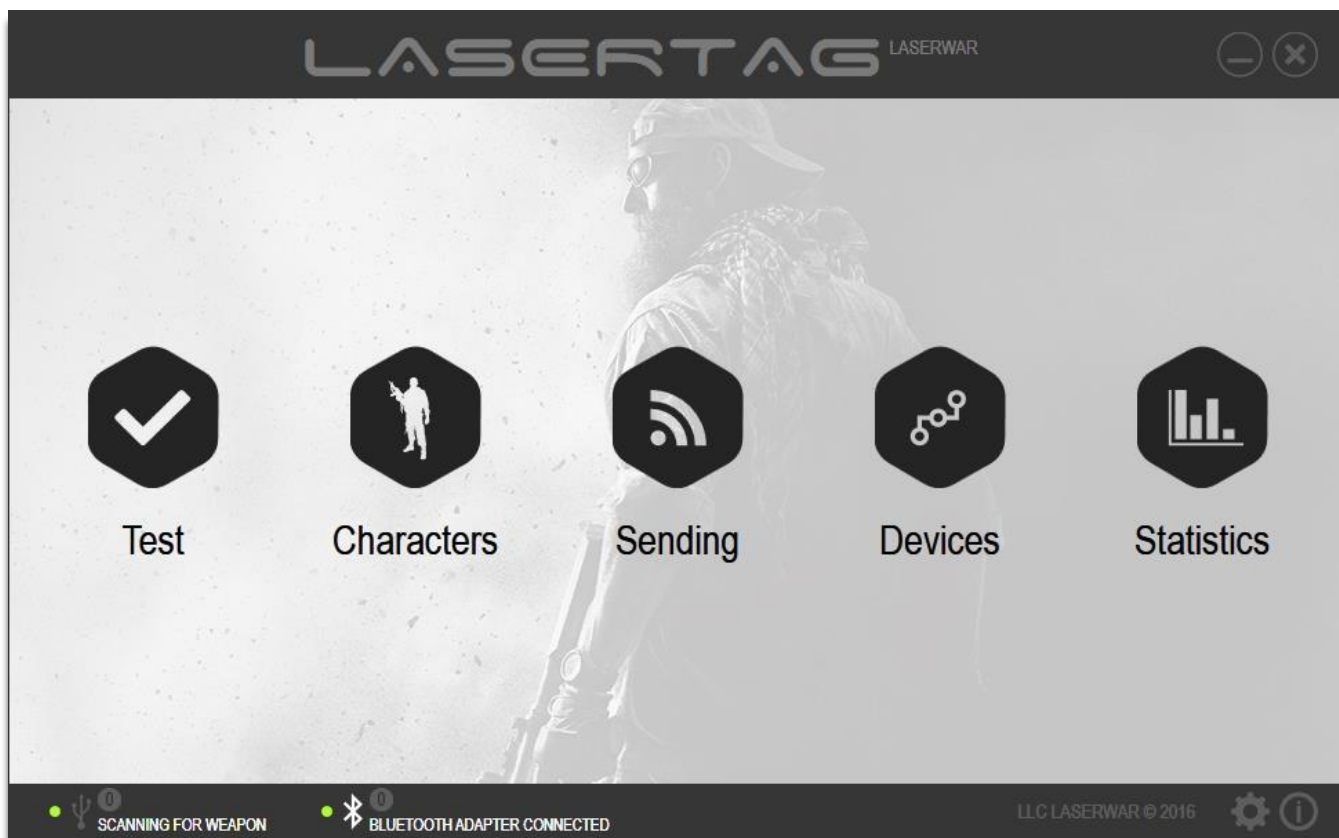


Figure 16

In "Club's name" section you can enter the name of your club or your trademark Figure 16. The entered value appears at the top of the program window and in all statistics.

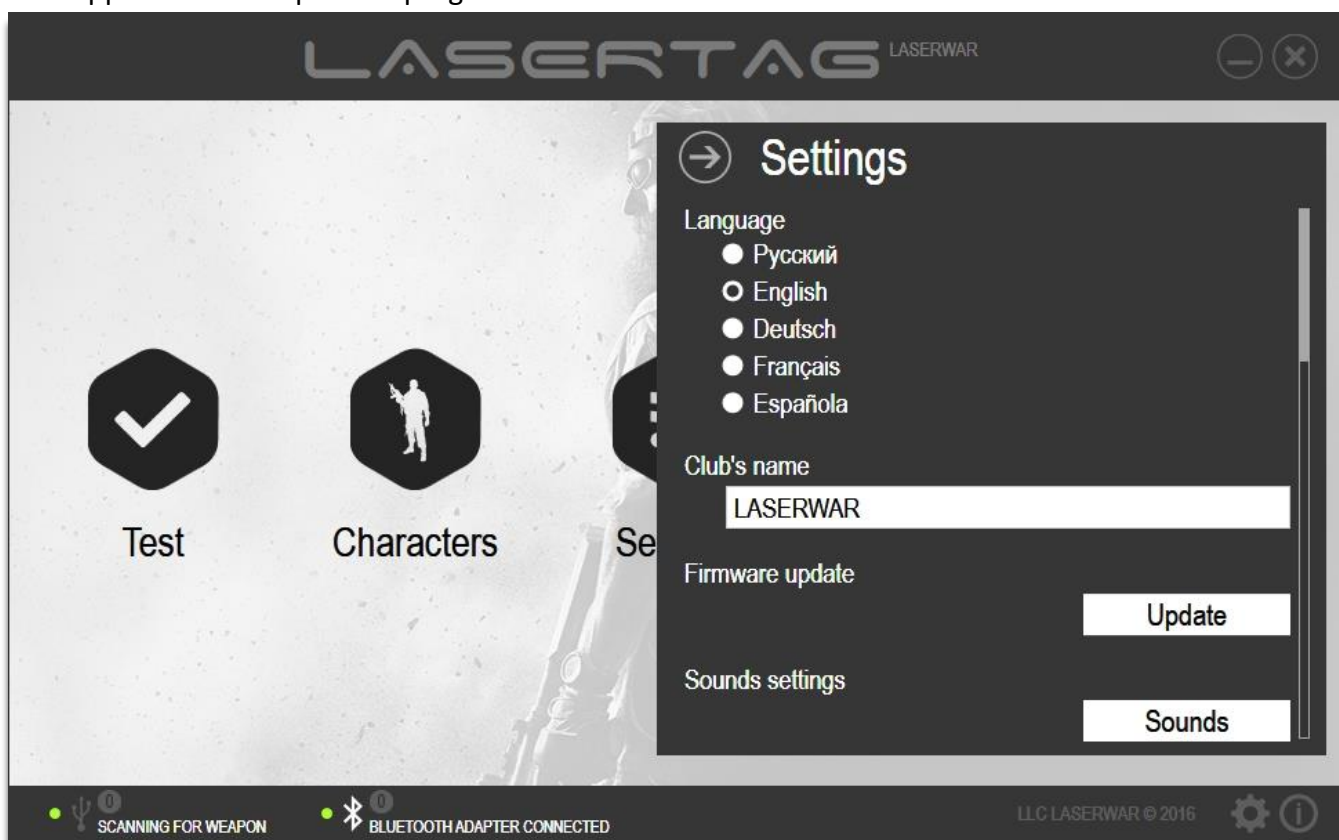


Figure 17

In "Firmware update" (Figure 17) you can update the firmware of connected laser tag guns that use 7-9 generation electronics. To do it click on "Update", and you'll get the firmware selection window (Figure 18).

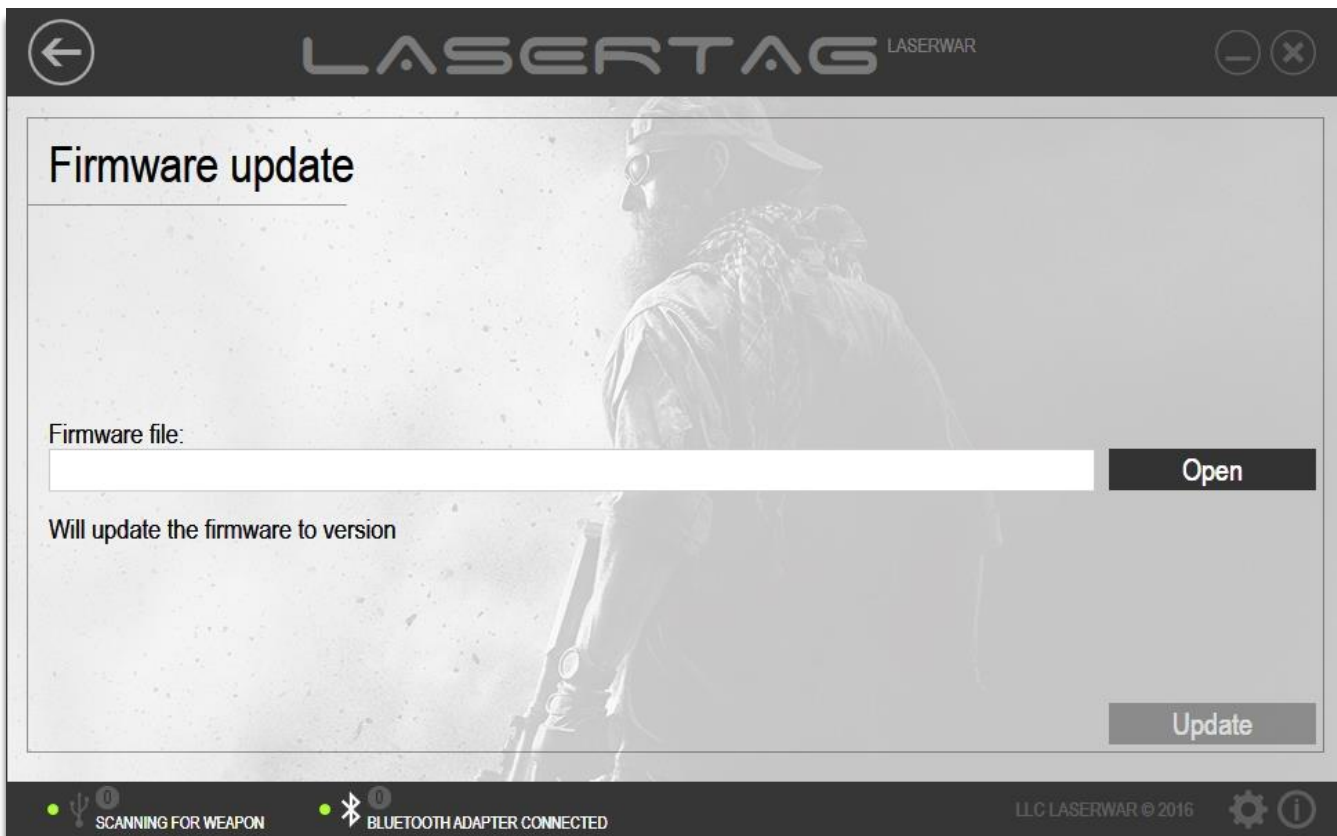


Figure 18

In order to update you should first download the latest firmware version from our website (<http://lasertagoudoor.com>). You should unpack the downloaded archive and locate the firmware file in \*.bin format using "Select".

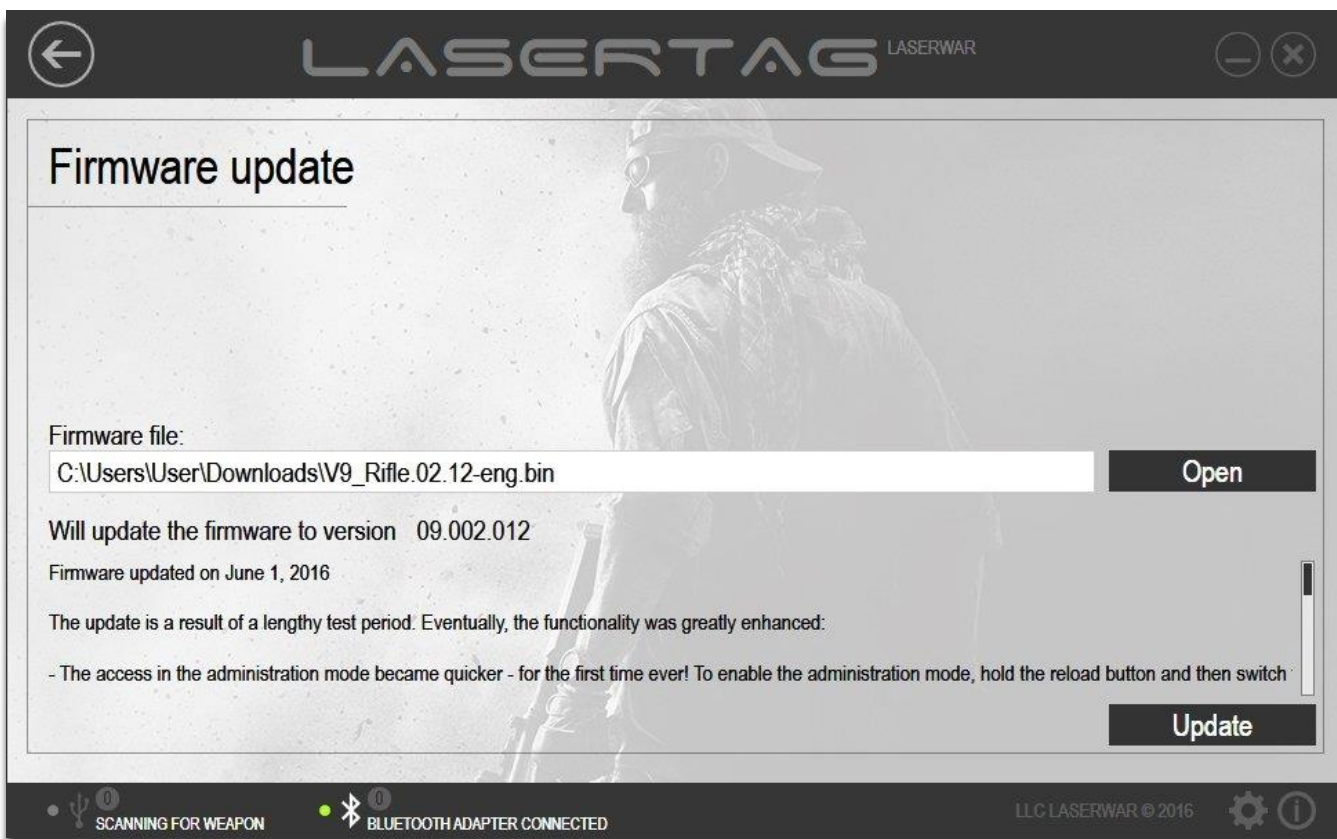
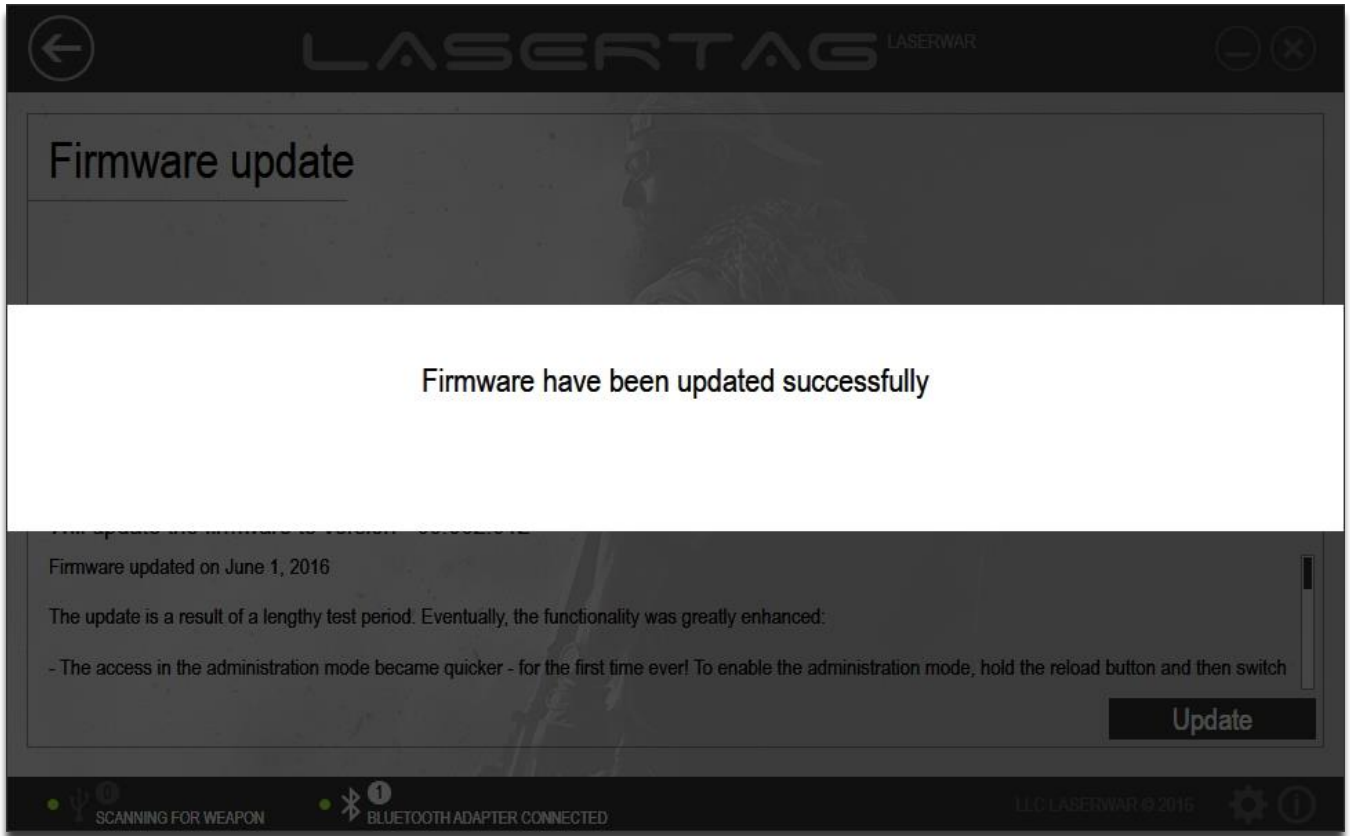


Figure 19

However, the central part of the window displays the firmware data: its version and the information about major changes. Run your laser tag gun in the Boot mode (as it set out in chapter 3.7.3), and then click on "Update". The process of data writing to the device is described in detail in chapter 3.8. When you click on "Update", the firmware will be updated during several seconds and the program, will display message "Firmware have been updated successfully" shown in Figure 20.



*Figure 20*

The kit will be automatically restarted in the game mode. If it doesn't restart, do it manually: turn off the gun power and turn it on again, without pressing the trigger. After Firmware update, all previously written settings and parameters will be reset to the factory defaults, so you should rewrite your settings again. You can find information about game parameters in chapter 4.3 and about the characters in chapter 4.2.

You can also change the standard sounds of your laser tag guns. To listen and update the sound of some game event use "Sound Settings"(Figure 21). To work with this section, click on "Sounds". The window will be as follows.

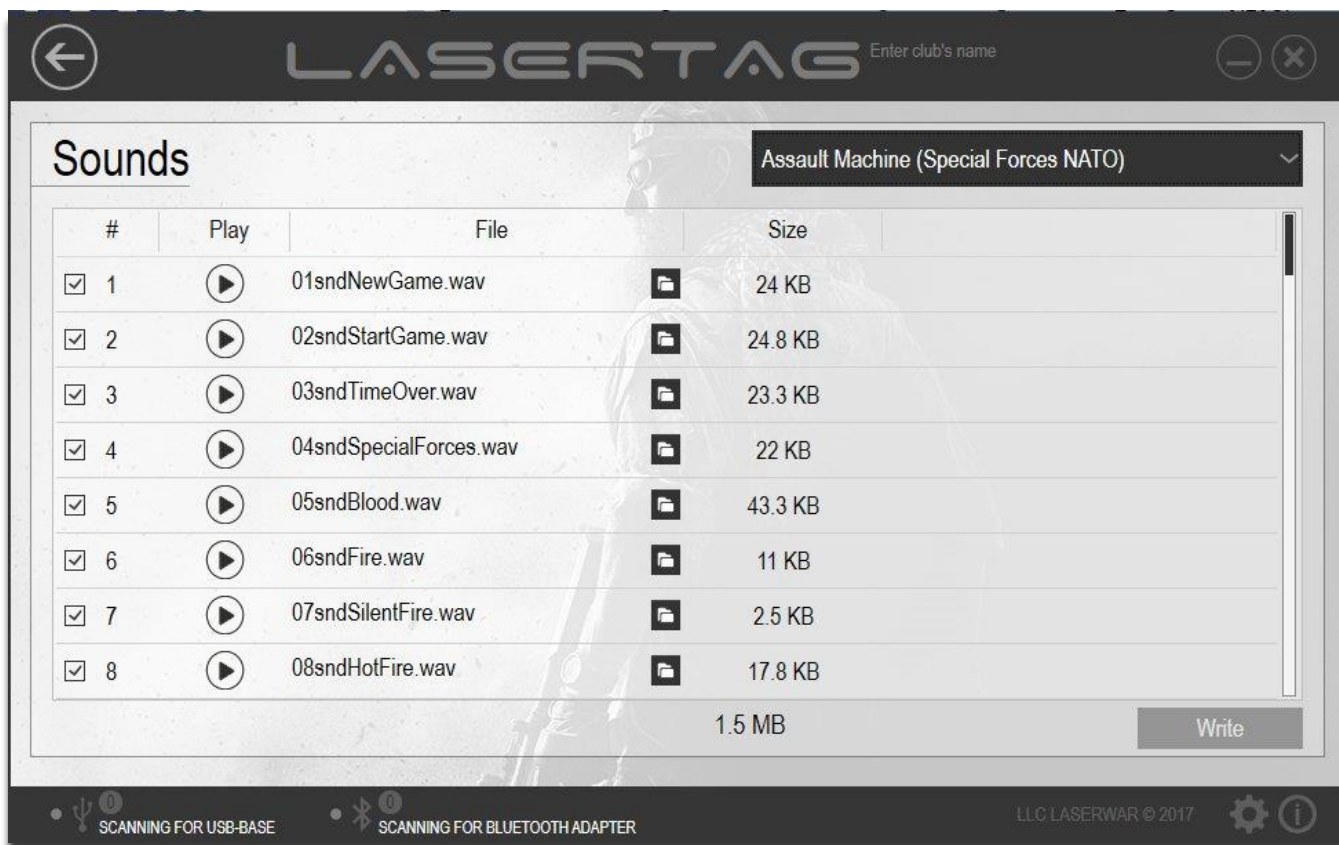


Figure 21

You can select a preset name (set of sounds) from the dropdown list at the top of the "Sounds" window. The list of sound files for selected preset is displayed in the center of the window. To find out the type of the event that plays a sound, just hover the mouse over it. A tool tip with the information about the type of the event will appear on the screen.

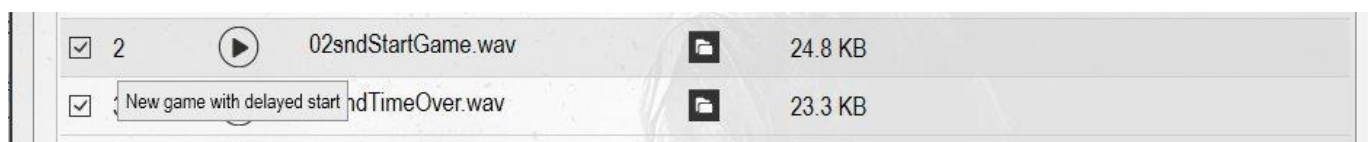



Figure 21.2

To hear the sound, click on the icon next to its name. If you want to specify a different sound file, click on icon. In new window locate your own wav-file. The sound file should meet the following requirements: the frequency is 11025 Hz, 8 bits, the number of channels-1 (mono), .wav file format. If you change at least one sound, the name of the preset changes to "Custom" (Figure 22).



Figure 22

When the sound files list is finished, click "Write" button. The system will search for connected guns, including those that need updated background sound (this process is described in section 3.8.).

To close "Settings" and return to the main program window, click on "Back"  at the top of the window.

## 4 Program sections

### 4.1 "Test" section

"Test" section is designed for testing of your customized laser tag guns. To work with the section, you should connect your laser tag gun in the game mode using Bluetooth base or USB Base. The connection of the guns with old generations of electronics (4-7) is described in section 3.6. The connection of the guns with 8-9 generations of electronics is described in section 3.7.

"Test" section imitates a laser tag remote control and also has a number of test functions. For example, if you make a shot from your game laser tag gun to USB Base, the screen will display the game kit ID, the team color, and the damage parameter of this laser tag gun. All these parameters can be set in "Sending" section, which is described in chapter 4.3.

"Test" section is used not only for testing of game characteristics immediately after the firmware update, but also for the current repair of laser tag guns. For example, this function can help you to explicitly indicate that the IR diode of the laser tag gun does not work. If it is damaged, the shot parameters will not appear on the screen after the shot from the laser tag gun to USB Base.

To open the section, click on "Test" in the center of the main program window (Figure 23).

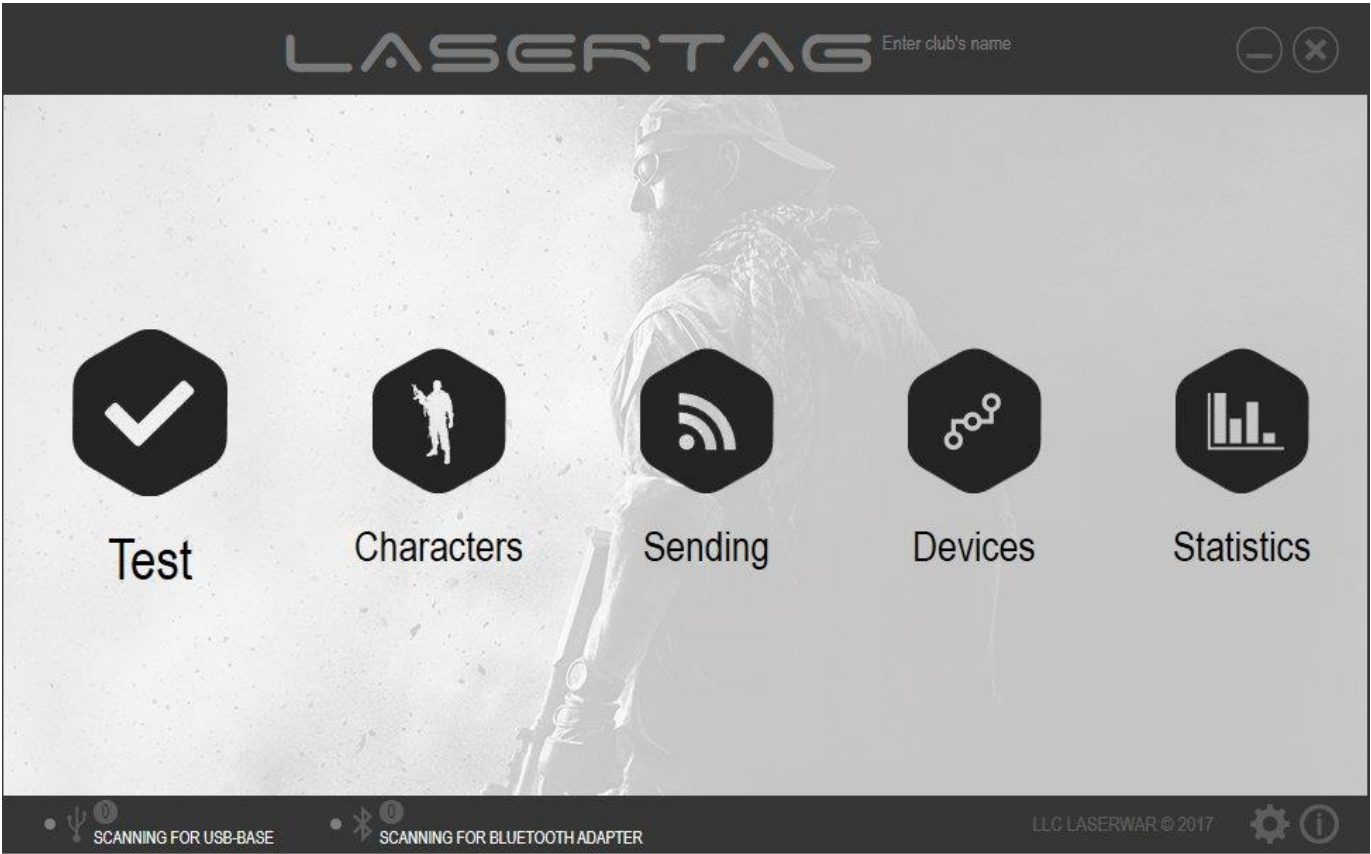


Figure 23

The main window of the section is shown in Figure 24.

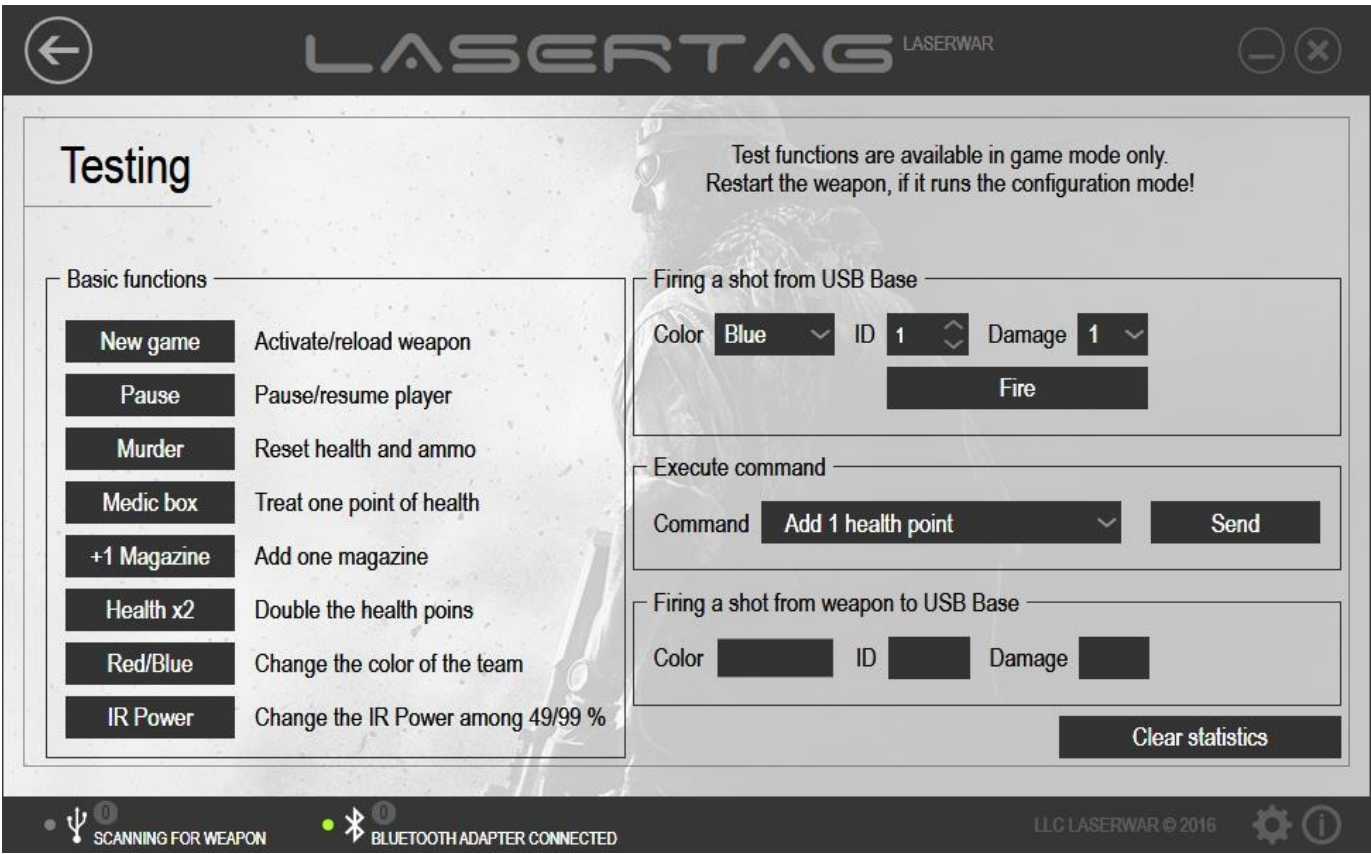


Figure 24

To work with "Test" section you should connect USB Base or Bluetooth Base to your computer and start your laser tag device in the game mode.

**IMPORTANT!** -Test functions are available only in the game mode. If a game kit runs in the configuration mode, test functions are not available. In this case, the game kit must be restarted without pressing the trigger.

When you work with this section, you can specify the parameters of the shot from USB Base (see 4.1.2), the parameters of the shot from the laser tag gun to USB base (see 4.1.4), and the parameters of the game character (see 4.1.3); simulate the basic functions of remote control (see 4.1.1). While working with this section, the statistics are also created (see 4.5). If you want to clear statistics, click on "Clear Statistics" button (Figure 24).

4.1.1 Basic Functions

In "Basic Functions" section (Figure 24.1) there is a list of the main test functions that are performed with the remote control device. To use the test function click on its button.



Figure 24.1

New game	Click on this button to activate or reload your laser tag gun game kit. Pressing this button is committed with the light and vibration signal on the headband, while the game kit gives a ready sound signal (for example: "Waiting for orders").
Pause	Press this button to put the game kit on pause. To resume press "Pause" again. Some test functions (such as firing from USB Base and from a game kit to USB Base, Medic, + 1 magazine) are not available during the pause mode. Pressing "Pause" is committed with the light and vibration signal on the headband, while the laser tag gun generates a sound signal.

<b>Murder</b>	Press this button to zero player's health points and ammo. Pressing "Murder" is committed with the light and vibration signal on the headband (the duration of the signal is set in the "Sending" section, which is described in chapter 4.3.) The laser tag gun also generates «killed» sound (for example "I'm killed! Return to the base!") The test functions are not available when laser tag gun is in "killed mode". To restart your laser tag gun, click on "New Game" button.
<b>Medic box</b>	Press this button to add one health point. If no health points were spent or health points were restored to the maximum, then no action would be performed when "Medic Box" is pressed. If some health points were spent, 1 point would be restored when the "Medic" button is pressed. Laser tag gun will generate sound ("Thank you, Doc").
<b>+1 Magazine</b>	Press this button to add one magazine to the ammo. If no shots were fired from the laser tag gun (no magazine was spent) or ammo is restored to the maximum, then no action is performed when you press "+ 1 magazine". If you have made some shots from the laser tag gun and some magazines were spent, one magazine would be restored when you press "+ 1 magazine". Laser tag gun will generate sound ("Here is your Ammo").
<b>Health x2</b>	Press this button to double the initial number of health hitpoints for the current game. This process is committed with the "Doubling health" sound signal.
<b>Red/Blue</b>	Press this button to change the color of the player's team. When you start a new game, the team color does not change to the initial color. So, to change the team color to the initial, press the "Red/Blue" button again. The process of changing the team color is committed with the light and vibration signal on the headband, and the laser tag generates special sound. To activate laser tag gun after changing the team color, click on "New Game" button.
<b>IR Power</b>	Click on this button to change the IR Power (49%/99%). This setting affects the shooting distance and bounce effects while playing in buildings. The process of changing IR Power is committed with the sound signal of the laser tag gun, which varies in volume, depending on the selected value.

#### 4.1.2 "Firing a Shot from USB Base" section

In "Firing a Shot from USB Base" section you can set the parameters for taking shot from USB Base, and take such shot. Before shooting from USB Base, you can set the following options:

<b>Color</b> Blue ▾	Select a team color for USB Base from the drop-down list that contains the following values: "Red", "Blue", "Yellow", and "Green". If the color in this box and the team color of your laser tag gun are the same and "Friendly fire" mode is off (turning on and off "Friendly fire" mode is performed in "Sending" section, and is described in chapter 4.3), no damage is caused when you shoot from USB Base. If the color in this box and the team color of the game kit are different, taking a shot from USB Base causes the damage, set in "Damage" box.
<b>ID</b> 1 ▾	You can input or change with the ▴ ▾ arrows Player ID for USB Base. The valid range for ID is 0-125. ID is used to calculate statistics. ID specified in this



box and ID of the game kit should be different. If the IDs are the same, USB Base and the game kit will not be able to shoot to each other.

You can input or select from the drop-down list the number health hitpoints that will be deducted from laser tag gun health hitpoints shooting from USB Base. If the color of USB base team set in "Color" box and the color of the game kit team are the same, and "Friendly fire" mode is off, no damage is caused when you shoot from USB Base.

To fire a shot from USB Base, click on



### 4.1.3 Execute Command

In "Execute Command" section you can test the effect of various commands on laser tag guns. To do it, select the command from the drop-down list, and then click on "Send". The game kit will beep.

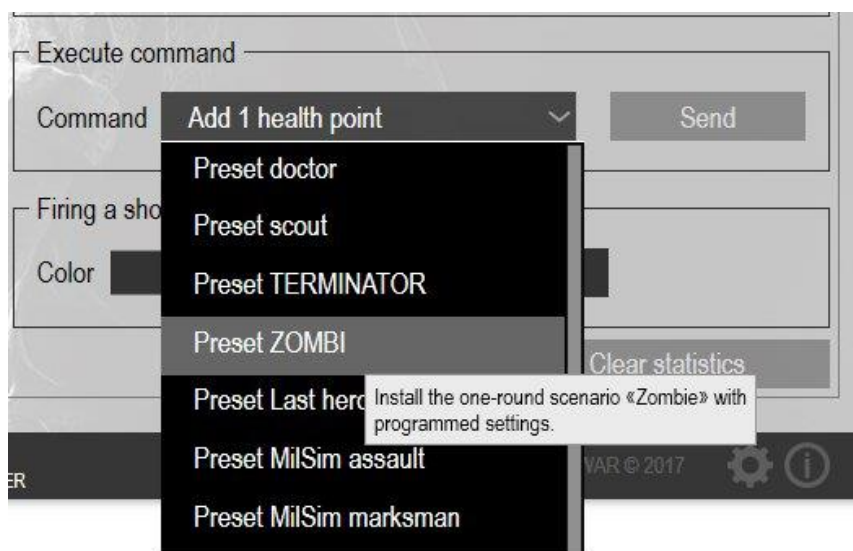


Figure 24.2

### 4.1.4 "Firing a shot from weapon to USB Base"

In "Firing a shot from weapon to USB Base" section there is a set of information fields that display the parameters of a shot from a laser tag gun to USB base.



The team color ("Red", "Blue", "Yellow", "Green") is selected in "Sending" section, which is described in 4.3.



Player ID for a game kit player is selected in "Sending" section that is described in 4.3.



The number of damage hitpoints to be deducted with one shot. Damage can be set in "Sending" section that is described in 4.3 or depends on the selected game character.

## 4.2 "Characters"

"Characters" section is designed to create and edit game characters and writing them to laser tag guns. To work with the section, you should connect laser tag devices in the configuration mode. Laser tag guns connection process and operation modes are described in 3.7.

In "Characters" section you can view the preset settings of game parameters for different game characters, adjust them, and even create your own ones. In this section you can quickly change all characteristics of your laser tag guns.

To open the section, select "Characters" in the center of the main window (Figure 25).

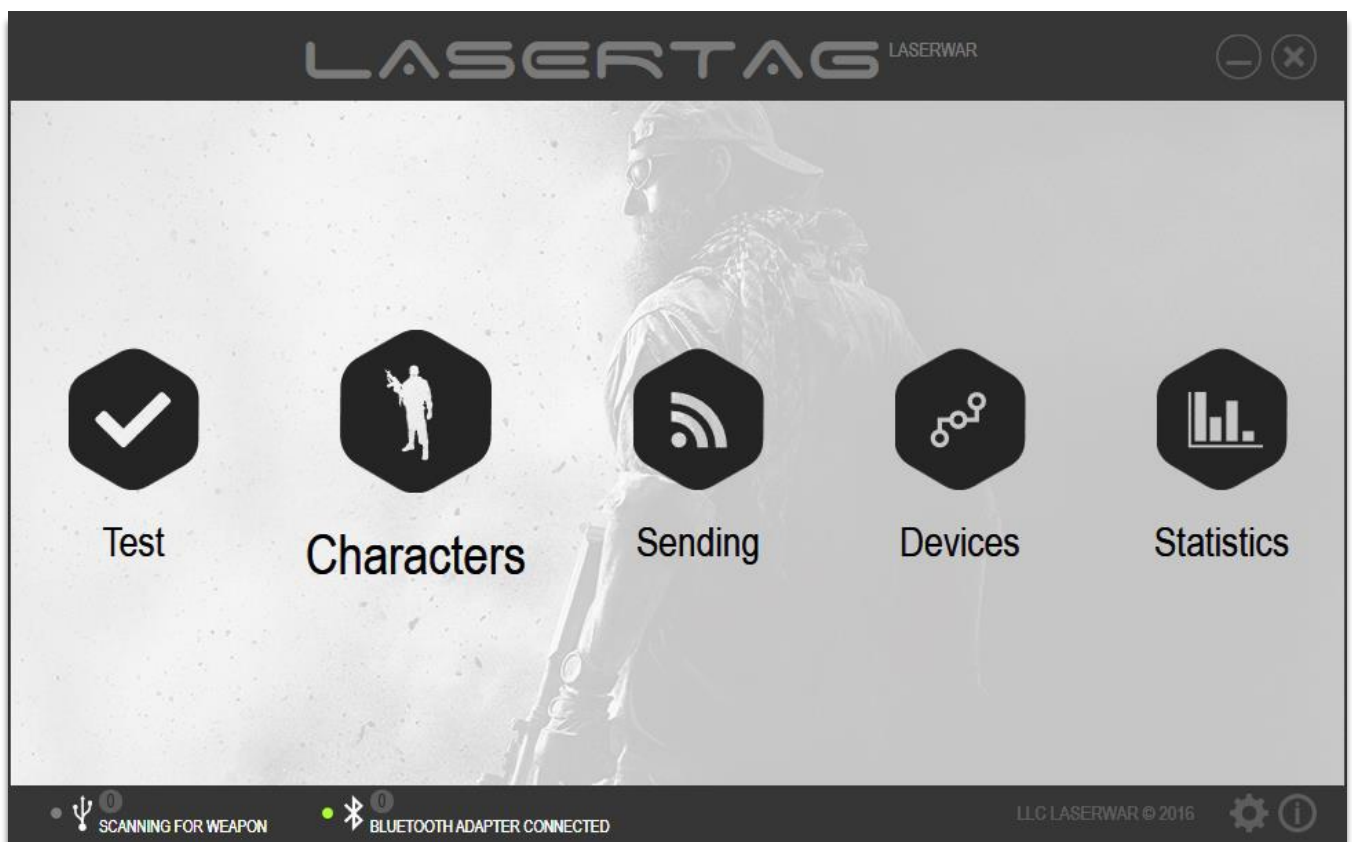


Figure 25

The main window of the section is shown in Figure 26.

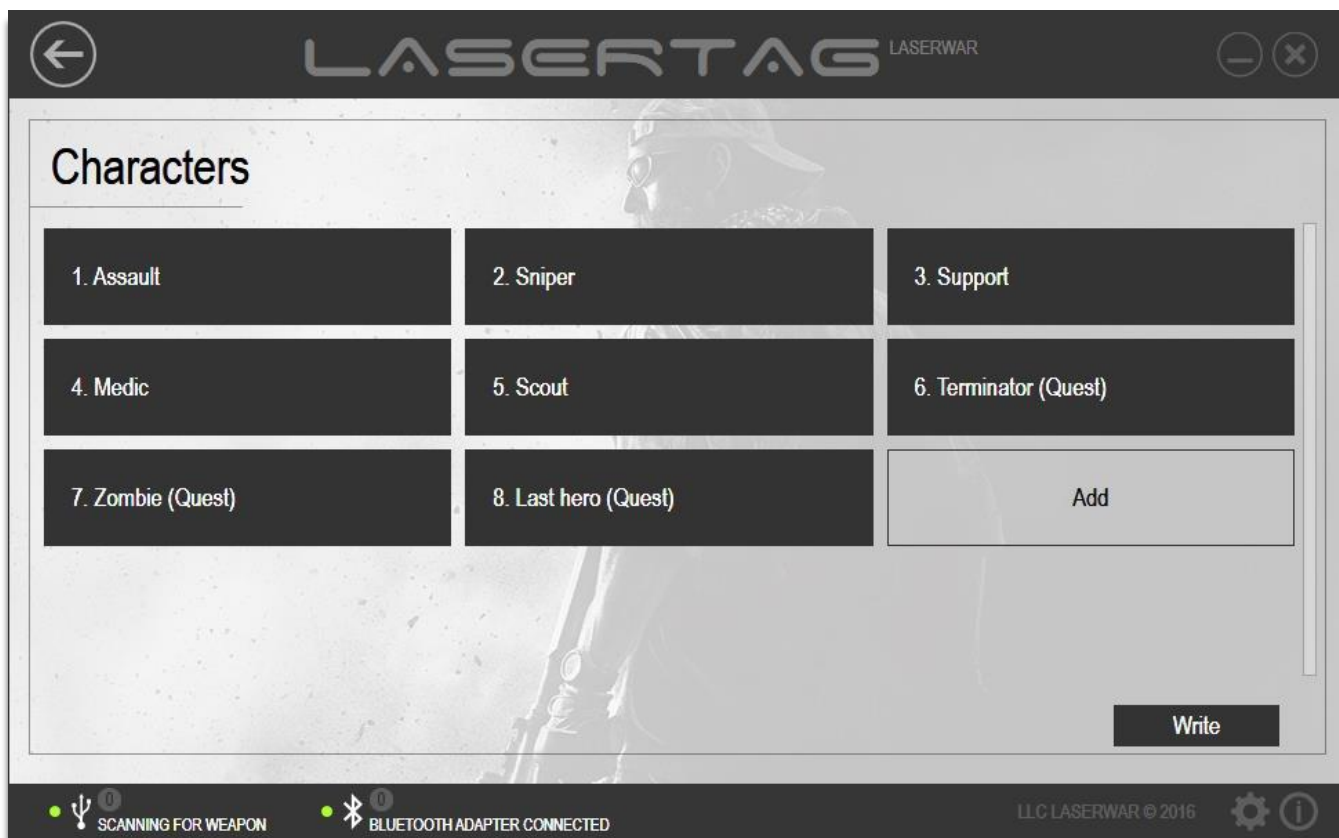


Figure 26

The window shows a list of preset characters with unique game characteristics. There are 8 preset characters (three of them are quest characters), and you can create your own characters if you need. The quest characters are used only for one round.

To create a new character, click on "Add" and you'll go to «New character» window (Figure 27).

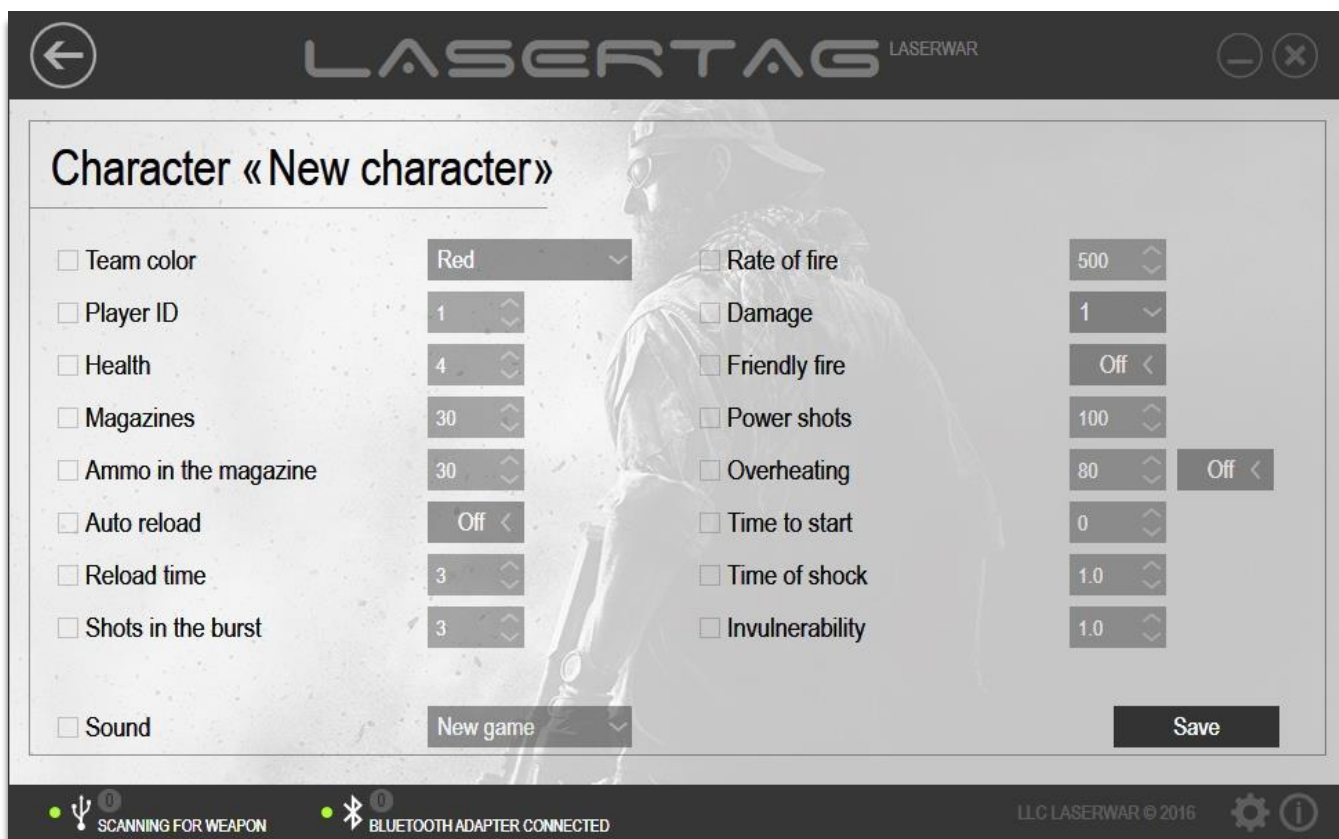


Figure 27

Enter the character's name in "Character" box at the top of the window and proceed to settings.

To view or customize the character settings, click on the button with its name (Figure 26). It opens the window with the character's name and settings available to change (the example is shown in Figure 27). To change the setting, tick the box next to its name and select the desired value. When you send data to your device, only the values of ticked parameters are updated. Other parameters remain unchanged when you send them to the device.

<i>parameter</i>	Description
Team color	Select a color from the drop-down list. You can have up to 4 teams with different colors ("Red", "Blue", "Yellow", "Green") playing simultaneously on one area. Players with the same colors can't hit each other (if "Friendly fire" option is not activated). If the colors of laser tag guns are different, shooting will detract number of health hitpoints (set in "Character's damage") from an opponent player.
Player ID	Enter the numeric player ID or change it with the arrows. The allowable range for identifier is 0 - 125. ID is used to calculate the game statistics and should be unique for all guns. Players with the same ID cannot hit each other.
Health	Base number of hitpoints (health units). The parameter is set in the range from 1 to 999.
Magazines	The number of gun magazines. The parameter is set in the range from 0 to 255.
Ammo in the magazine	The number of rounds in one magazine. Usually it meets the real battle performance characteristics of the relevant gun type. The parameter is set in the range from 1 to 249.
Auto reload	When this option is activated, the laser tag game set will automatically reload new magazine as soon as ammo in the previous magazine runs out. This option can be useful to everyone who produces laser tag equipment from LaserWar components kits because you have the ability not to place independent a reloading button or a reloading micro switch.
Reload time	The amount of time (in seconds) that takes to reload new gun magazine. The parameter is set in the range from 1 to 255.
Shots in the burst	The number of shots in one burst with a long single press on the trigger. The parameter is set in the range from 1 to 255.
Rate of fire	Imitation of real weapons fire rate: from slow sniper bolt rifles to fast machine-gun bursts. The option is set in the range from 10 to 990 shots per minute.
Damage	The amount of damage (in health hit points) when this gun hits an enemy. With differentiated damage (making different damage for different guns) you can imitate performance characteristics of the real gun. So you can set damage depending on caliber or destructive power.

### Friendly fire

Friendly Fire is the mode that enables hitting the players of some team color by other players of the same team color. If "Friendly Fire" mode is not activated, the game set can't be hit by the players with game sets that have the same color. If "Friendly Fire" is activated, the game set will be able to be hit by the game sets with the same color. We recommend you to play laser tag without activation "Friendly Fire" mode because it will be easier and more interesting to most players. But if you are interested in a realistic battle you can activate "Friendly Fire" mode.

### Power shots

This option means the power of the infrared shot. The higher the parameter value, the longer the shooting distance, but the probability of ricochets increases as well. We recommend using 100% while playing outdoor and nearly 50% while playing at night or in buildings.

### Overheating

The number of shots before imitation of gun barrel overheating. When shooting from a real gun safety practices prohibit shooting without a break, because high barrel temperature may occur barrel deformation. So, game set emulates the effect of "the barrel overheating" after a too intense shooting, the shot sound becomes quieter, gun quits shooting, and its light disappear. The player should wait for a few seconds until gun cool down; the loud shot sound is returned, and player can fight again. The higher rate of fire and the larger magazine capacity, the higher overheating of the barrel of a real gun. You can turn off the overheating option with the "on/off" switch. In "on" position, adjust the number of shots before the barrel is overheated.

The option is set in the range from 10 to 255 shots.

### Time to start

Time in seconds from making respawn by remote control or medkit to player activation the beginning of the game. The option is activated only by a special command "New game - start delay" from the remote control device. The parameter is set in the range from 0 to 3,600.

### Time of shock

Time (in seconds) of "shock" after been hit. During this period the hit player loses the opportunity to fire. The player's headband vibrates and LED's glow when a player is hit. The parameter is set in the range between 0.1 and 65.0.

### Invulnerability

Time (in seconds), when the player is invulnerable and can take to hide. When the player is invulnerable, he cannot shoot and cannot be hit.

The option is set in the range between 0.1 and 3.0.

### Sound

Background sounds, played while the character's activation.

When the character's data is generated, click on "Save" button. If you don't click on "Save", the program prompts for approval to save the changes when you exit the section (Figure 28).



Figure 28


Click on "Yes" to save your changes, and on "No" to discard them, or click on "Cancel" to return to the editing of the character's data.

To save the updated characters in the memory of laser tag gun, click on "Write" in the main section window (Figure 29). Sending data to the laser tag gun is described in details in chapter 3.8. When you write data to your laser tug gun, only the values of checked parameters are updated.

☒ Magazines

Unchecked parameters remain unchanged when you write them to the laser tug gun.

☐ Magazines

To delete a character, hover the mouse over the button with its name in the main section window and click on the icon  at the top (Figure 29). Note that preset characters are not available for deletion.

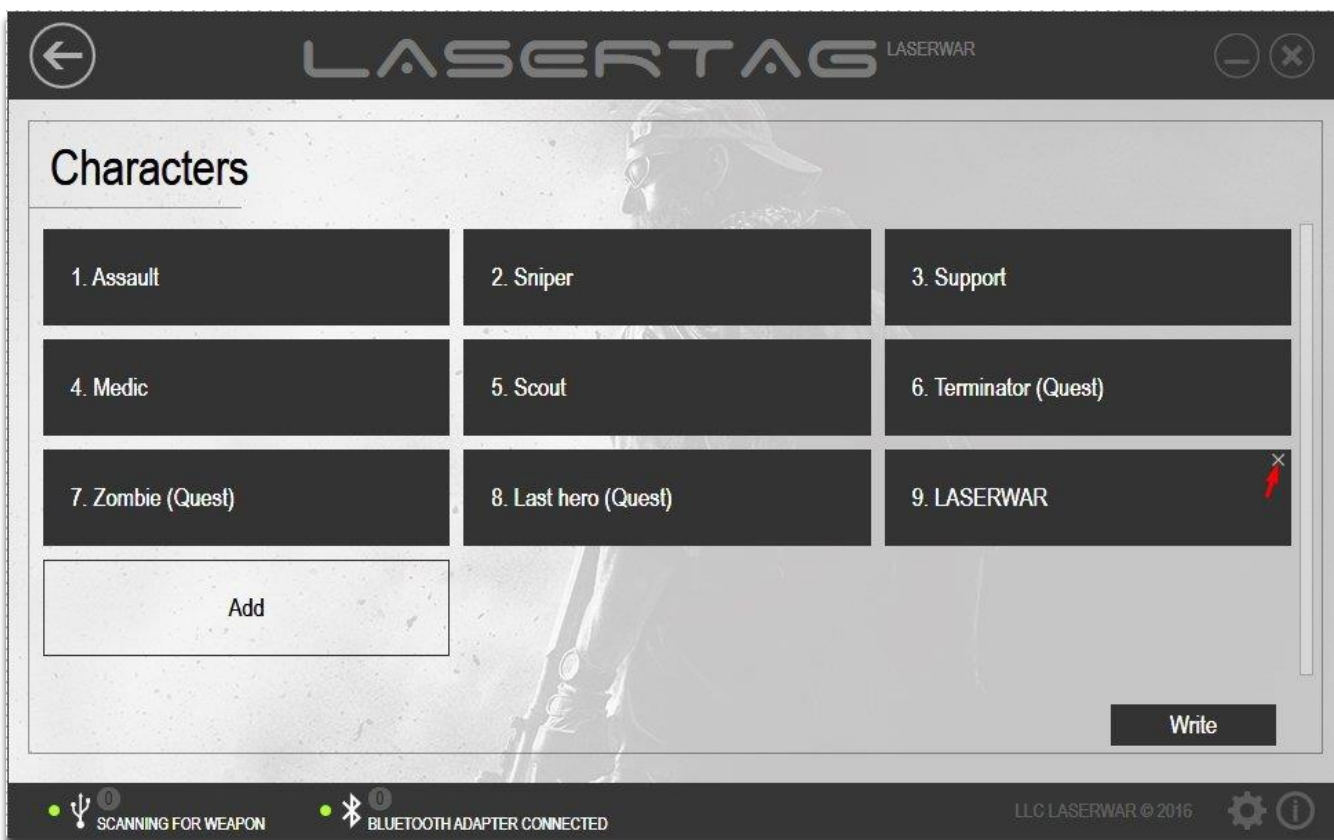


Figure 29

### 4.3 "Sending"

"Sending" section is designed to view the laser tag performance characteristics, to send the changed technical characteristics to the 4-9 generations laser tag gun, and to quickly change the laser tag gun settings with the selection of presets.

To work with the section, you should connect your laser tag gun in the configuration mode using Bluetooth Base or USB Base.

The connection of laser tag guns v. 4-7 and operation modes are described in details in 3.6.

The connection of laser tag guns v. 7-9 and operation modes are described in details in 3.7.

To open the section, click on "Sending" in the center of the main program window.

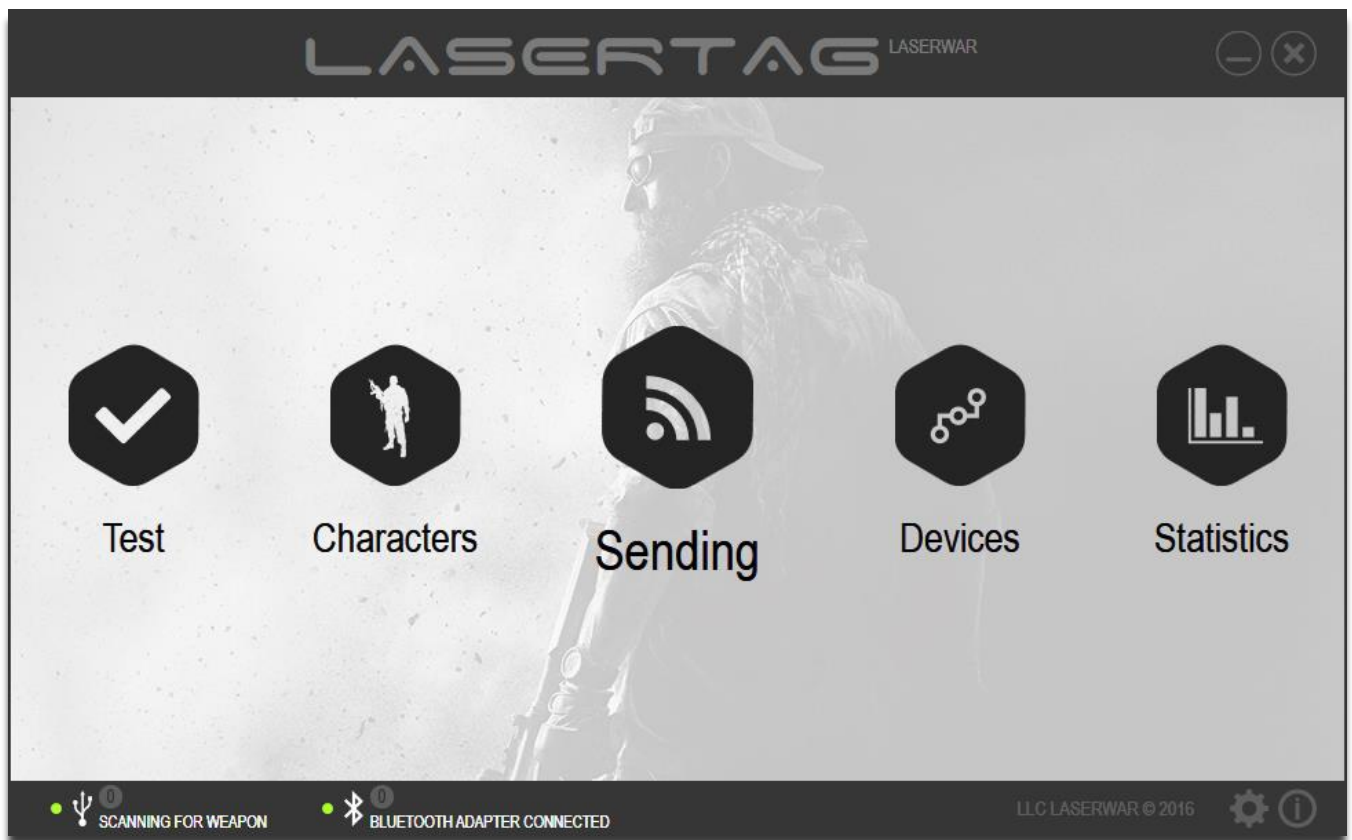


Figure 30

The main window of the section is shown in Figure 31.



Figure 31

To work with the section you should connect your laser tag gun v.4-7 in the configuration mode using USB Base, and laser tag gun v. 7-9 should run in the configuration mode and be connected to the computer with a Bluetooth Base. If your laser tag gun is connected properly, the "Clear statistics", "Read" and "Write" buttons become available in the program (Figure 32).



Figure 32

On the left side of the window, there is a settings area of the laser tag gun. To update some technical options while sending to your device, check the appropriate fields, and then select the desired values there. When you write data to your device, only the values of checked parameters are updated. The rest settings are not changed while writing to your laser tag gun.

<b><i>parameter</i></b>	<b>Description</b>
<i>Taget type</i>	Select the target type from the drop-down list
<i>Team color</i>	Select a color from the drop-down list. You can have up to 4 teams with different colors ("Red", "Blue", "Yellow", "Green") playing simultaneously on one area. Players with the same colors can't hit each other (if "Friendly fire" option is not activated). If the colors of laser tag guns are different, shooting will detract number of health hitpoints (set in "Character's damage") from an opponent player.
<i>Player ID</i>	Enter the numeric player ID or change it with the arrows. The allowable range for identifier is 0 - 125. ID is used to calculate the game statistics and should be unique for all guns. Players with the same ID cannot hit each other, so when you send a parameter to multiple kits, the ID of each new kit automatically adds 1. When you send parameters to the next lot of rifles, you should also ensure that the IDs are unique.
<i>Vibration mode</i>	Specify the need for laser tag gun recoil vibration when the game events start. If "Disabled" is selected, vibration does not activate. If "Tactile feedback" is selected, vibration activates when the player is hit. If "Simulating the impact" is selected, vibration activates while shooting from the tagger simulating gun recoil. If "All events" is selected, the laser tag gun vibration activates in any of the above mentioned cases.
<i>Friendly fire</i>	Select the defeat mode for your team's players. If the team colors of the laser tag guns are the same, and "Friendly fire" mode is not activated, the game set can't be hit by the players with game sets that have the same color. If "Friendly Fire" is activated, the game set will be able to be hit by the game sets with the same color. We recommend you to play laser tag without activation "Friendly Fire" mode because it will be easier and more interesting to most players. But if you are interested in a realistic battle you can activate "Friendly Fire" mode.
<i>New game after power on</i>	When you power on your laser tag gun, a procedure of activating is required: "New game" command from the remote control or Medkit device. When you switch on "New game after power on" option, restart from the remote control or Medkit device is not required, and the game kit is ready to start just after it is turned on. It may be useful for individual players and game kits owners.
<i>Auto reload</i>	When this option is activated, the laser tag game set will automatically reload new magazine as soon as ammo in the previous magazine runs out. This option can be useful to everyone who produces laser tag equipment from LaserWar components kits because you have the ability not to place independent a reloading button or a reloading micro switch.
<i>Battery discharge voltage</i>	When you turn on your laser tag gun, the program reads (v-voltage) battery values, and if the figure is less than the specified value, the device beeps the sound of "Please recharge batteries". If the value is higher than the exposed

in the settings voltage, you will hear the phrase "Testing is successfully completed" when you turn on the tagger. This method helps you determine when a game kit needs charging. It is important to understand that if the battery does not pass the test, it is recommended to charge the device immediately. Overdischarging is harmful for lead-acid batteries, as well as storage in discharged state.

The "Features 8-generation" field (see Figure 33) is designed for game characteristics creation of v. 8-9 laser tag guns.

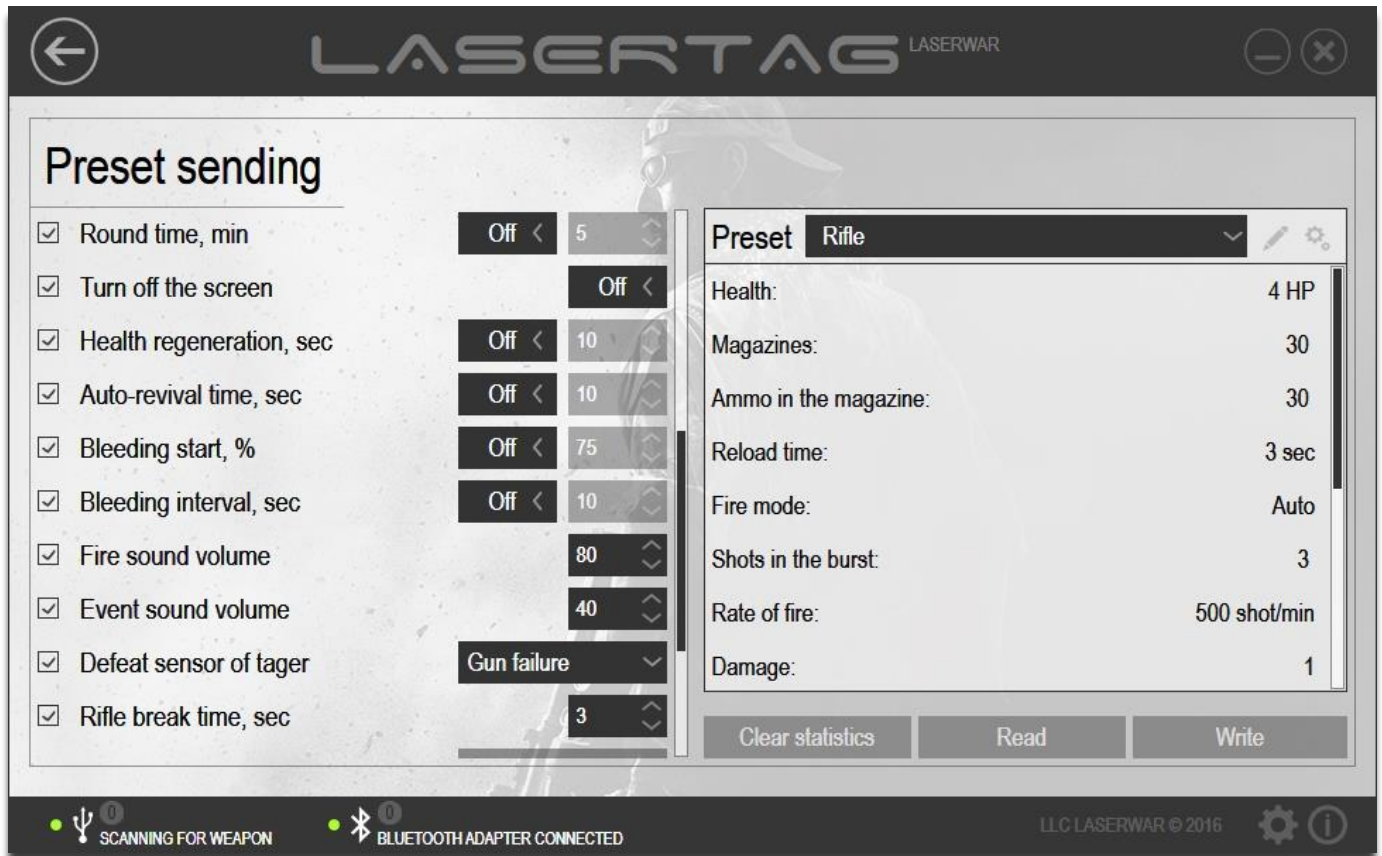


Figure 33

option	Description
Round time	If this option is not activated, the game round is not limited in time. To set the maximum round duration, select "ON", and then specify the round duration in minutes. The valid range is 5-240.
Turn off the screen	By default, this option is turned off, and the tager screen (if any) is turned on when the device operates. To turn off the tager screen, select "OFF". This helps to extend the battery life of the laser tag gun and makes the players invisible when you play in dark hours. The screen can be turned off only during the game.
Health regeneration	Activate this option to enable the player to restore 1% of health in the selected time interval without using the Medkit. To do it, select "ON" and then specify the recovery time in seconds. The valid range is 5-255.

<i>Auto-revival time</i>	By default, this option is turned off, and when the player has no health points, the virtual "death" happens, and the player should find the Medkit for the reanimation. However, you can set the time after which the player restores all the health points and returns to the game without the Medkit. To do it, select "ON" and then specify the time of the auto revival in seconds. The valid range is 0-60000.
<i>Bleeding start</i>	"Bleeding" is a special mode when the player loses 1% of health points at the specified time interval (it is not recommended to select health regeneration and bleeding at the same time). This mode is activated when the number of player's health points (percentage) becomes less than specified. To set the remaining number of player's health points when bleeding starts, select "ON" and then specify the percentage of health.
<i>Bleeding interval</i>	Select the frequency (in seconds) in which a player with an activated "Bleeding start" loses his health points. To do it, select "ON" and then specify the Bleeding interval in seconds. The valid range is 5-255.
<i>Fire sound volume</i>	Specify the Fire sound volume of the device shots as a percentage of the maximum.
<i>Event Sound Volume</i>	Specify the volume of the audio tracks of the game events as a percentage of the maximum.
<i>Defeat sensor of tager</i>	Specify whether to turn on or turn off the defeat sensor of the tager (if any).
<i>Reload type</i>	Select the magazine reload type: <ul style="list-style-type: none"> <li>- <b>Save:</b> the required quantity is added to the remaining ammo to fulfill the magazine;</li> <li>- <b>Reset:</b> the rest of the ammo in the magazine is reset, reloading the entire magazine.</li> </ul>

The "Features SmartRGB" field (see Figure 33.1) is designed for game characteristics of SmartRGB headband that is available for 9<sup>th</sup> generation of laser tag guns.

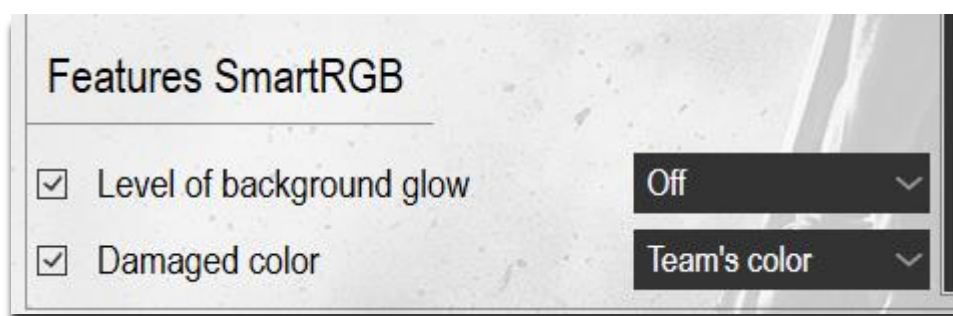


Figure 33.1

<i><b>parameter</b></i>	<b>Description</b>
<i>Level of background glow</i>	Background glow is a special RGB Headband mode when the headband glows all the time during the game. This mode usually is used for special scenario games and night or twilight games. To turn on this function please select the glow brightness level from 1 to 15.
<i>Damaged color</i>	The color that the bandage flashes after player wounding. You can select some specific color or team color flashing for hit players.

The "Hardware settings" field (see Figure 35) appears only after stating Laser tag configurator in a special hardware mode.

To do it, run the program with special key

*-enableHardwareSettingsGroup.*

To run the program with this key, type the following text in the line of command:

*"<exe-file path>"<space>-enableHardwareSettingsGroup.*

For example:

| *"C:\Program Files (x86)\LASERWAR\LASERTAG.exe" -enableHardwareSettingsGroup.*

Or, in the program shortcut properties, add the key text in the "Target" field on the "Shortcut" tab after the space (the example is shown in Figure 34).

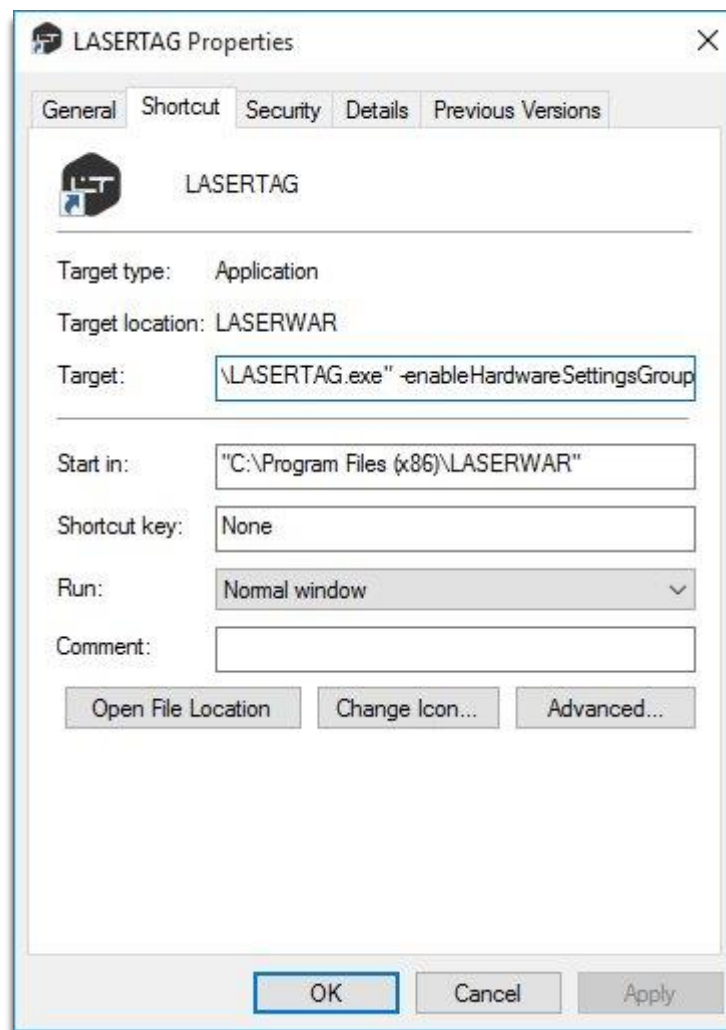


Figure 34

When you start the program with this key, the additional "Hardware settings" field is displayed in the "Sending" section (Figure 35).

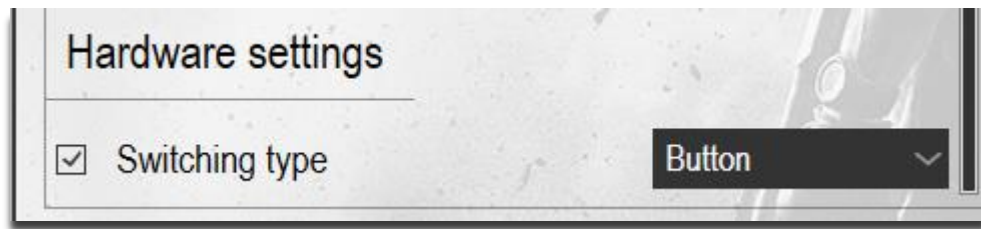


Figure 35


You should check the Switch type checkbox and select how to switch the fire mode - with a button or a switch. After the data are sent to your laser tag gun, you should clear selection, then you can hide the area running the program without a key.

In the right side of the window there is a Preset field.

When selecting a Preset at the top of the field, its settings are displayed to view. To change these settings, click on "Edit Preset" (⚙️) or "Fast edit" (✎️) icons. When you click on "Fast edit", you can change the data directly in "Preset Sending" window (Figure 36) and then write them to the device. This does not save the settings in the program, and after you write the options to the device or reopen the section, the original preset values are displayed.



Figure 36

When you click on "Edit Preset" , the main window of "Preset" section appears on the screen, as shown in Figure 37.

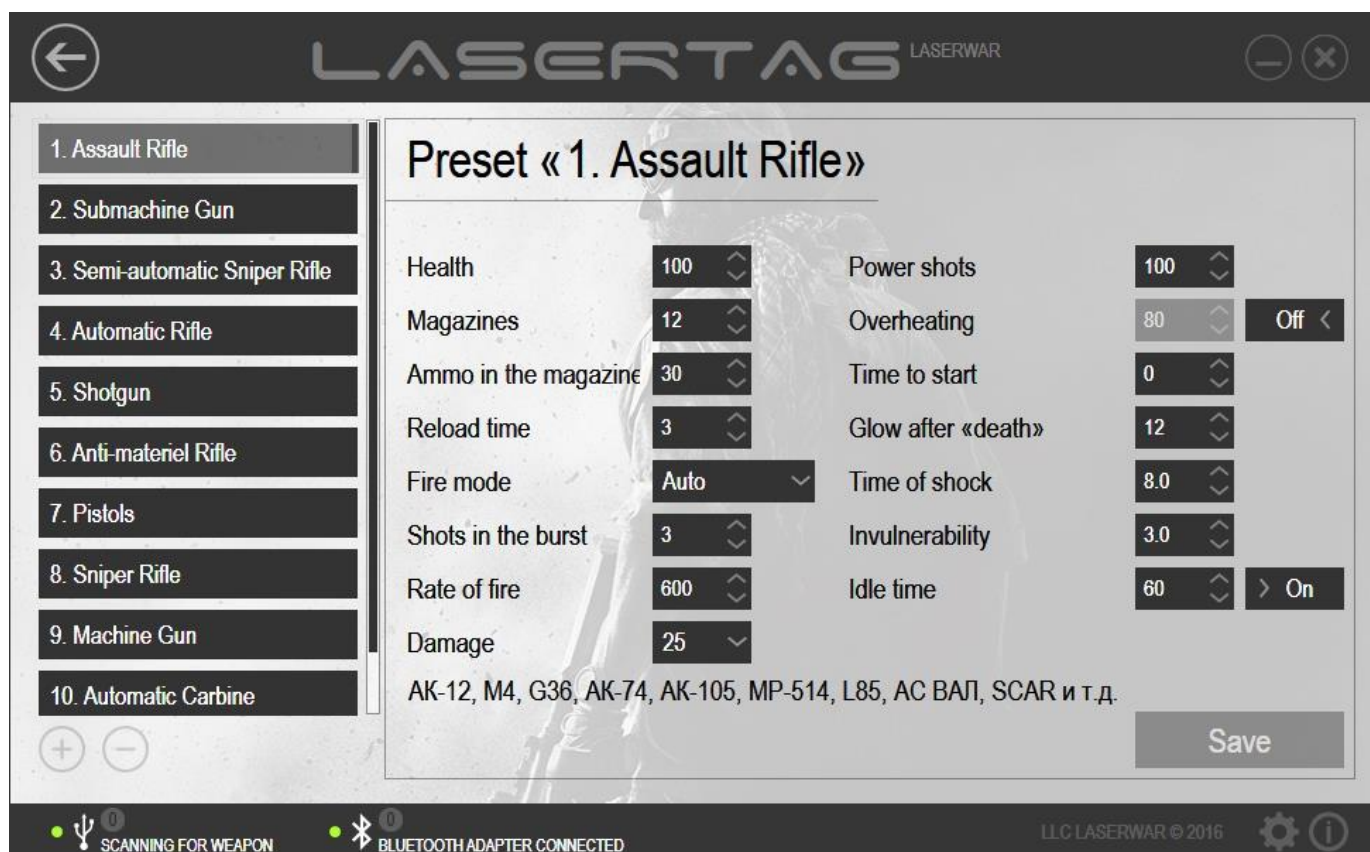





Figure 37

The left side of the window shows a list of presets settings by types of weapon with unique game characteristics.

To rename a preset, hover the mouse over its name, change it, and then click on "Save". If you don't click on "Save", the program prompts for approval to save the changes (Figure 28). Click on "Yes" to save your changes, and on "No" to discard them, or click on "Cancel" to return to the editing of the preset's name.

You can easily create the list of your own presets. To do it, you can use "Add"  and "Delete"  buttons under the list (Figure 37). To create your own preset, click "Add" () . This adds a new position to the list (Figure 38). Enter the name of the new preset-and then you can set the options.

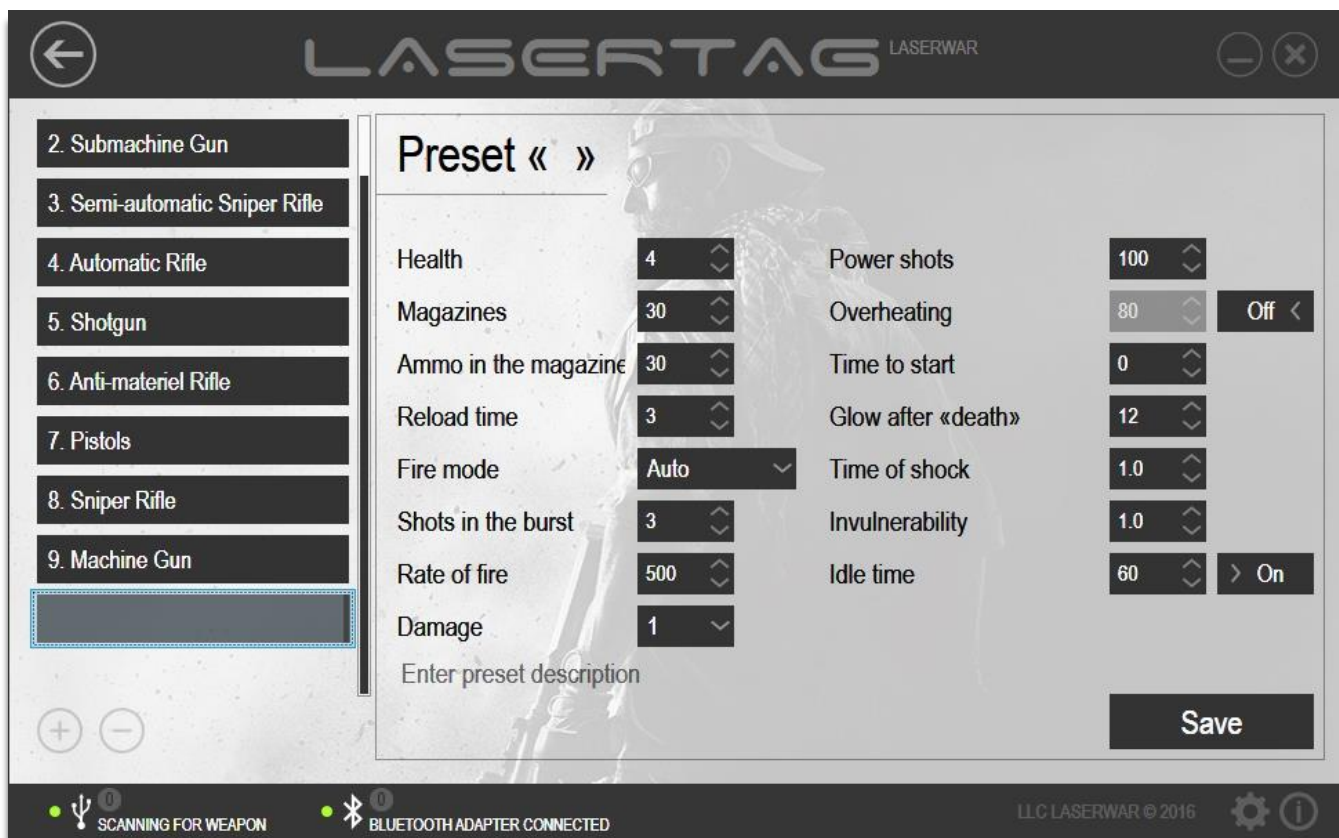


Figure 38

To delete a preset, select it from the list, and then click "Delete" (⊖). The program prompts for approval of the action (Figure 39).

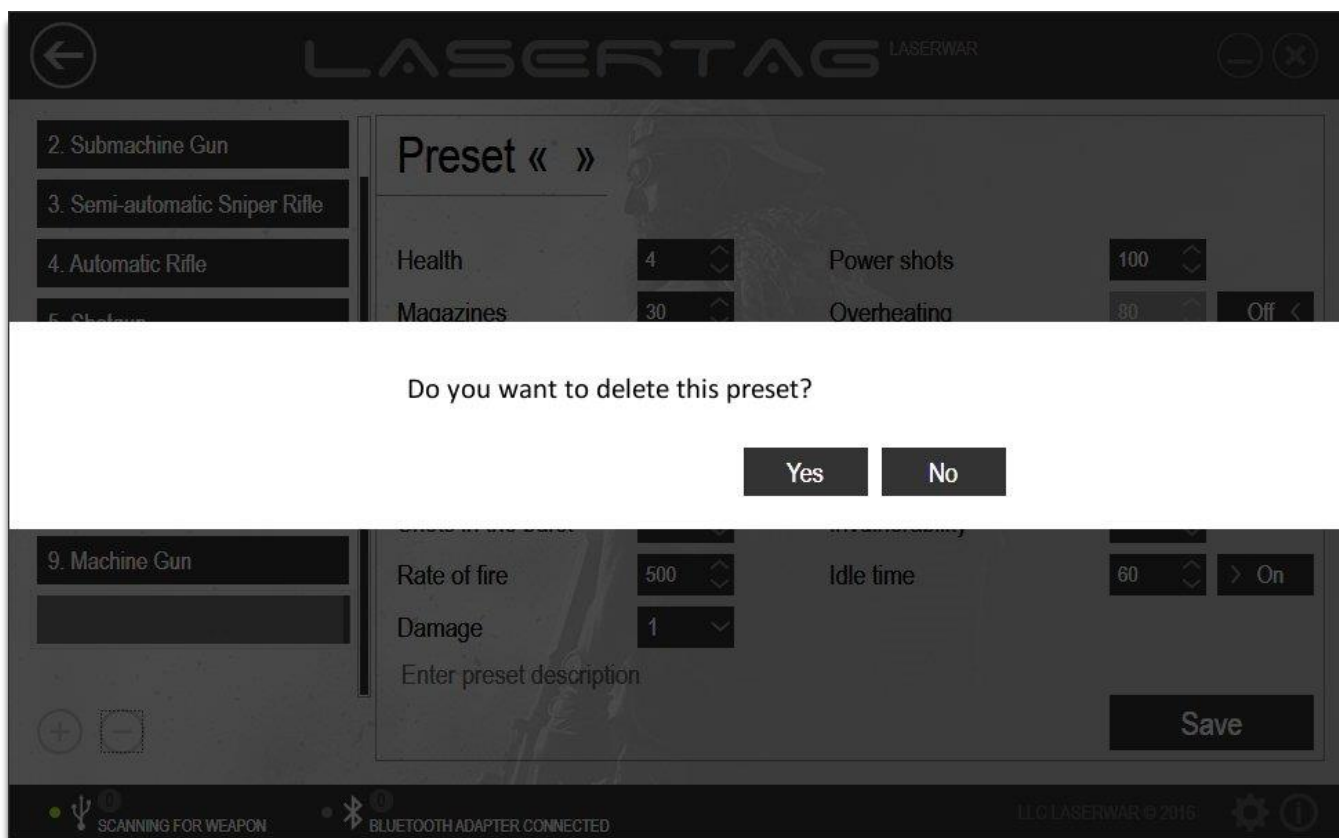


Figure 39

Click on "Yes" to delete the preset from the list, or click on "No" to cancel the deletion. However, pre-installed presets are not available for deletion.

To view or customize the preset settings, click on its name with the left mouse button. The names of the preset and the options available for editing are displayed on the right side of the window.

option	Description										
Health	Base number of hitpoints (health units). The parameter is set in the range from 1 to 999.										
Magazines	The number of gun magazines. The parameter is set in the range from 0 to 255.										
Ammo in the magazine	The number of rounds in one magazine. Usually it meets the real real battle performance characteristics of the relevant gun type. The parameter is set in the range from 1 to 249.										
Reload time	The amount of time (in seconds) that takes to reload new magazine. The parameter is set to range between 1 and 99.										
Fire mode	Fire mode: - "Auto" (automatic fire mode, does not limit the number of shots fired with a long single press on the trigger), - "Burst" (semi-automatic mode, ripple fire), - "Single" (single firing, i.e. "Sniper" mode). The setting is set only for the gun v. 4-7. The fire mode for the guns v. 8-9 is set in "Shots in the burst" field.										
Shots in the burst	The number of shots in the burst with a long single press on the trigger with the selected fire mode. The parameter is set to range from 1 to 255. For the device v. 8-9, the options of "Fire mode" and "Shots in the burst" are combined. The value of 1 in "Shots in the burst" field matches the "Single" mode. The value of 255 matches "Auto", and any other value matches the "Burst" mode. The value specified in "Fire mode" field for the device v. 8-9 is ignored.										
Rate of fire	Imitation of real weapons fire rate: from slow sniper bolt rifles to fast machine-gun bursts. The option is set in the range from 10 to 990 shots per minute.										
Damage	The amount of damage (in health hit points) when this gun hits an enemy. With differentiated damage (making different damage for different guns) you can imitate performance characteristics of the real gun. So you can set damage depending on caliber or destructive power.										
Power shots	<p>This option means the power of the infrared shot. The higher the parameter value, the longer the shooting distance, but the probability of ricochets increases as well. We recommend using 100% while playing outdoor and nearly 50% while playing at night or in buildings.</p> <p>The option is set in the range from 10 to 255 shots.</p> <table><tr><th>IR Power option</th><th>Distance</th><th>Bound Shots indoor</th></tr><tr><td>1%</td><td>10 m</td><td rowspan="3">No bound shots</td></tr><tr><td>25%</td><td>50 m</td></tr><tr><td>49%</td><td>100 m</td></tr></table>	IR Power option	Distance	Bound Shots indoor	1%	10 m	No bound shots	25%	50 m	49%	100 m
IR Power option	Distance	Bound Shots indoor									
1%	10 m	No bound shots									
25%	50 m										
49%	100 m										

	51%	120 m	Bound shots are present. It's comfortable to play. Bound shots depend on wall surface
	75%	150 m	
	100%	200 m	Bound shots are vast. We recommend playing outdoors
<i>Overheating</i>	<p>The number of shots before imitation of gun barrel overheating. When shooting from a real gun safety practices prohibit shooting without a break, because high barrel temperature may occur barrel deformation. So, game set emulates the effect of "the barrel overheating" after a too intense shooting, the shot sound becomes quieter, gun quits shooting, and its light disappear. The player should wait for a few seconds until gun cool down; the loud shot sound is returned, and player can fight again. The higher rate of fire and the larger magazine capacity, the higher overheating of the barrel of a real gun. You can turn off the overheating option with the "on/off" switch. In "on" position, adjust the number of shots before the barrel is overheated.</p>		
<i>Time to start</i>	<p>Time in seconds from making respawn by remote control or medkit to player activation the beginning of the game. The option is activated only by a special command "New game - start delay" from the remote control device. The parameter is set in the range from 0 to 999</p>		
<i>Glow after "death"</i>	<p>The time (in seconds) of the player's headband LEDs glow and vibration after player's "virtual death". The option is set to range between 1 and 60. For the laser tag gun of 8+ generations the value of this parameter is ignored. The glow time is 10 seconds.</p>		
<i>Time of shock</i>	<p>Time (in seconds) of "shock" after been hit. During this period the defeated player loses the opportunity to fire. The player's headband vibrates and LED's glow when a player is hit. The parameter is set in the range between 0.1 and 65.0.</p>		
<i>Invulnerability</i>	<p>Time (in seconds), when the player is invulnerable and can take to hide. When the player is invulnerable, he cannot shoot and cannot be hit.</p> <p>The option is set in the range between 0.1 and 3.0.</p>		
<i>Idle time</i>	<p>The idle time for the laser tag gun (in minutes) after which the alarm beeps. It is very helpful to the instructors and game managers and saves the batteries from overdischarging, if you forgot to turn off the laser tag gun. You can turn off the option with the "on/off" switch. In "ON" position, set the idle time for the game kit before the signal. The option is set to range between 30 and 240.</p>		

At the bottom of the window there is "Enter preset description" field, where you can specify the weapons information for the editable preset.

When all the data is entered, click on "Save" or "Yes" when the program prompts for approval to save the data. This returns to the previous section window, shown in Figure 33.

When all parameters are set and the preset data is created, you can write them to your laser tag gun. To do it, make sure that:

- while setting the laser tag gun of 8-9 generation: Bluetooth connection is active, and the game kit runs in the configuration mode (detailed device connection and operating modes are described in chapter 3.7).
- while setting the laser tag gun of 4-7 generation: USB base is connected to the computer, and the game kit runs in the configuration mode (detailed device connection and operating modes are described in 3.6);

Click on "Write".

Sending the parameters to the laser tag gun of 8-9 generation is described in details in 3.8. When sending is successfully finished, the game kit beeps, and the program window looks like the one in Figure 40.

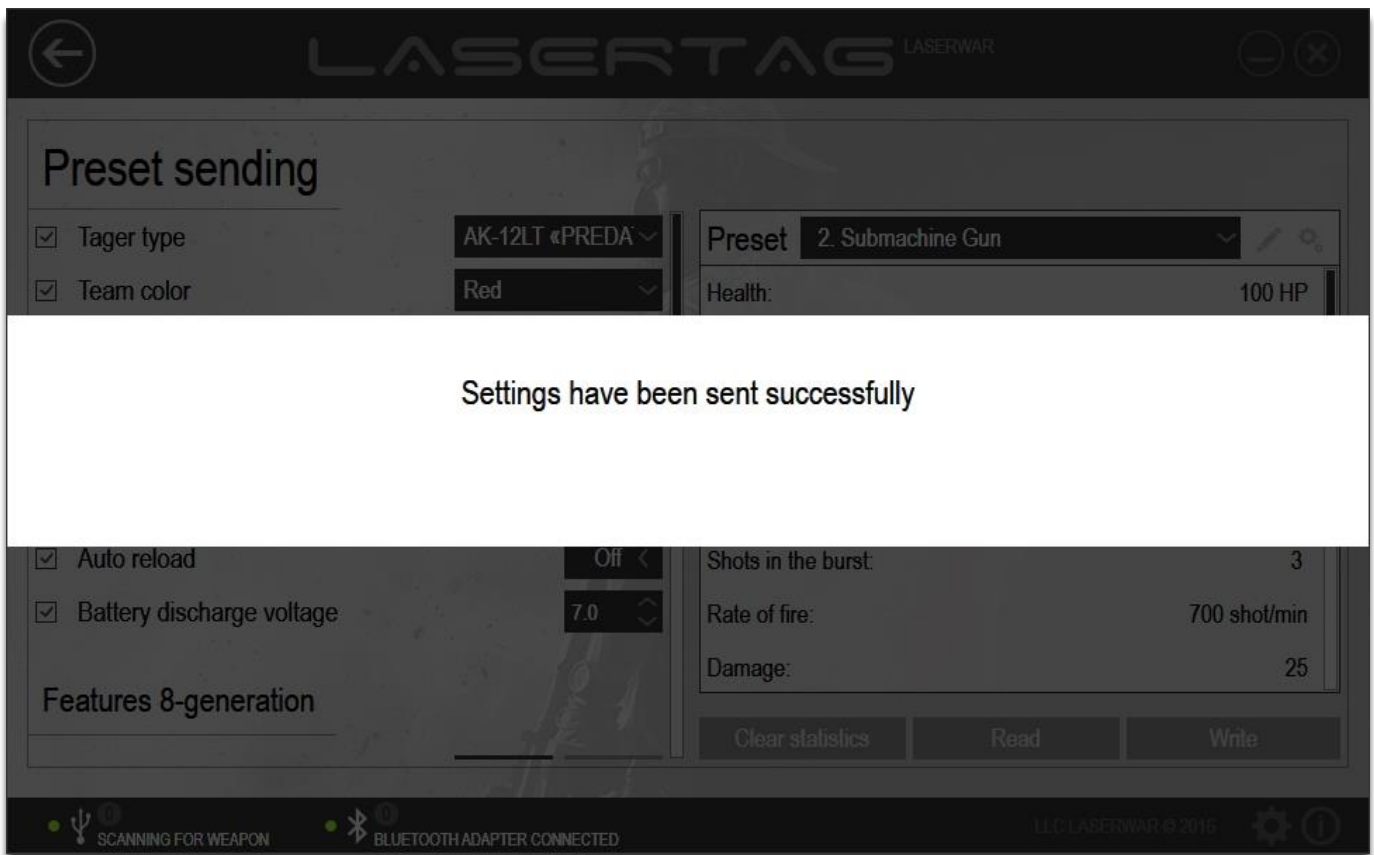
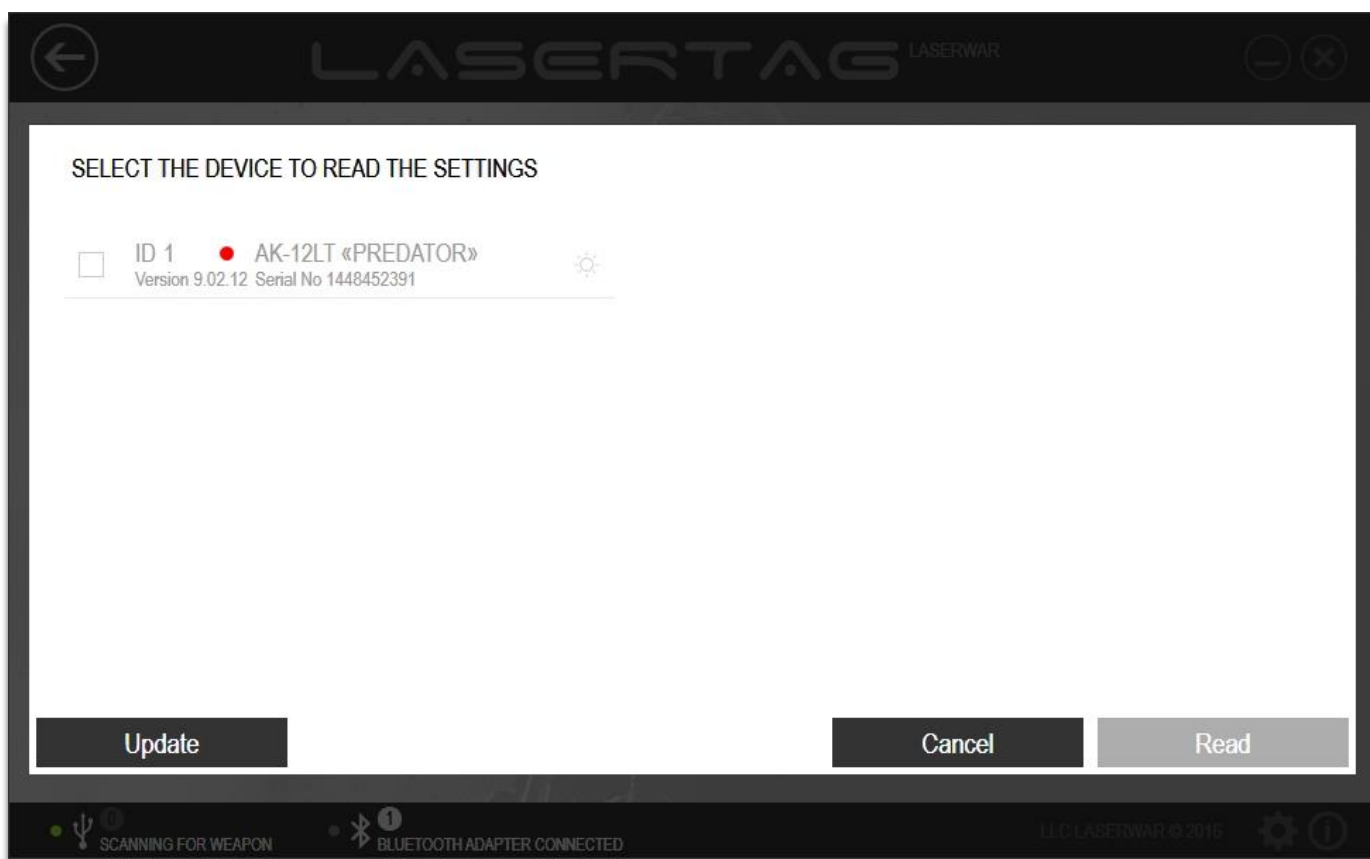


Figure 40


You can test the sent laser tag gun settings in "Test" section that is described in 4.1. When the settings are successfully sent to the device, the laser tag gun automatically switches from the configuration mode to the game mode, so you do not need to restart the gun to work with the test mode after writing the settings.

To see the settings that were previously sent to the device, click on "Read" in "Sending" section and the system will search for devices to read the settings.



*Figure 41*

If the program does not update the list of connected devices; to search the connected devices again, click on "Update".

You should select one gun which settings are read, and check the checkbox next to it. To identify the connected kit exactly, click on the icon  and the connected gun should beep.

Click on "Cancel" to discard the settings, or click on "Read" to read the data of the selected laser tag gun. The screen displays the progress animation while reading of settings (Figure 42).

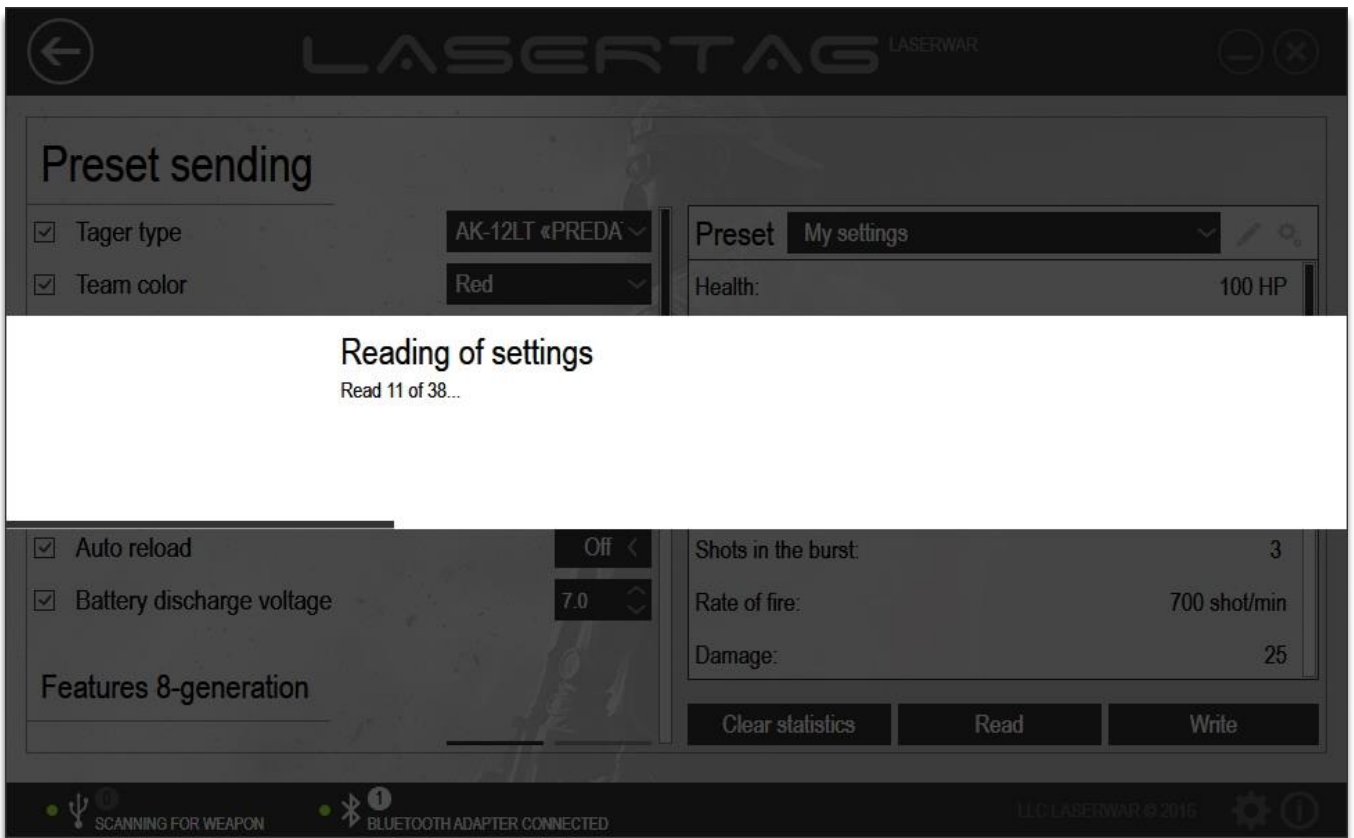


Figure 42

After successful reading of settings the window looks like the one shown in Figure 43.



Figure 43

The settings previously sent to the device will displayed in the appropriate fields.

If necessary, you can clear the game statistics of laser tag gun. To do it, click on "Clear Statistics" (Figure 43). If you are connected to the laser tag gun of 4-7 generation using USB base, you will clear statistics of the connected kit. Otherwise, if you are connected via Bluetooth with 8-9 generation guns the system searches for devices connected with the Bluetooth adapter.

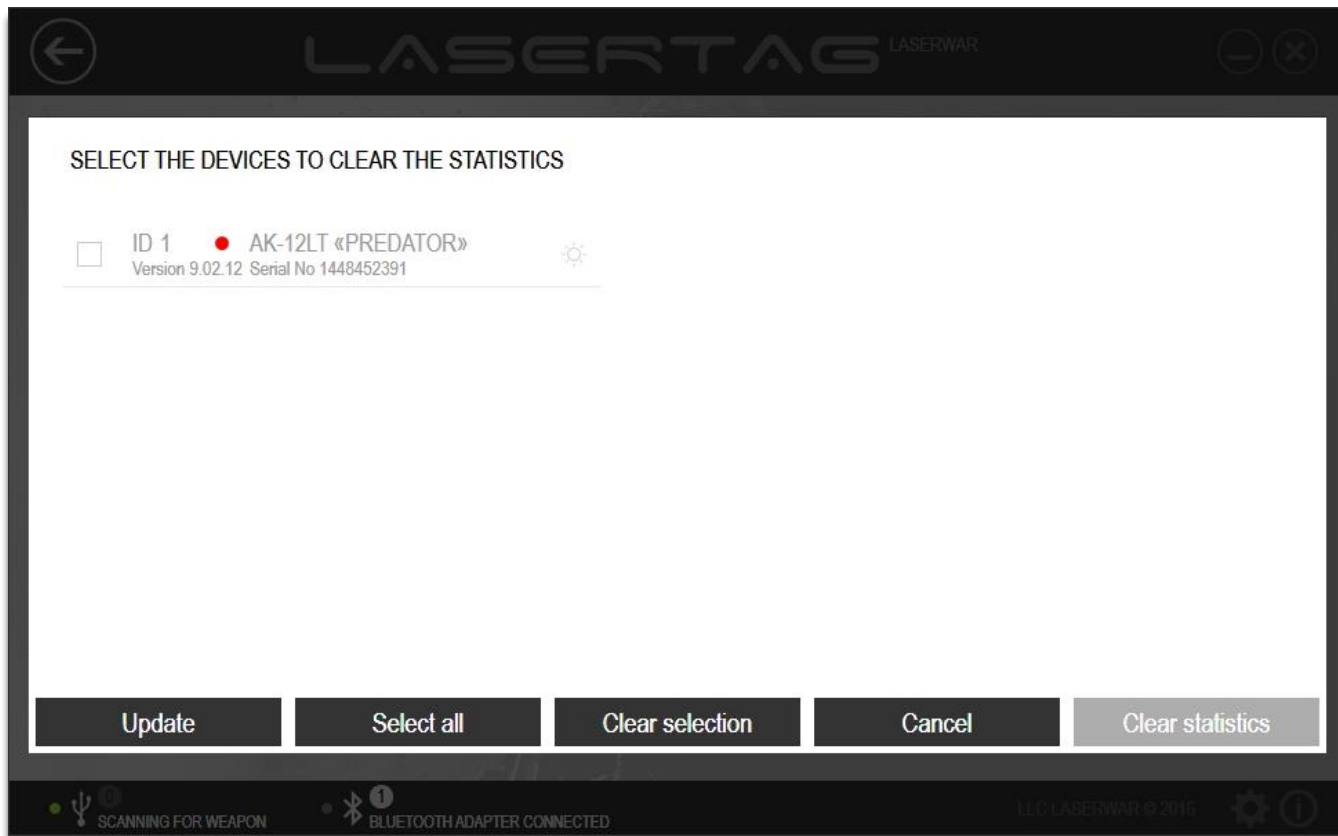



Figure 44

If the program does not update the list of connected devices; to search the connected devices again, click on "Update".

You should select the devices whose statistics you want to clear and check the checkboxes next to them. To identify the connected gun exactly, click on the icon  and the relevant device should beep. You can check the checkboxes next to all of the guns using "Select All" or, on the contrary, clear all the boxes clicking on "Clear Selection".

Click on "Cancel" to discard the data sending, or click on "Clear Statistics" to delete the game statistics from the selected devices. At that the screen displays the progress animation of clearing statistics, and after this process is successfully finished the program window displays "Statistics have been cleared successfully" message shown in Figure 45.

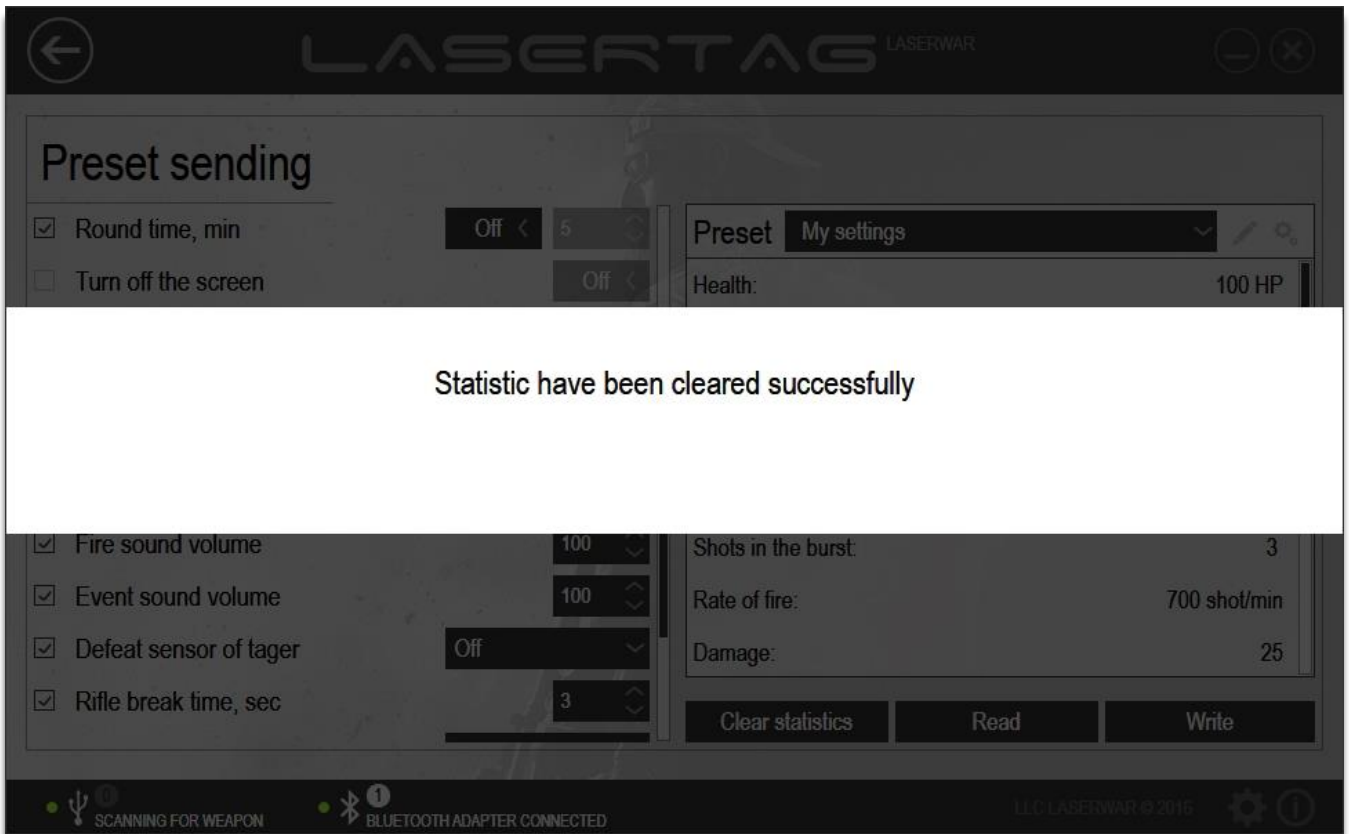


Figure 45

#### 4.4 "Devices" section

"Devices" section is designed to set the options for additional devices, such as "Hostage" game kit or Grenade launcher, and to quickly write the selected options to laser tag device.

To open the section, click on "Devices" in the center of the main window (Figure 46).

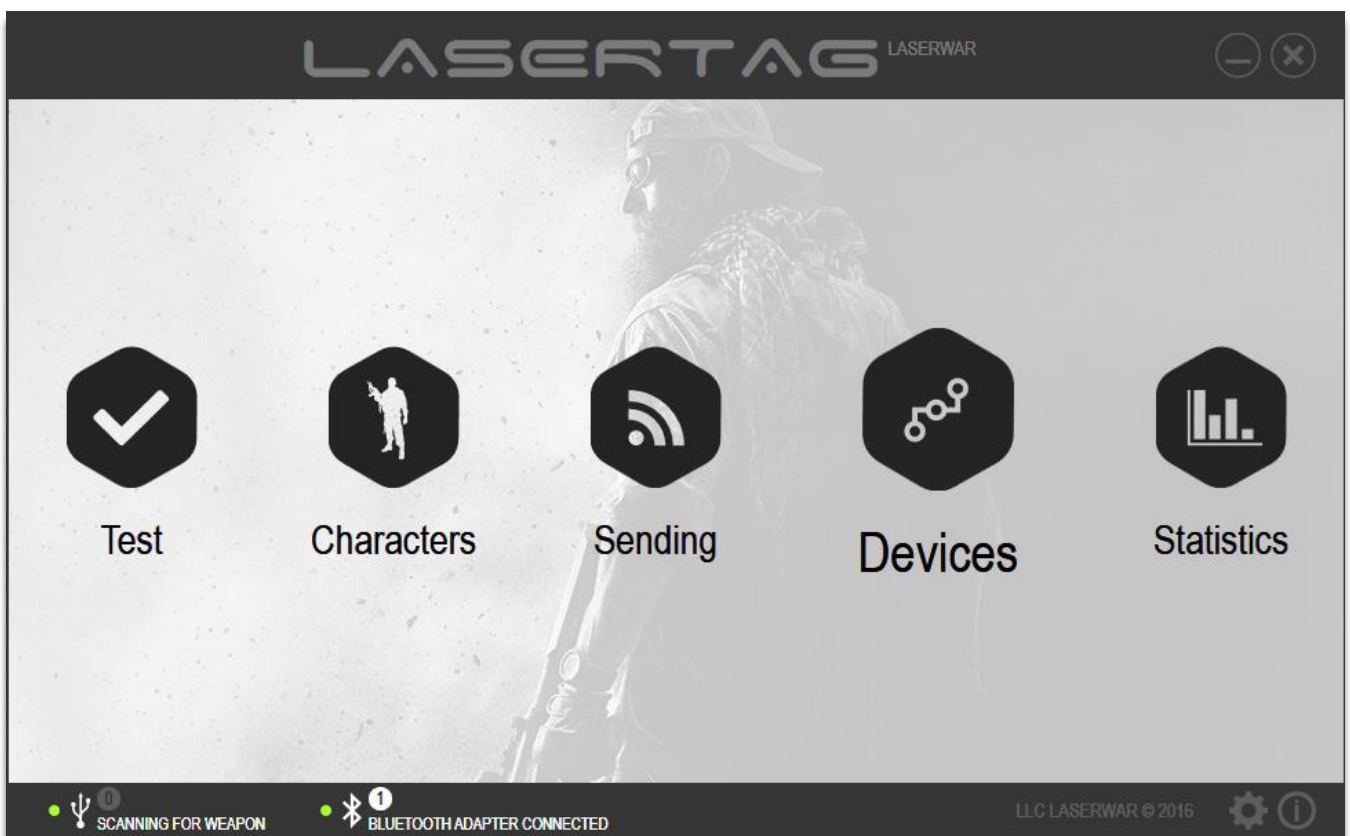


Figure 46

The main window of the section is shown in figures 47-48.



Figure 47

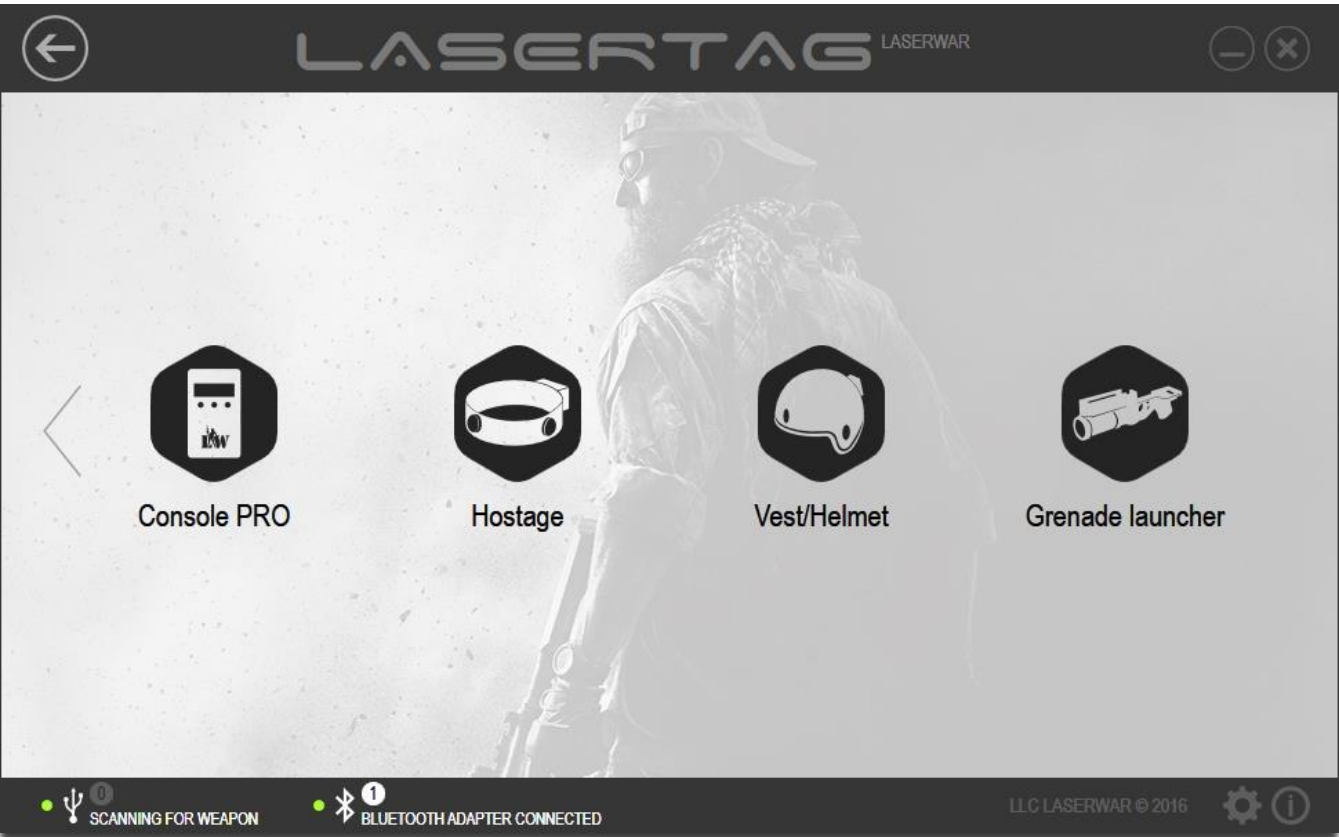



Figure 48

For user's convenience there are subsections created for each additional device:

- "[Command post](#)" (see 4.4.1);
- "[Smart Kit 2.0](#)" (see 4.4.2);
- "Smart Medic" (see 4.4.3);
- "System "Kupol" (see 4.4.4);
- "Artifact" (see 4.4.5);
- "[Universal Console](#)" (see 4.4.6);
- "[Console PRO](#)" (see 4.4.7);
- "Hostage" (see 4.4.8);
- "[Vest](#)/Helmet" (see 4.4.9);
- "Grenade launcher" (see 4.4.10).

To open a subsection, click on the appropriate button. To close the subsection and return to the main window of "Devices", click on "Back"  at the top of the window.

**Note! Changing options of additional devices is done only with USB Base.**

To work with the subsections you should connect USB Base (Figure 8) to your computer or laptop. This process is described in detail in 3.6. At that a message that USB Base is connected and the device is searched appears at the top of the window, and the game settings are available for editing.

#### 4.4.1 "Command post"

The main window of "Command post" subsection is shown in Figure 49.

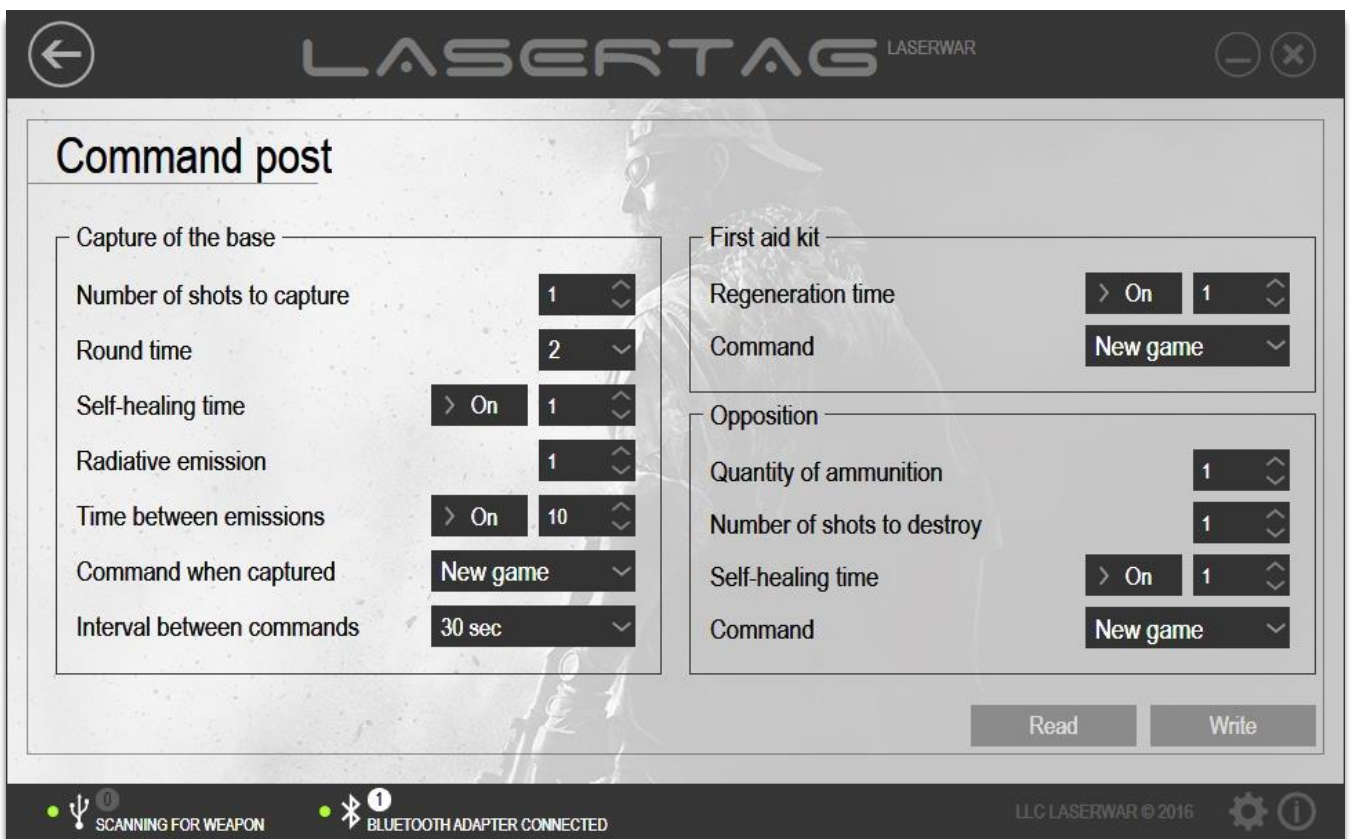


Figure 49

To work with Laser tag configurator, the command post should run in the configuration mode. To run the command post in the configuration mode, press the red button and power on the device. This process is committed with the "Administrator mode activated" sound signal. Next, position USB Base sensors exactly opposite the command post sensors (not more than 3ft). The command post sensors are located on the corners of a top lid. If the device is connected properly, the program displays the device connection and the firmware version of the command post device, and "Read" and "Write" buttons become active (Figure 50).

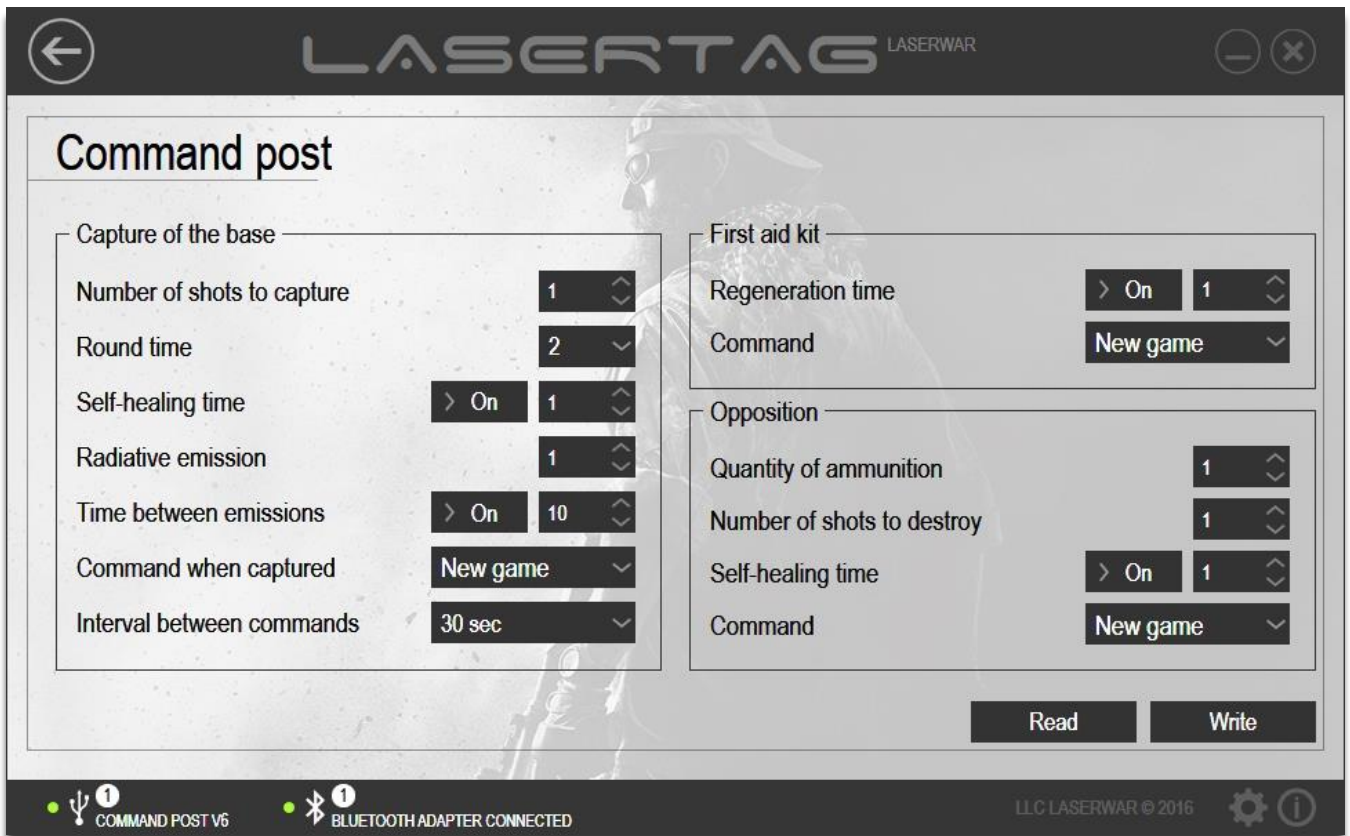


Figure 50

To see the settings that were previously sent to the device, click on "Read". At that the screen displays the progress animation of reading of settings (Figure 51).

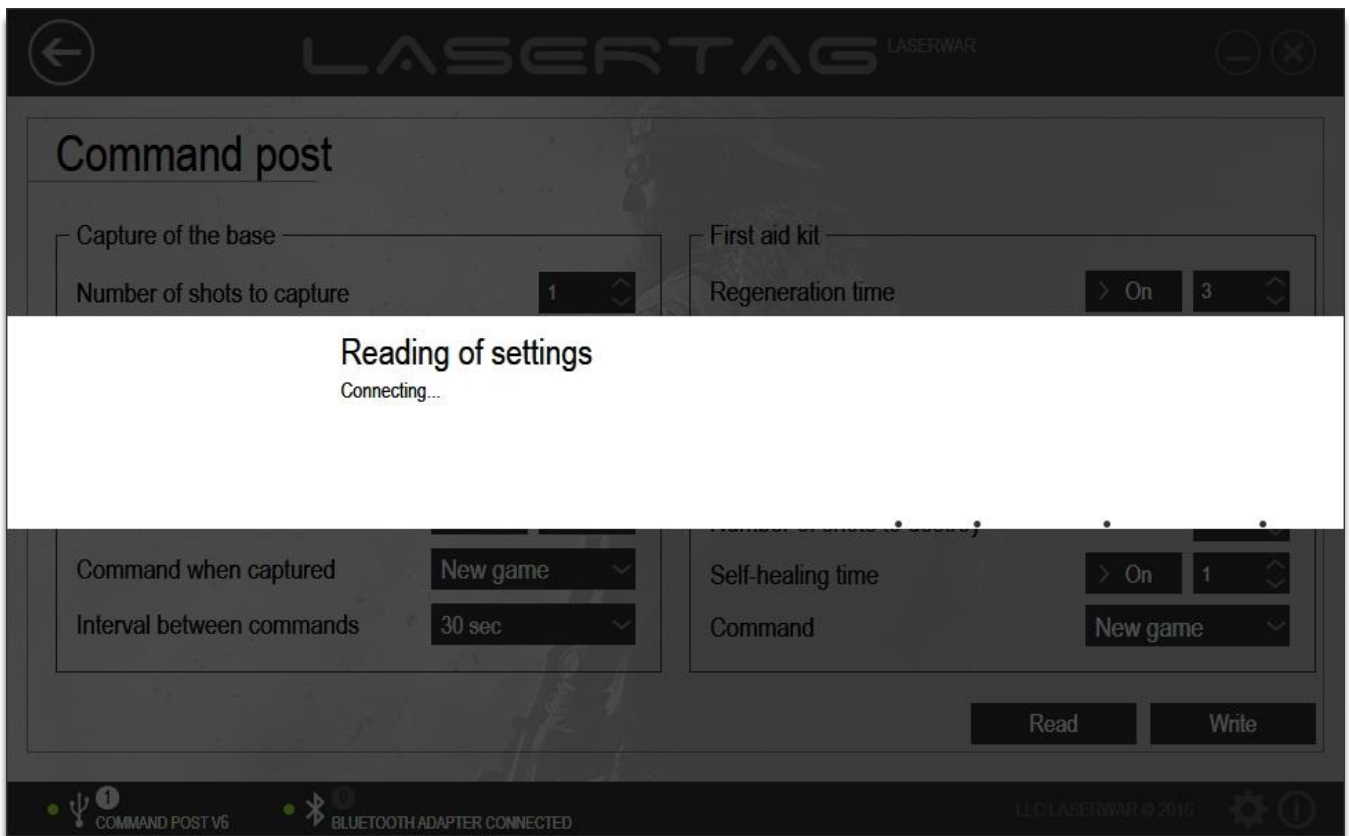


Figure 51

After successful reading of settings, the window shows "Settings have been read successfully" message shown in Figure 52.

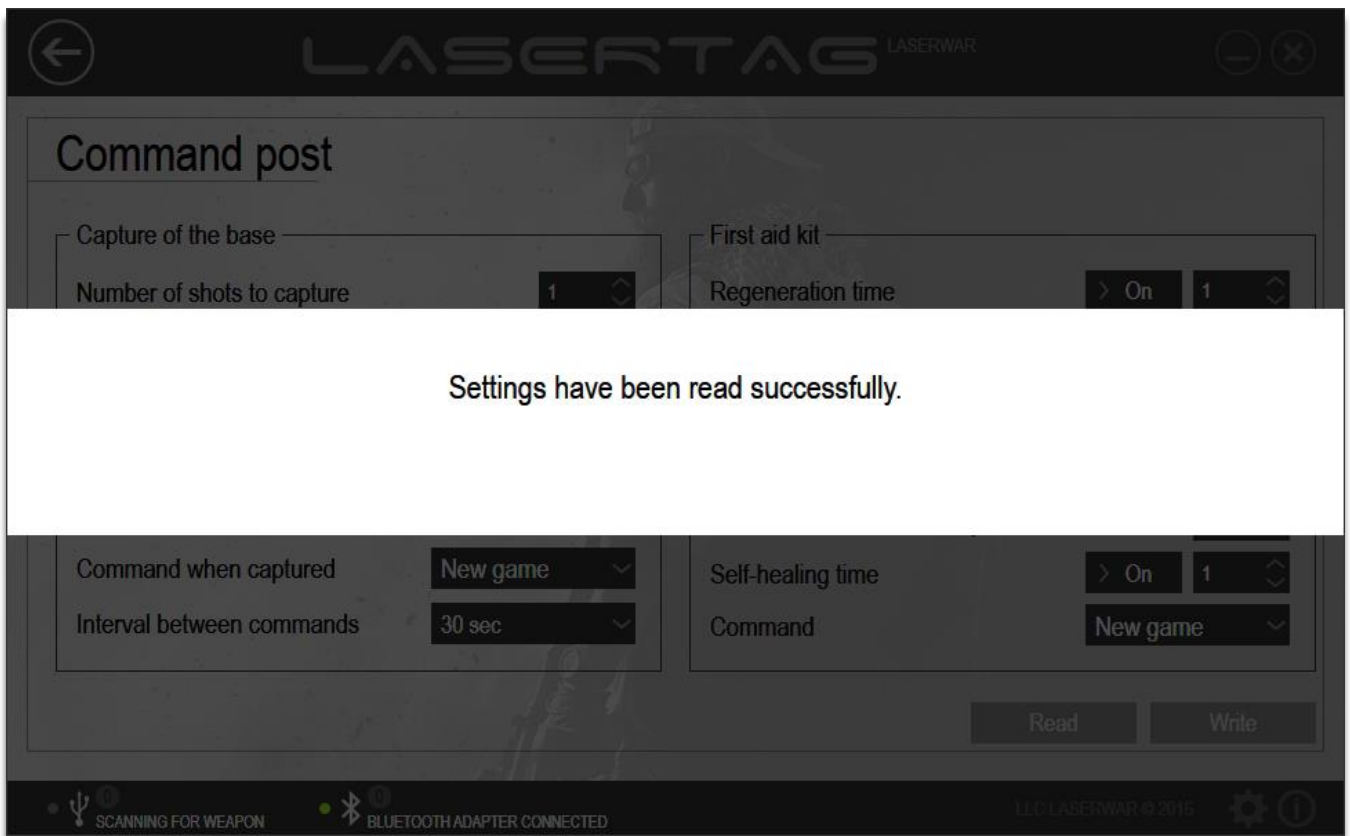


Figure 52

To change the options for writing to the device, enter the data in the fields described below. Each field of technical options corresponds to a certain device game mode ("Capture of the base", "First aid kit" and "Opposition").

### **"Capture of the base" game mode**

<i>Number of shots to capture</i>	The initial number of hits to the command post, required to capture it. If a player failed to capture the command post, in the period of time specified in "Self-healing time, sec" field, the number of hits required for the capture will increase by 1 until the original value is reached. The parameter is set to range between 1 and 10000.
<i>Round time</i>	Select the round time in minutes from the drop-down list. The option is set between 2 and 120.
<i>Self-healing time</i>	Time (in seconds), at the end of which the number of hits required for the capture will increase by 1 until it reaches the original value specified in "Number of shots to capture". The parameter is set to range between 1 and 254. You can turn off self-healing of the command post, selecting "OFF".
<i>Radiative emission</i>	The amount of damage (in health hit points) caused by radiation emission of the command post when players in sensitive range are defeated. The parameter is set to range between 1 and 254.
<i>Time between emissions, sec</i>	Time (in seconds), at the end of which the emission of radiation happens. The parameter is set to range between 10 and 254. Emissions of radiation can be turned off. To do it, select "OFF".
<i>Command when captured</i>	The command that is executed when the command post is captured. <b>"Reanimation"</b> - restoring of the health points of the "killed" player to the maximum. <b>"New game now"</b> - the end of the current game and the start of the new game immediately after the command post is captured. <b>"New game-start delay"</b> - the end of the current game and the start of the new one in a period of time.
<i>Interval between commands</i>	Run frequency of the command "Command when captured" (when the "Reanimation" value is selected). The option is set in the range of 10 seconds to 10 hours.

### **"First aid kit" game mode**

<i>Regeneration time, sec</i>	When the automatic mode is on, the regeneration of the health hitpoints and ammo of the players in sensitive range are provided with the frequency specified in this field. The option is set to range between 1 and 254 seconds. You can turn off auto regeneration of health and ammo, selecting "OFF".
-------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### "Opposition" game mode

Quantity of ammunition -	The total quantity of the magazine that can be restored with command post throughout the round. The parameter is set to range between 1 and 10000.
Number of shots to destroy	Number of hits of another team player to the command post until the ammunition base is completely destroyed. The option is set to range from 1 to 10000.
Self-healing time, sec	The time when the quantity of ammunition increases by 1 until the original value specified in "Quantity of ammunition" is reached. The parameter is set to range between 1 and 254. You can turn off self-healing of the command post, selecting "OFF".

To send the technical settings to the device, click on "Write". The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 53.

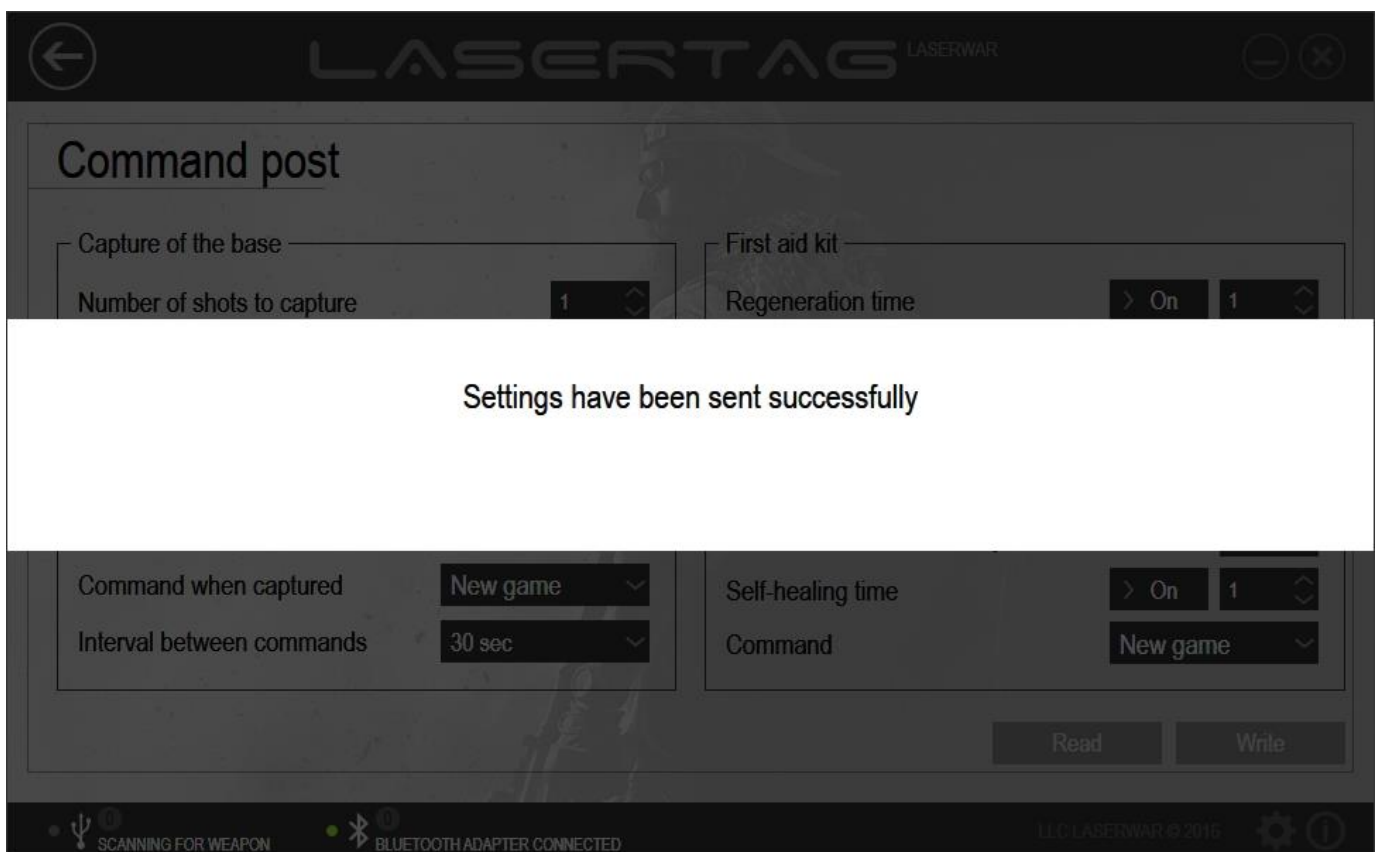


Figure 53

#### 4.4.2 "Smart Kit 2.0"

The main window of the "Smart Kit 2.0" subsection is shown in Figure 54.

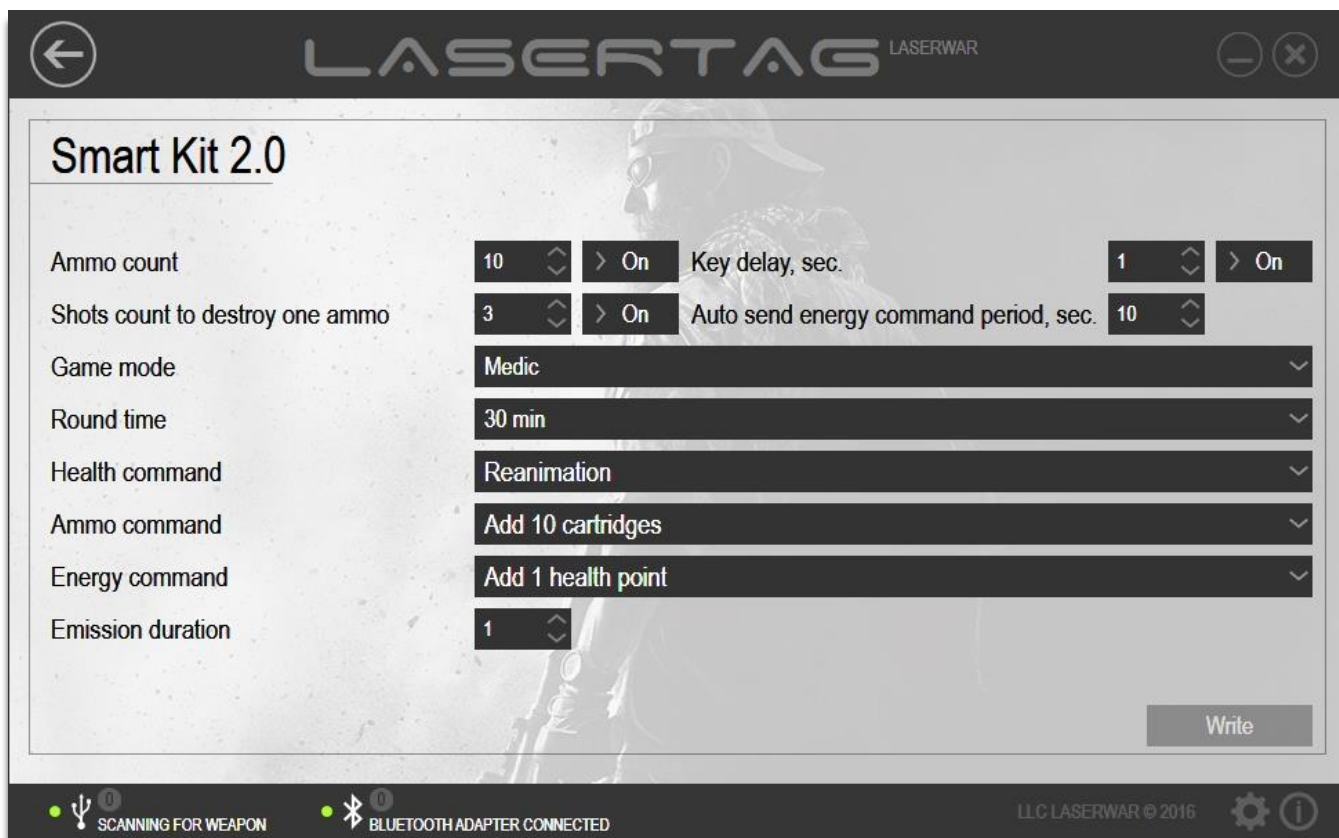


Figure 54

To work with the "Smart Kit" subsection, the device should run in the configuration mode. To run Smart Kit device in configuration mode position USB Base sensors exactly opposite the Smart Kit device sensors (no more than 3 ft). Turn on the Smart Kit. The device should switch itself to configuration mode in 5-10 seconds. If the device is connected properly, the program displays the device connection and the firmware version of Smart Kit device, and the "Write" button becomes active (Figure 55).



Figure 55

To set the technical options for writing to the device, enter the data in the fields described below.

<i><b>option</b></i>	<b>Description</b>
<i>Ammo count</i>	<p>The number of times you can use "Smart kit" device before its restarting. When the programmed number of times comes to an end, you have to reload the "Smart Kit" with the "New game" command. The value is selected between 1 and 250.</p> <p>Select "OFF", if you want number of kits to be unrestricted.</p>
<i>Shots count to destroy one ammo</i>	<p>The number of shots at "Smart Kit" required to destroy one ammo kit. The value is set to range from 1 to 250. Select "OFF" to turn off this function.</p>
<i>Game Mode</i>	<p>Select:</p> <ul style="list-style-type: none"> <li>- <b>"Medic"</b>,</li> <li>- <b>"Ammo"</b>, or</li> <li>- <b>"Energy"</b> game mode.</li> </ul> <p>When you exit the Laser tag configurator and after the device is turned on, the mode you select will automatically start.</p>
<i>Round time</i>	<p>Select the value between 1 minute and 4 hours. At the end of this time the set ammo count of "Smart Kit" will zero and you will have to restart the device. You can also set an unlimited round time.</p>
<i>Health command</i>	<p>Select one of the commands:</p> <ul style="list-style-type: none"> <li>- <b>"Reanimation"</b> - recovery of dead players' health hit points;</li> <li>- <b>"New game"</b> - sends new game command immediately and restores all players' parameters including hit points and ammo;</li> <li>- <b>"Start game with delay"</b> - sends new game command that restores all players' parameters including hit points and ammo with a delay that was preset with Configurator;</li> <li>- <b>"Restore health"</b> - restores hit points only of wounded players;</li> <li>- <b>"Reanimation for red/ blue/yellow/green team"</b> - recovery only of red/ blue/yellow/green team players' health hit points</li> </ul> <p>The selected command will be active in "Medic" mode.</p>
<i>Ammo command</i>	<p>Select one of the commands:</p> <ul style="list-style-type: none"> <li>- <b>"Restore ammo"</b> - full restoration of ammunition if the player does not have maximum ammunition</li> <li>- <b>"Add 1 (2, 5, 10) clips"</b> - adding the specified number of magazines if the player does not have maximum ammunition</li> <li>- <b>"Add 10 (50, 100) cartridges"</b> - adding the specified number of rounds if the player does not have maximum ammo);</li> </ul> <p>The selected command will be active in "Ammo" mode.</p>
<i>Energy command</i>	<p>Select one command from the list.</p> <ul style="list-style-type: none"> <li>- <b>"Add 1 (5, 10, 50, 100) health points"</b> (adding the specified number of health hit points, if the player does not have maximum hitpoints);</li> </ul>

- **"Reanimation"** (recovery of dead players' health hit points);
- **"New game"** (sends new game command immediately and restores all players' parameters including hit points and ammo);
- **"Start game with some delay"** (Sends new game command that restores all players' parameters including hit points and ammo with some delay that was preset with Configurator);
- **"Restore Health"** (Restores hit points of wounded players);
- **"Stun Player"** (The player will be unable to shoot for 7 seconds. If the player is hit within this period, he becomes active);
- **"Disarm Player"** (Destroys all player ammunition. The player will have zero magazines and cartridges);
- **"Fury"** (Increases players damage by 1 according to the MILES protocol table if the player does not have 100% damage);
- **"Double health in the round"** (doubles the number of health hit points till the end of the round);
- **"49% power (99%)"** (changes the power of gun IR emitter);
- **"Adrenaline 1 (4, 15,75)"** (recovery of preset amount on health according to the MILES protocol table if the player does not have maximum health);
- **"Anomaly"** (recovery of 1 life, if the player's health level is not the maximum);
- **"Preset Zombie"** (Player becomes Zombie);
- **"Change the team color to red (blue, yellow, green)"**; (Changes player's team color);
- **"Reanimation for red (blue, yellow, green) team"** (recovery of red (blue, yellow, green) team players' health hit points);
- **"Enable (disable) friendly fire"** (Enables or disables friendly fire mode for the player);
- **"Restore ammunition"** (restores full ammo of the player).

The selected command will be active in "Energy" mode.

*Emission duration*

Period of time during which the command is sent.

*Key delay, sec*

The time when you have to hold the button down to use one kit.

*Auto send energy  
command period, sec*

The time when the device's scale is filled and it triggers. The value is selected between 1 and 1800.

To write the options settings to the device, click on "Write". The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 56.

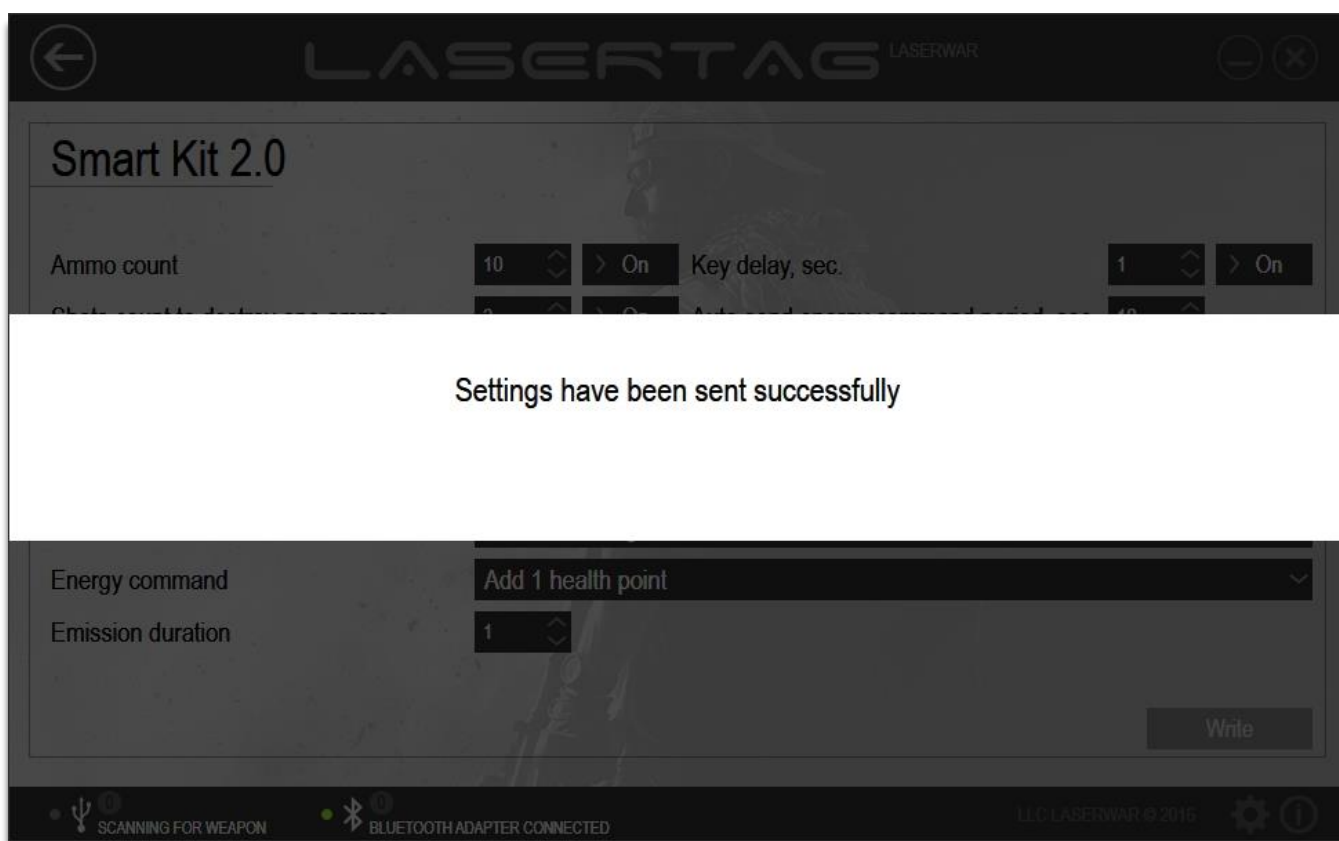


Figure 56

#### 4.4.3 "Smart Medic"



The main window of the "Smart Medic" subsection is shown in Figure 57.

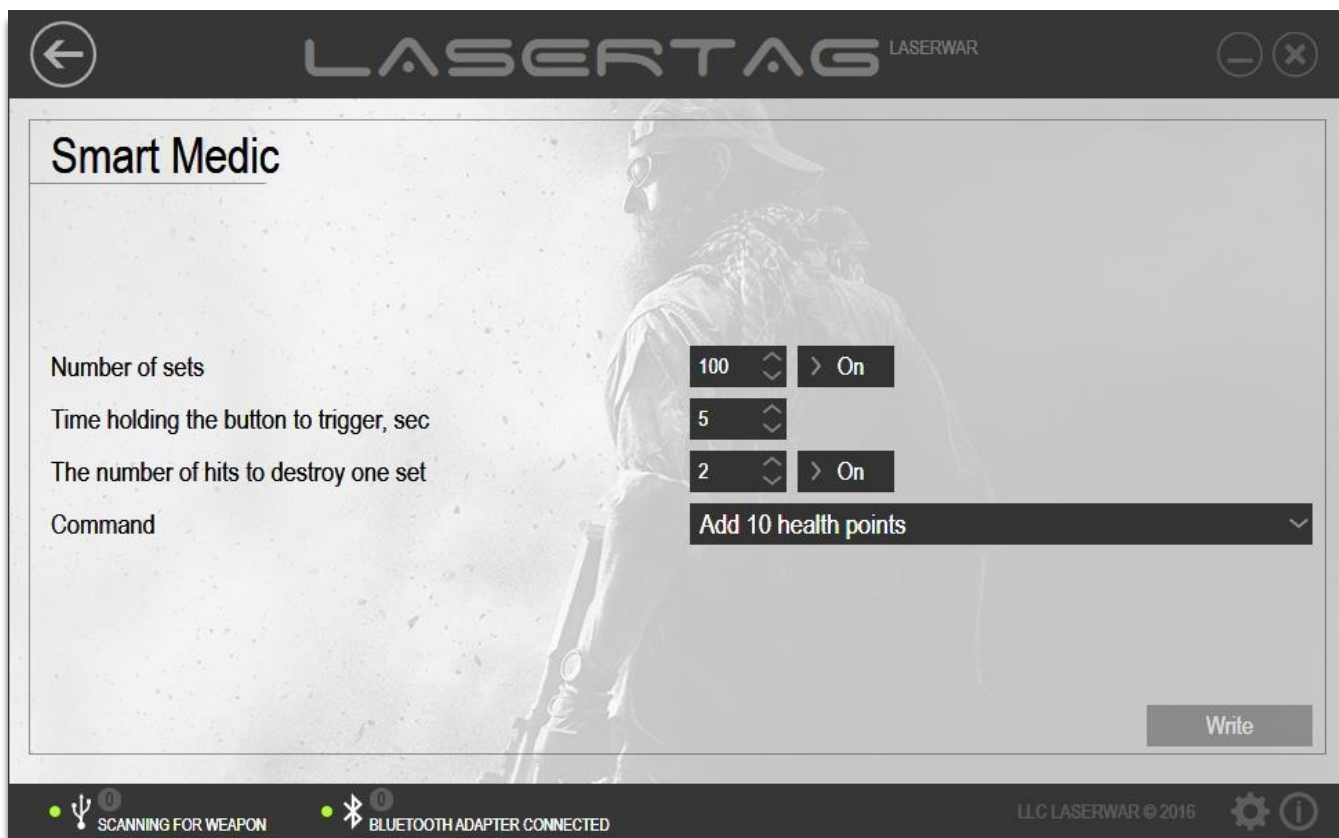


Figure 57

To work with the subsection, the Medic device should run in the configuration mode. To run Medic device in the configuration mode Position USB Base sensors exactly opposite the "Medic" sensors (no more than 3 ft) and make "New game" command from remote control (remote console) device. If the device is connected properly, the device will run the configuration mode in 10 seconds and the program displays the device type and the firmware version (Figure 58), the LEDs of "Medic" will be violet.

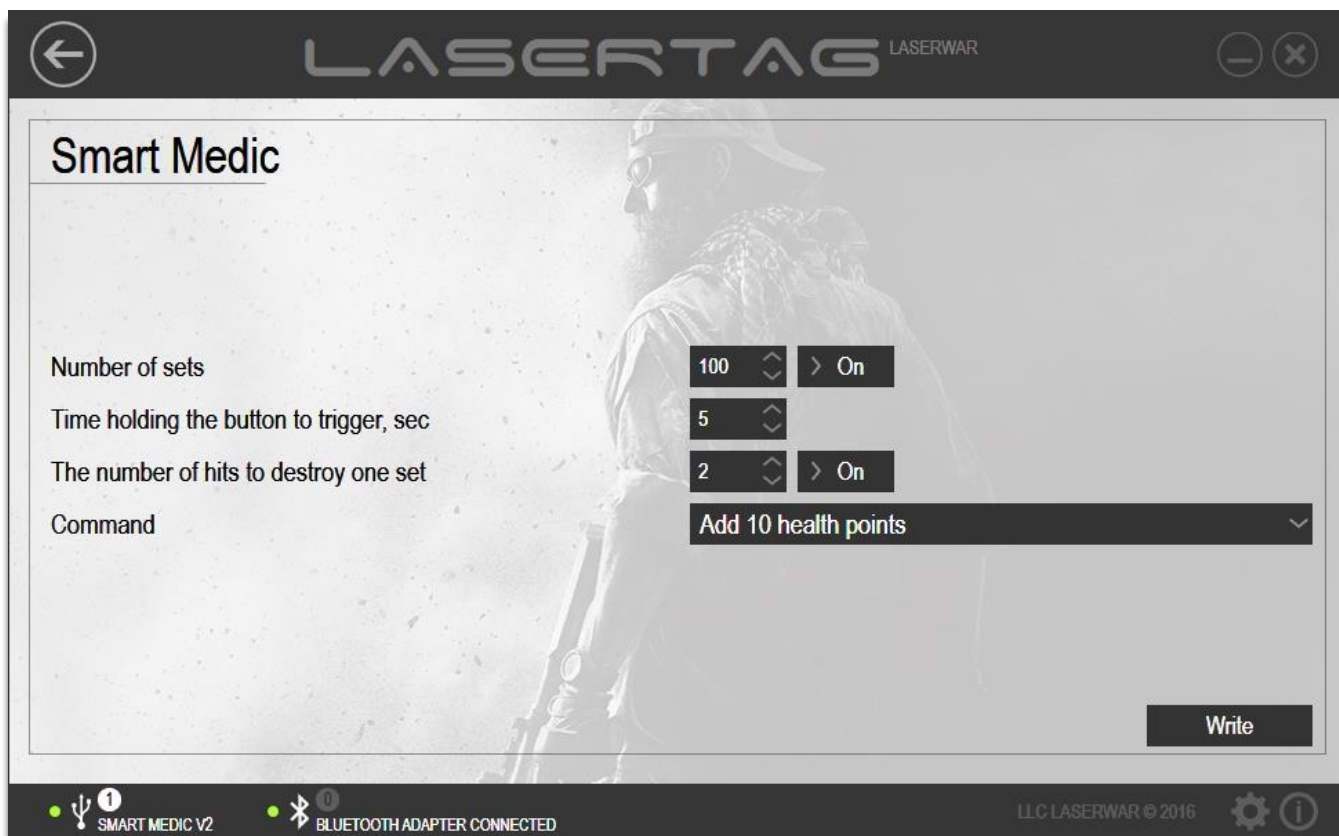
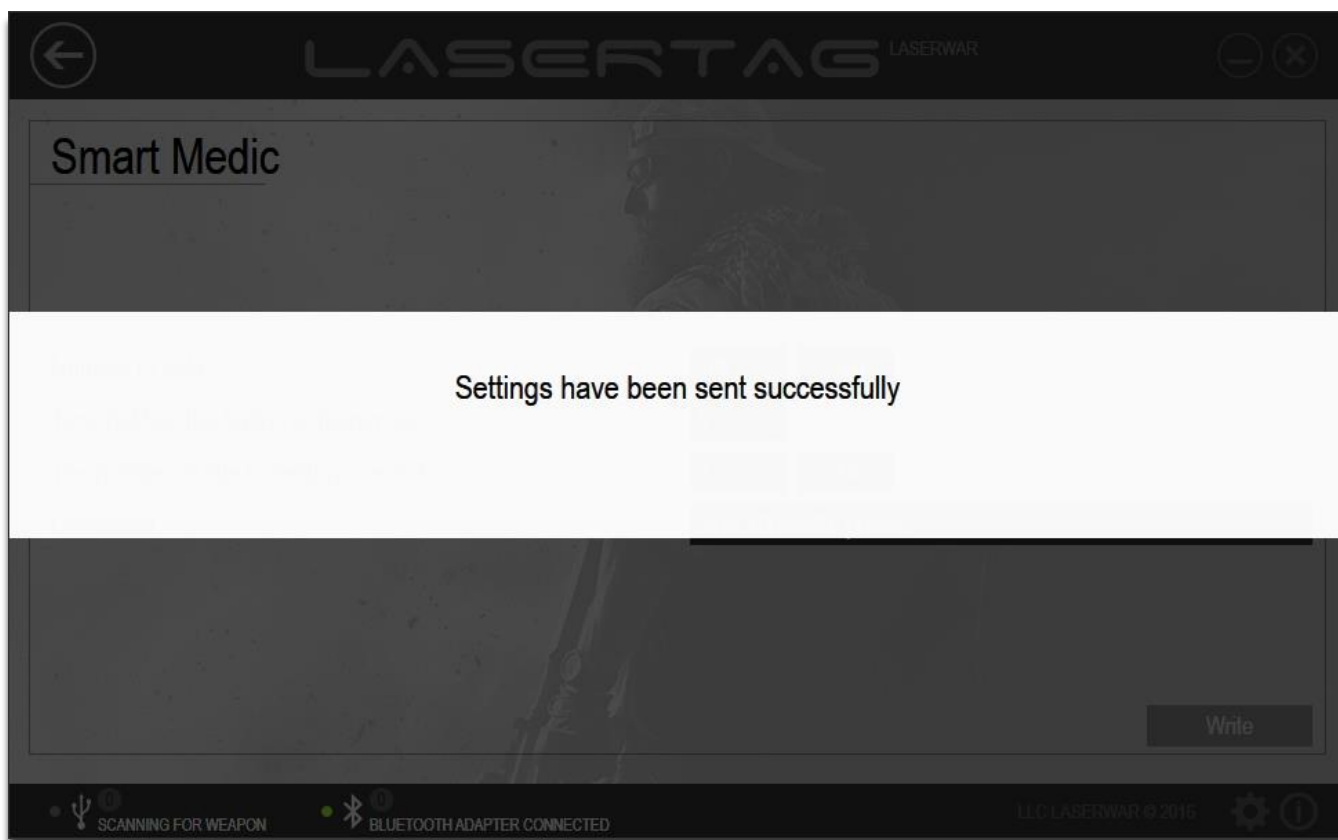


Figure 58

To create the parameters for writing to the device, enter the data in the fields described below.

<b>option</b>	<b>Description</b>
<i>Number of kits</i>	The number times "Medic" device can be used of before its restarting. You can turn off this option. When the programmed number of kits comes to an end, you have to reload the "Medic" with the "New game" command. Select "OFF" to make the number of kits unrestricted.
<i>Time holding the button to trigger, sec</i>	The time when you have to hold the button to use one kit.
<i>The number of hits to destroy one set</i>	The number of shots at "Medic" required to destroy one kit. Select "OFF" to turn off this function.
<i>Command</i>	<p>The command to perform when the button is pressed.</p> <p>To set the command to be performed from the Medic Device, specify the appropriate value in the "Command" field. There is the list of commands below.</p> <ul style="list-style-type: none"> <li>- <b>Add 1 (5, 10, 50, 100) health point</b> - Add player selected number of health hit points (if the player has no max health points).</li> <li>- <b>Add 10 (50, 100) cartridges</b> - Add the appropriate number of cartridges to the ammo (if the player has no max value of ammunition).</li> <li>- <b>Reanimation</b> - Restore the health of a "killed" player to the maximum.</li> <li>- <b>New game</b> - Start a new game. Activate the game kit.</li> <li>- <b>Restore Ammo</b> - Restore the player's ammo to the maximum</li> <li>- <b>Restore Health</b> - Restore the player's health points to the maximum if the player is not "killed".</li> <li>- <b>Add 1 (2, 5, 10) clips</b> - Add the appropriate number of magazines to the ammo (if the player has no max number of magazines).</li> <li>- <b>Adrenaline (1, 4, 15, 75)</b> Restore 1 or 4 of the player's health points, if the maximum player's health is 4, and 15% or 75% of health if the maximum player's health is 100.</li> <li>- <b>"Anomaly"</b> - recovery of 1 life, if the player's health level is not the maximum;</li> <li>- <b>Bleeding Treatment (bandage)</b> - Stop the player's activated "Bleeding" mode.</li> </ul>

To write the options to the device, click on "Write". The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 59.



*Figure 59*

To exit the program mode, click on "Medic" button. There are three short beeps that are followed by the green-red-blue-green LED change.

#### **4.4.4 "Kupol system"**

"Kupol" system is specially designed for mounting on armored vehicles for imitation tanks, infantry fighting vehicles and light armored vehicles damaging.

The main window of "Kupol System" is presented in Figure 60.

To work with the subsection, the armored vehicles detonation "Kupol" system should run in the configuration mode.




Figure 60

"Kupol" system will automatically start in the configuration mode if "New game from console" option is on. To start in the configuration mode position USB Base sensors exactly opposite the laser tag device sensors (no more than 3 ft) and wait for 10 seconds. If the device is connected properly, the program displays the device connection, and "Read", "Write" and "Clear statistics" buttons become active (Figure 61).



Figure 61

To create the technical parameters for sending to the device, enter the data in the fields described below.

<i><b>option</b></i>	<b>Description</b>
<i>New game from console</i>	Select "ON", so that the device will run game mode only after "New game" command from remote control (remote console device), or select "OFF", so that the "Kupol" system will run game mode immediately after turning on.
<i>Health points</i>	Type in or enter with the arrows  the number of base health hit points. The parameter is set to range between 1 and 65000.
<i>Minimum getting damage</i>	Select the minimum damage parameter (in health hit points) that system "Kupol" system adopts for being defeated. Shots with less damage than is specified will be ignored by the system. The parameter is set to range from 1 to 100.
<i>Detonate when get damaged</i>	Select the single damage (in units of health hit points) to the system "Kupol" for the complete destruction of armoured vehicles. The parameter is set to range from 1 to 100. Select "Disable" to disable the detonation function completely.
<i>Players' ID</i>	Leave the field blank so that all players can hit the "Kupol" system. To allow only certain players to hit the system, list their IDs with a comma. You can also specify ID ranges with a hyphen.

To write the options to the device, click on "Write". The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 62.

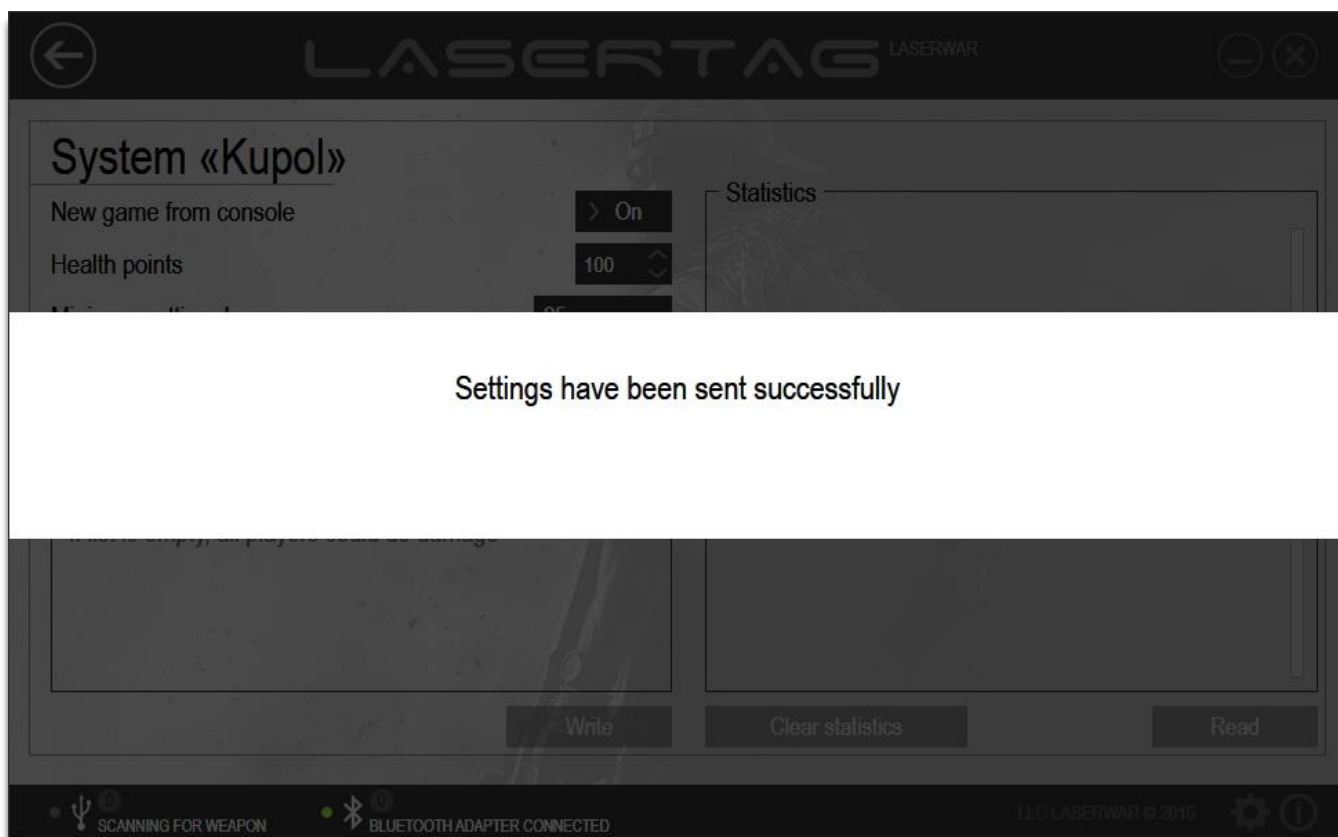


Figure 62

To read the game statistics of the "Kupol" system, click on "Read". The screen will display the progress animation of statistics reading (Figure 63).



Figure 63

After successful reading of statistics, the window looks like the one shown in Figure 64.

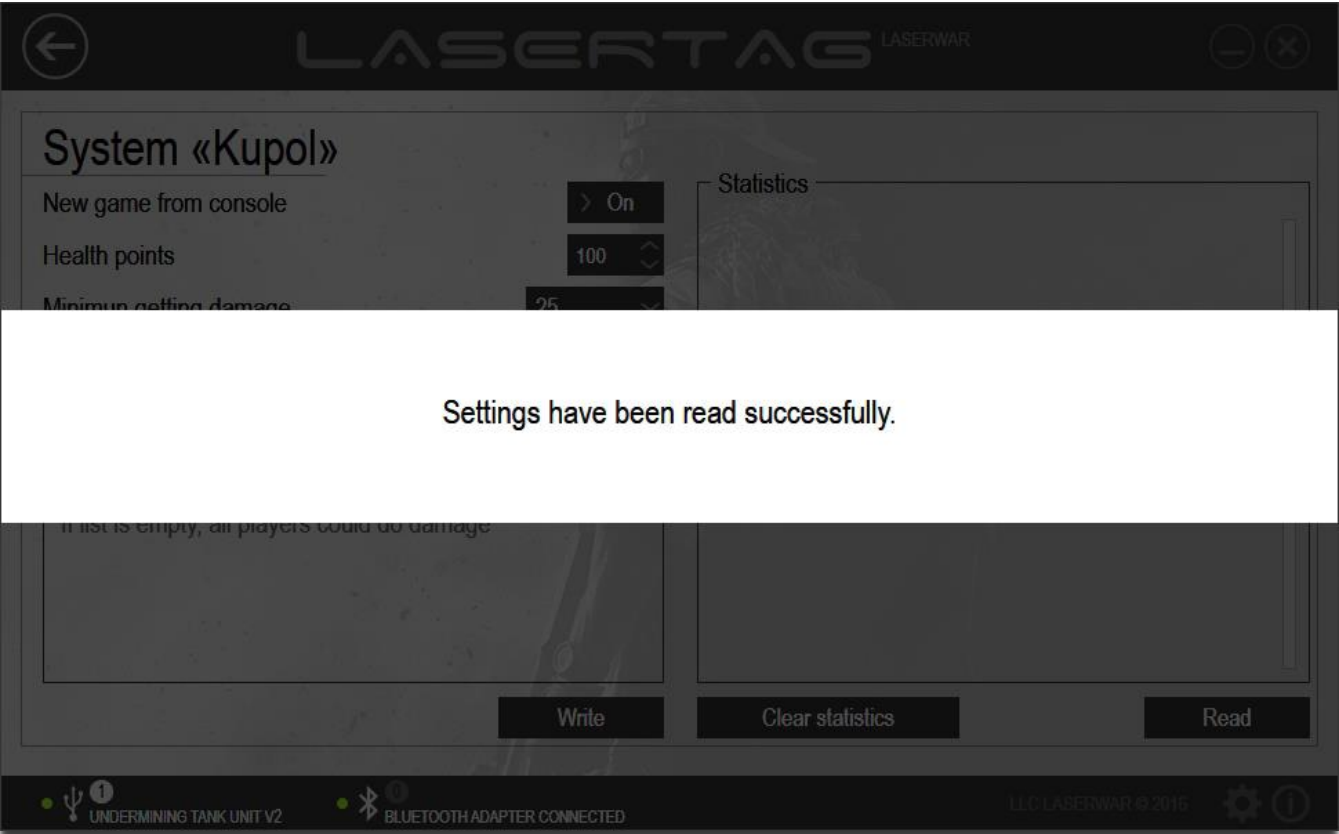
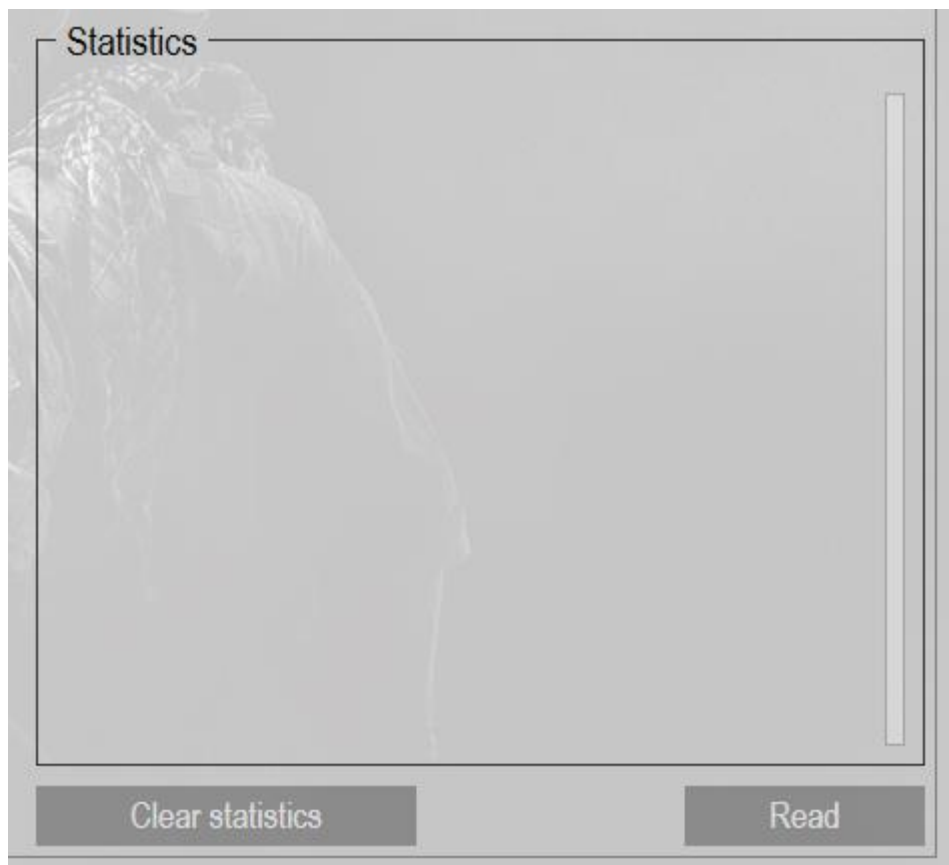


Figure 64

The device game statistics data are available to view in "Statistics" (shown in Figure 65).



*Figure 65*

The following commands can be displayed in the statistics:

- IR command "Detonate"
- Hit scored- <Team color>: <ID>Damage <value>;
- Health in %;
- "Kill"
- "New game"
- Device power, health in%.

To Clear statistics, click on the button. At that the screen displays the progress animation of clearing statistics, and when the process is successfully finished, the window displays "Statistics have been cleared successfully" message shown in Figure 66.

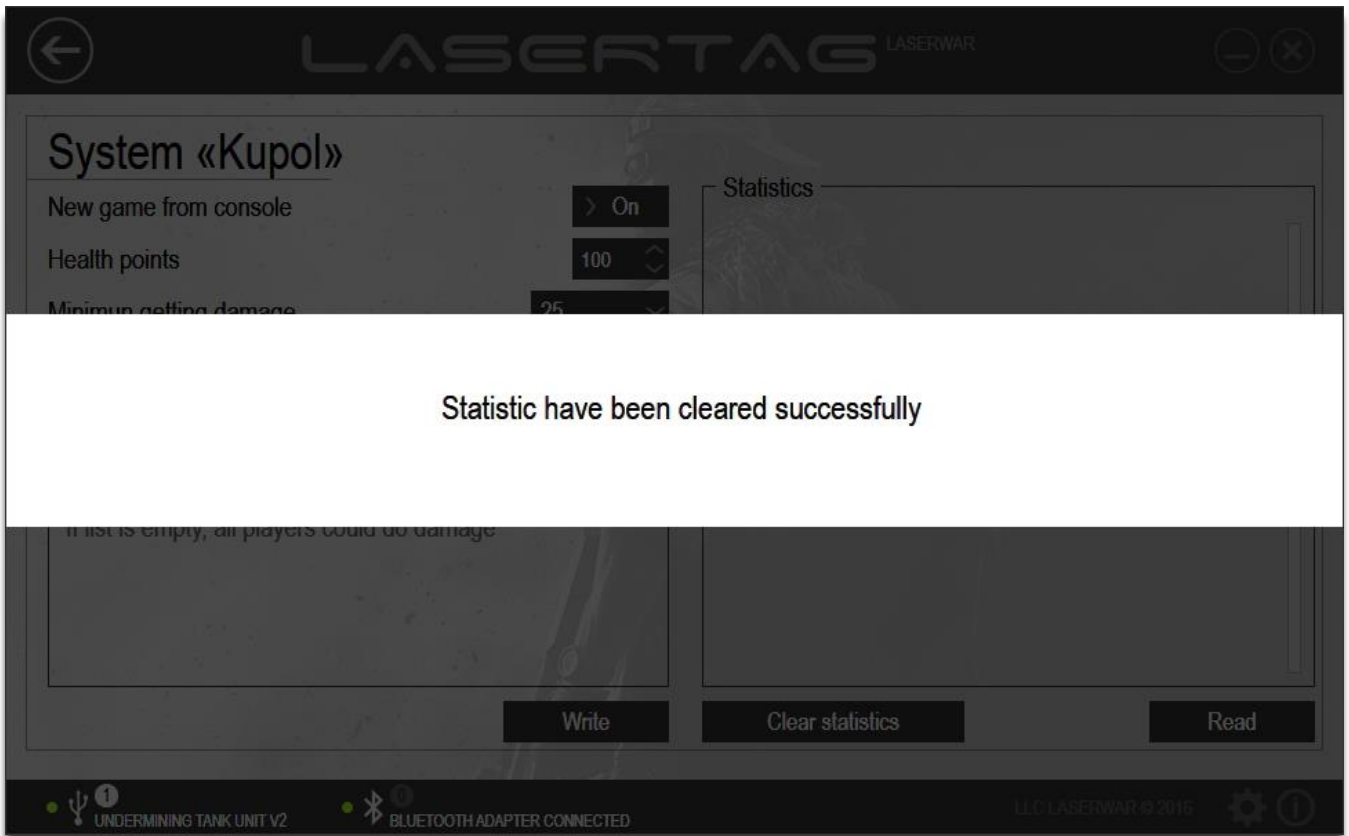


Figure 66

Note that statistics are cleared not only in the program interface, but also in laser tag devices.

#### 4.4.5 "Artifact"

The main window of "Artifact" subsection is shown in Figure 67.



Figure 67

To work with the subsection, the laser tag device must run in the configuration mode. To change the device mode to the configuration mode, you should turn on the artifact holding down the Config button, while the device is activated. Position USB Base sensors exactly opposite the device sensors (not more than 3 ft). If the connection is correct, the "Write" button is active (Figure 68).



Figure 68

To change parameters for writing to the device, select the options in the fields described below.

Fields	Description
<i>Artifact not found</i>	Artifact affects the players as it is specified in "Wait" mode (before a player of another team shoots it).
<i>Artifact captured</i>	The artifact affects the players as it is specified in "Captured" mode (after a player of another team shoots to the artifact).
<i>Artifacts interact</i>	Artifacts affect players as it is specified in in the "Interact" mode (the artifacts of different types are captured by one team and are next to each other).
<i>Artifact activity interval</i>	Specify the interval of artifact effect on players (in seconds). The option is set to range between 10 and 240.

The following values are available in these fields.

Value	Description
<i>Inaction</i>	"Empty" command. Artifact will not have an active action in this mode.
<i>+ 1 (10, 25, 50, 100) Health points</i>	Artifact adds the specified number of health points to nearby players (if players have no max health points).
<i>Restore Health</i>	Artifact completely restores health points of nearby players.

<i>+ 10 Cartridges</i>	Artifact adds 10 cartridges to nearby players.
<i>+ 1 magazine</i>	Artifact adds one magazine to nearby players.
<i>Full ammunition</i>	Artifact completely restores the ammo of nearby players.
<i>New game</i>	Artifact completely restores ammo and health (respawn) of nearby players.
<i>Disarm players</i>	Artifact disables all the ammo of nearby players.
<i>Stun player</i>	Artifact stun nearby players for a while.
<i>Kill a player</i>	Artifact kills nearby players.
<i>Anomaly + 2 (25,50) health points</i>	Artifact adds the specified number of health points (if the player has no max health points).
<i>Radiation - + 2 (25,50) health points</i>	Artifact takes the specified number of health points from nearby players.
<i>Restore health to holder</i>	Artifact completely restores the health ONLY of its owner.
<i>Restore ammo to holder</i>	Artifact completely restores the ammo of ONLY its owner.
<i>+ 1 (10, 25, 50) health points to holder team</i>	Artifact adds one health point ONLY to its owner's team.
<i>Restore health to holder team</i>	Artifact completely restores health ONLY of its owner's team.
<i>Full ammunition to holder team</i>	Artifact completely restores ammo ONLY of its owner's team.
<i>Max shooting rate</i>	Artifact increases the rate of fire of the game kit to the maximum. The impact is kept till the player's "death".
<i>X2 health points</i>	The artifact restores the player's health twice as to maximum. The impact is kept till the player's "death".
<i>Restore the health to RED (BLUE, GREEN, YELLOW) team</i>	Artifact completely restores the health of players from the selected color team.
<i>Restore the ammunition to RED (BLUE, GREEN, YELLOW) team</i>	Artifact completely restores the ammo of players from the selected color team.

To send the technical settings to the device, click on "Write" button. In this case, the artifact LED starts flashing, the screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 69.

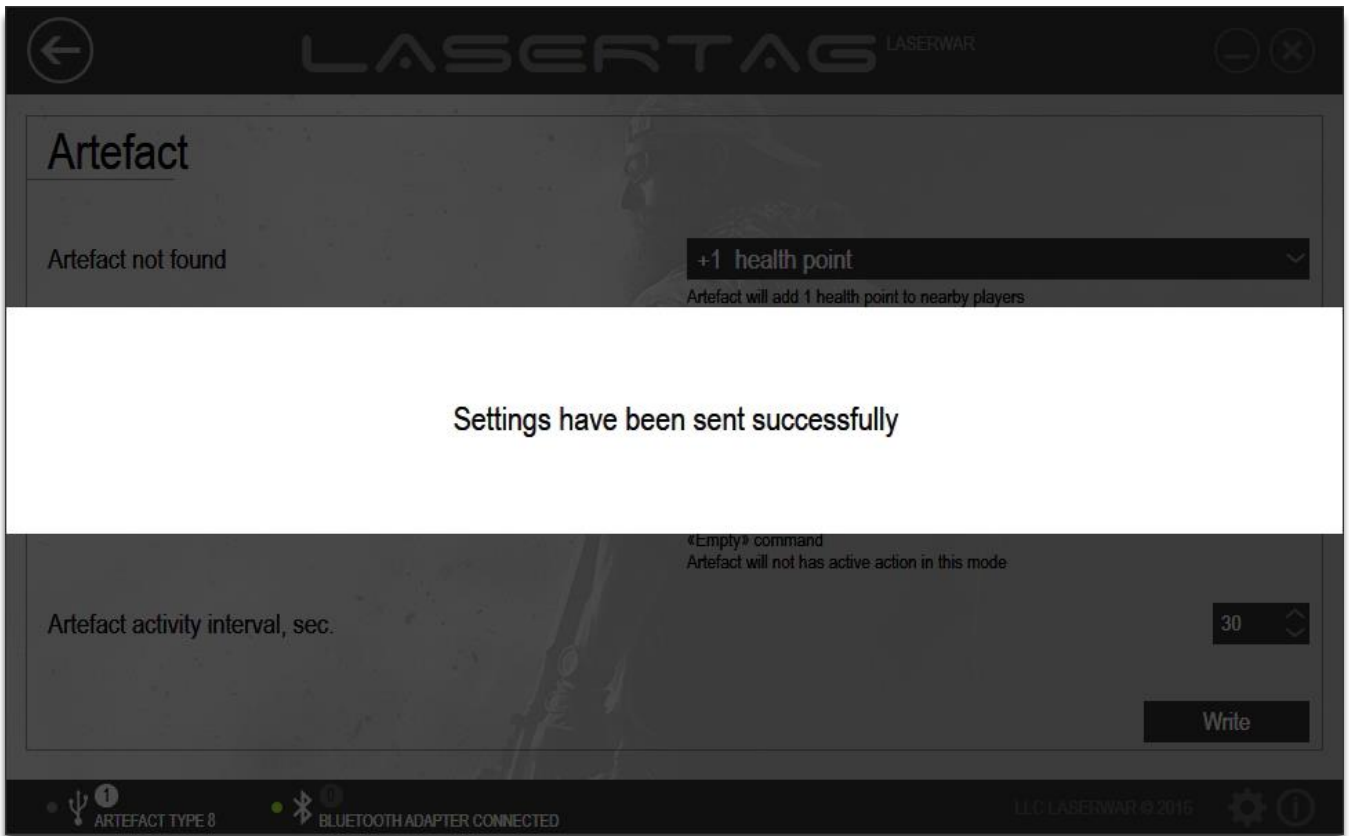


Figure 69

#### 4.4.6 "Universal console"

The main window of "Universal console" section is shown in Figure 70.

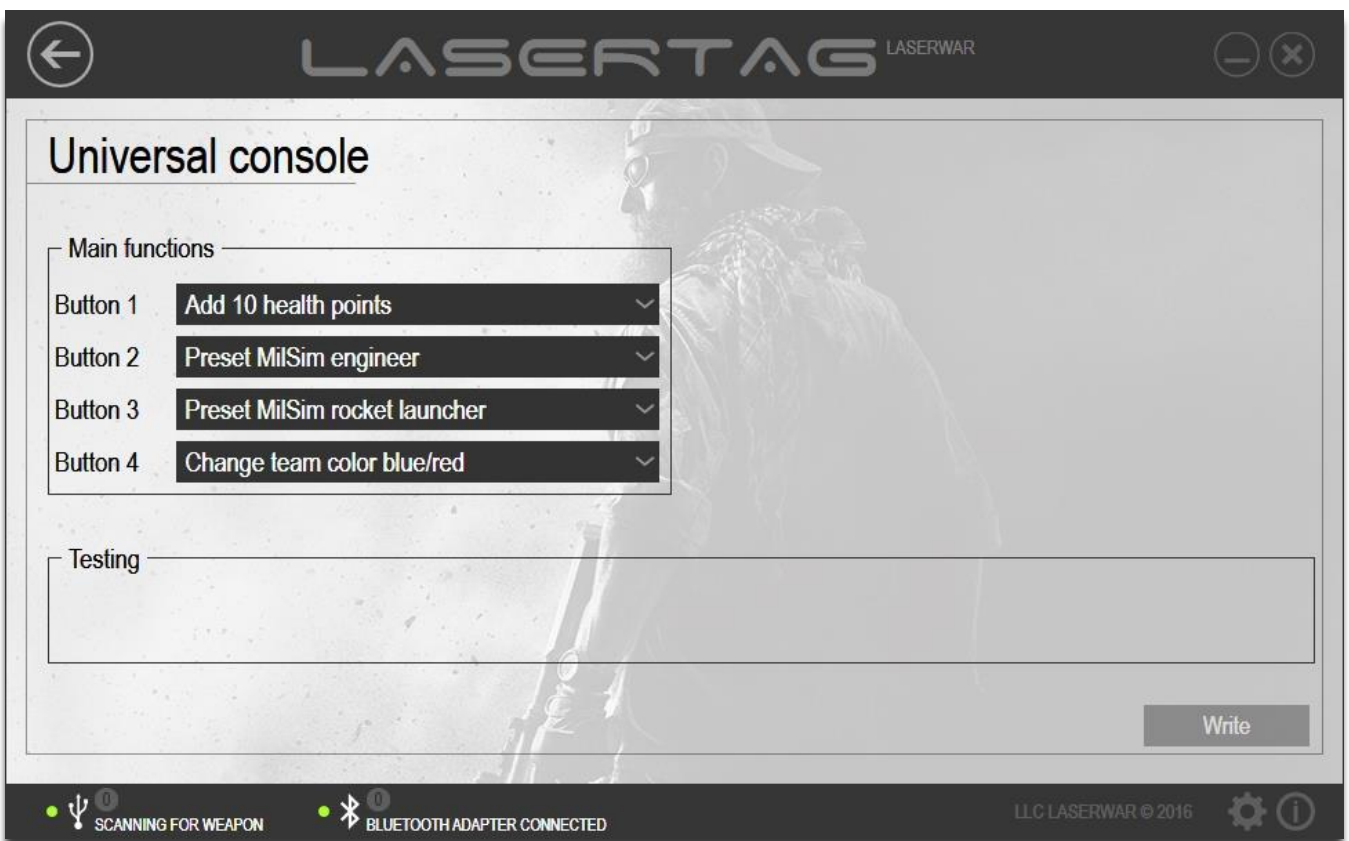


Figure 70

To work with the subsection, the laser tag device should run in the configuration mode. Position USB Base sensors exactly opposite the console sensors (no more than 1 meter) and push special button in the small pinhole located on the back body panel with a paperclip. If the device is connected properly, the "Additional functions" right column is displayed in the program (Figure 71).

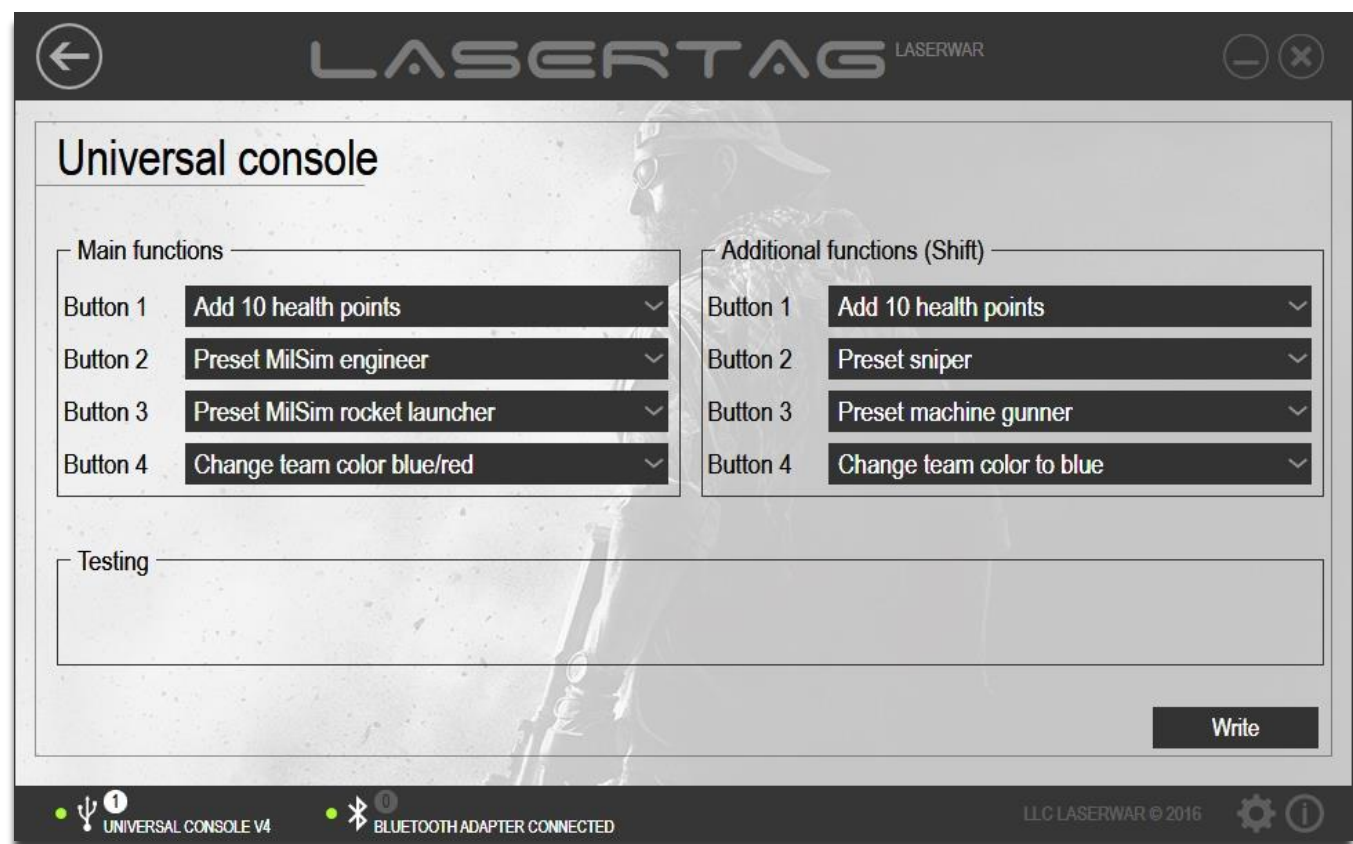


Figure 71

Laser tag configurator allows you to set your own commands for Universal remote (Universal console) device. Universal control device has 4 buttons, but you can specify up to 8 commands for these buttons (4 for main mode and 4 for shift mode). The option commands that can be specified for Universal remote are also divided into "Main functions" and "Additional functions (Shift)".

To specify the actions to be performed with a specific button on the console (1, 2, 3, or 4), specify the appropriate value in "Button 1 (2, 3, 4)" field. The console commands are listed below.

Value	Description
Add 1 (5, 10, 25, 50, 100) Health points	Adds the specified number of health hit points (if player has no max health points).
Add 10 (50, 100) cartridges.	Adds the specified number of cartridges (if player has no max ammo).
Admin Kill	End this game for the player.

Pause/Resume	Pause the game kit and then no commands can be applied to it. Resume it, clicking the button again.																		
Reanimation	Restore the killed player's health points to the maximum.																		
New game now	Start a new game, activate a game kit.																		
Restore Ammo	Restore the player's ammo to maximum (if the ammo is not max).																		
Change team color blue/red	Change the color of the player's team.																		
Start game with delay	Start a new game with the start delay set in the game kit settings.																		
Restore Health	Restore the wounded player’s health points to maximum.																		
Change IR Power 49/99%	Change IR Power (49% if the power was more than 50% before the command, and 99% if the power was less than 50% before the command), this setting affects the shoot distance.																		
Clear statistics	Delete game kit statistics data.																		
Stun player	Command prevents the player from shooting for seven minutes. Any damage to the player will cancel the stunning effect.																		
Disarm player	Command completely destroys the player's ammo.																		
Fury	To increase the player's damage to 1 by MILES-protocol (if the player's damage is less than 100).																		
Double health to the end of round	Function doubles maximum number of the player's health hitpoints (regardless of the previous player's damage).																		
IR Power 49% (99%)	<div>This option means the power of the infrared shot. The higher the parameter value, the longer the shooting distance, but the probability of ricochets increases as well. We recommend using 100% while playing outdoor and nearly 50% while playing at night or in buildings.</div> <div>The option is set in the range from 10 to 255 shots.</div> <table><tr><th>IR Power option</th><th>Distance</th><th>Bound Shots indoor</th></tr><tr><td>1%</td><td>10 m</td><td rowspan="3">No bound shots</td></tr><tr><td>25%</td><td>50 m</td></tr><tr><td>49%</td><td>100 m</td></tr><tr><td>51%</td><td>120 m</td><td rowspan="2">Bound shots are present. It's comfortable to play. Bound shots depend on wall surface</td></tr><tr><td>75%</td><td>150 m</td></tr><tr><td>100%</td><td>200 m</td><td>Bound shots are vast. We recommend playing outdoors</td></tr></table>	IR Power option	Distance	Bound Shots indoor	1%	10 m	No bound shots	25%	50 m	49%	100 m	51%	120 m	Bound shots are present. It's comfortable to play. Bound shots depend on wall surface	75%	150 m	100%	200 m	Bound shots are vast. We recommend playing outdoors
IR Power option	Distance	Bound Shots indoor																	
1%	10 m	No bound shots																	
25%	50 m																		
49%	100 m																		
51%	120 m	Bound shots are present. It's comfortable to play. Bound shots depend on wall surface																	
75%	150 m																		
100%	200 m	Bound shots are vast. We recommend playing outdoors																	
Anomaly	Function restores 1 life hitpoint, if the player's health level is not the maximum.																		

*Preset Stormtrooper  
(and other presets)*

Select one of the pre-installed presets:

- **Simple presets:** Stormtrooper; sniper; machine gunner; doctor; scout;
- **Scenarios presets;** TERMINATOR; ZOMBIE; LAST HERO;
- **MilSim presets;** MilSim assault; MilSim marksman; MilSim support; MilSim medic; MilSim recon; MilSim engineer; MilSim rocket launcher; MilSim heavy sniper;

*Change team color  
to Red (Blue, Yellow,  
Green)*

Select the team color.

*ON (OFF) friendly  
fire mode*

Turn on or off friendly fire mode, when players of one team can defeat each other.

*Round time 15  
minutes (1, 2, 3  
hours)*

Set the duration of the round.

To write the settings to the device, click on "Write". The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 72.

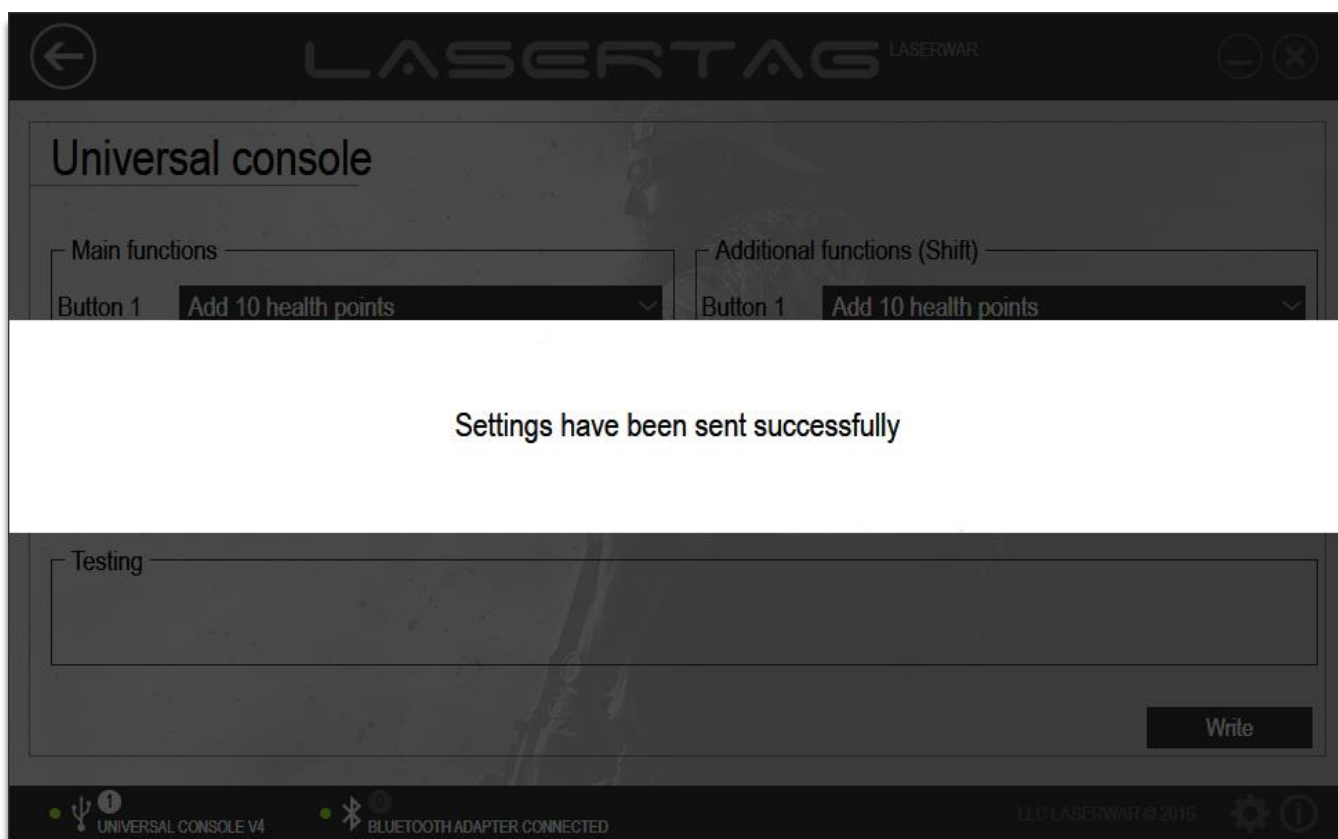


Figure 72

Click any button (the console will exit from the configuration mode and start working in "Console" mode). Direct the console sensors to the center of USB Base, and then click the button on the console.

"Testing" field in Laser Tag configurator will display the name of the function that was programmed for this button (the example is shown in Figure 73).

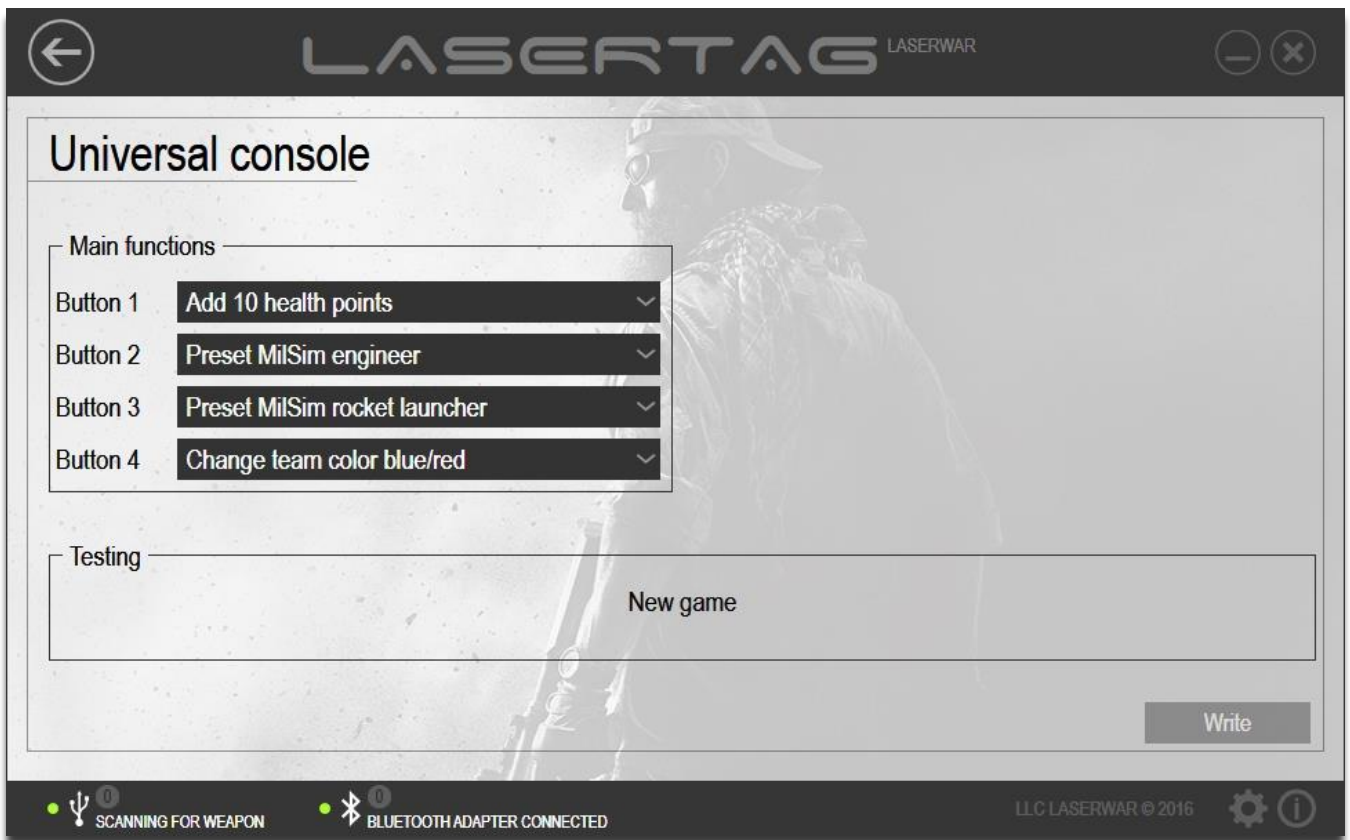


Figure 73

To enter "Shift" mode on Remote Control (remote console device), press and hold the button 1 for 5 seconds. Short LED flashes will indicate the enter to the "Shift" mode and assignment of the buttons changes according to the settings. You can exit the mode also holding button 1 for 5 seconds. If the user does not take any actions, the device will automatically exit "Shift" mode in 4 minutes and switch to low power consumption.

#### 4.4.7 Console PRO

You can change game characters options that are preset in Console Pro using Laser Tag Configurator. The main window of "Console PRO" subsection is shown in Figure 74 (USB Base is not connected) and Figure 75 (USB base is connected, searched for devices). USB Base connection is described in detail in chapter 3.6.

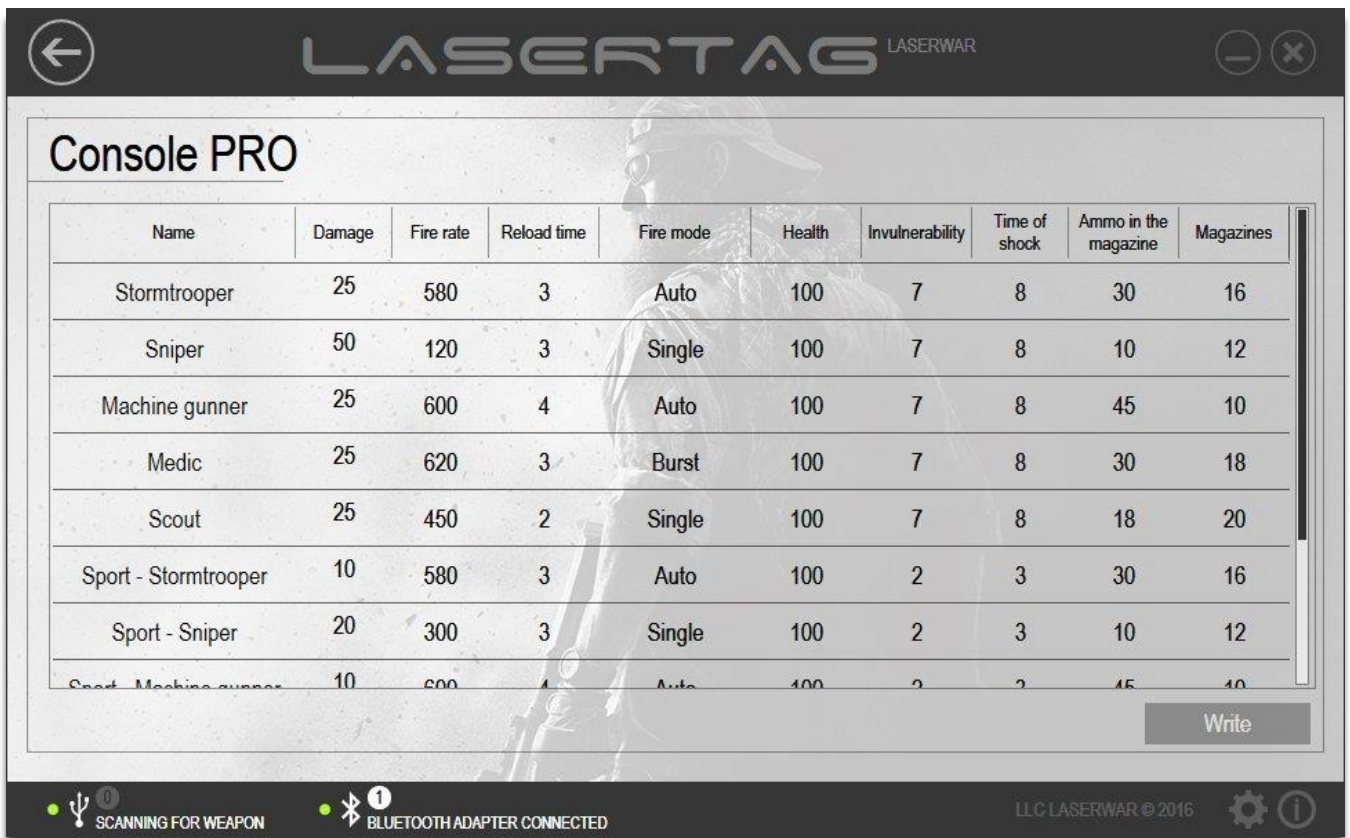


Figure 74

To work with the subsection, the laser tag device should run in the configuration mode. Position USB Base sensors exactly opposite the console sensors (no more than 3 ft). To enter program mode, turn on the console holding the middle button. When the device is connected properly, the photo sensor begins flashes in blue and the "Write" button becomes active.

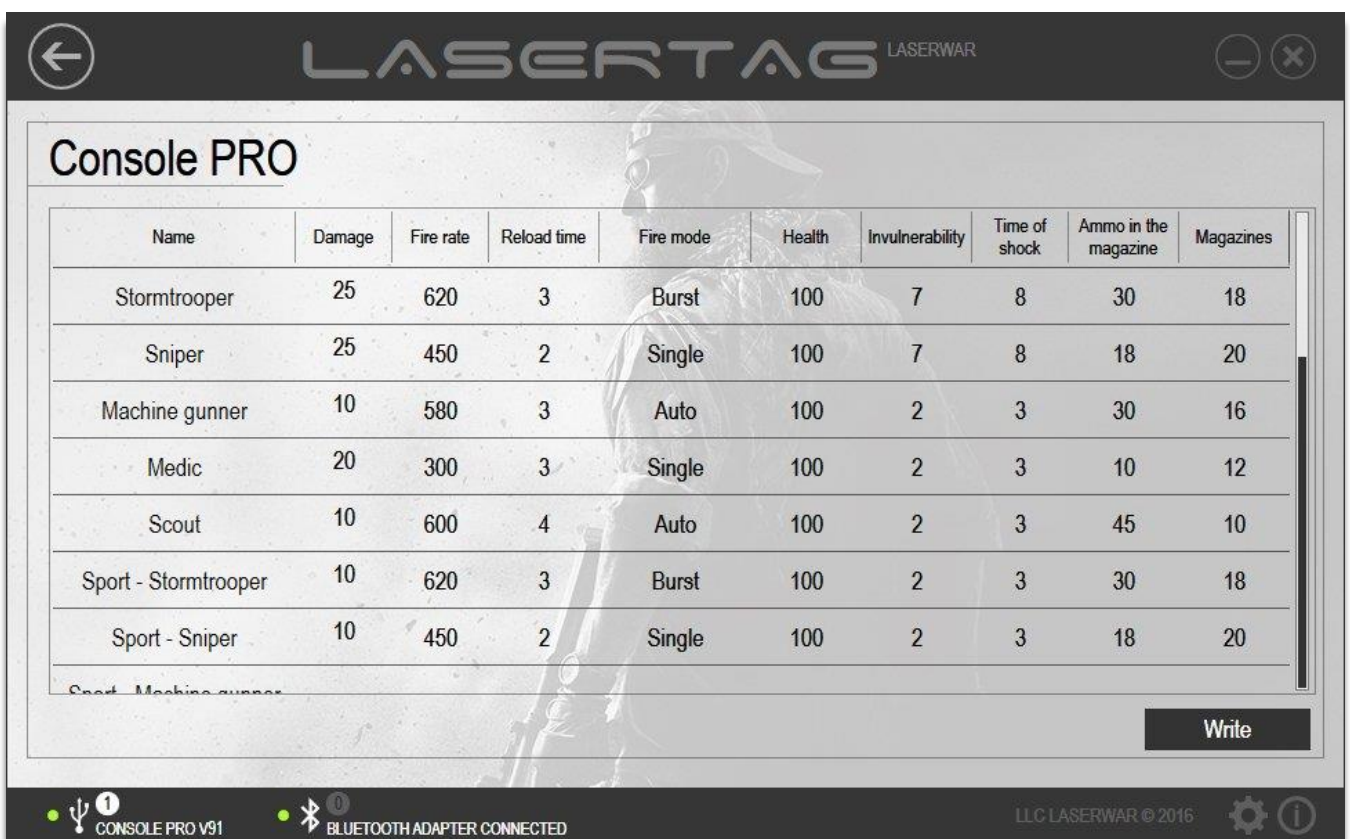


Figure 75

The technical parameters that can be create to send to the device are pre-installed settings (presets) - Assault, Sniper, Support, Medic, Scout Sports-Assault, Sports-Sniper, Sports-Support, Sports-Medic, Sports-Scout. There are nine configurable settings for each preset, as described below.

<b>Option</b>	<b>Description</b>
<i>Damage</i>	Amount of damage caused by this character when he hits the opponent player
<i>Fire Rate</i>	Player's rate of fire (number of shots per minute)
<i>Reload time</i>	Reload time of the next magazine in seconds
<i>Fire mode</i>	<ul style="list-style-type: none"> <li>- "Auto"- automatic,</li> <li>- "Burst"- semi-automatic, the burst of 3 shots,</li> <li>- "Single" -single firing, i.e. "Sniper" mode</li> </ul>
<i>Health</i>	Number of the player's health hitpoints
<i>Invulnerability</i>	<p>Time (in seconds), when the player is invulnerable and can take to hide. When the player is invulnerable, he cannot shoot and cannot be hit.</p> <p>The option is set in the range between 0.1 and 3.0.</p>
<i>Time of shock</i>	Time (in seconds) of "shock" after been hit. During this period the defeated player loses the opportunity to fire. The player's headband vibrates and LED's glow when a player is hit. The parameter is set in the range between 0.1 and 65.0.
<i>Ammo in the magazine</i>	Number of cartridges in the kit magazine
<i>Magazines</i>	Number of magazines

If necessary, you can change the "Name" of the preset (Figure 76). To do it, click twice on the field with the preset name.

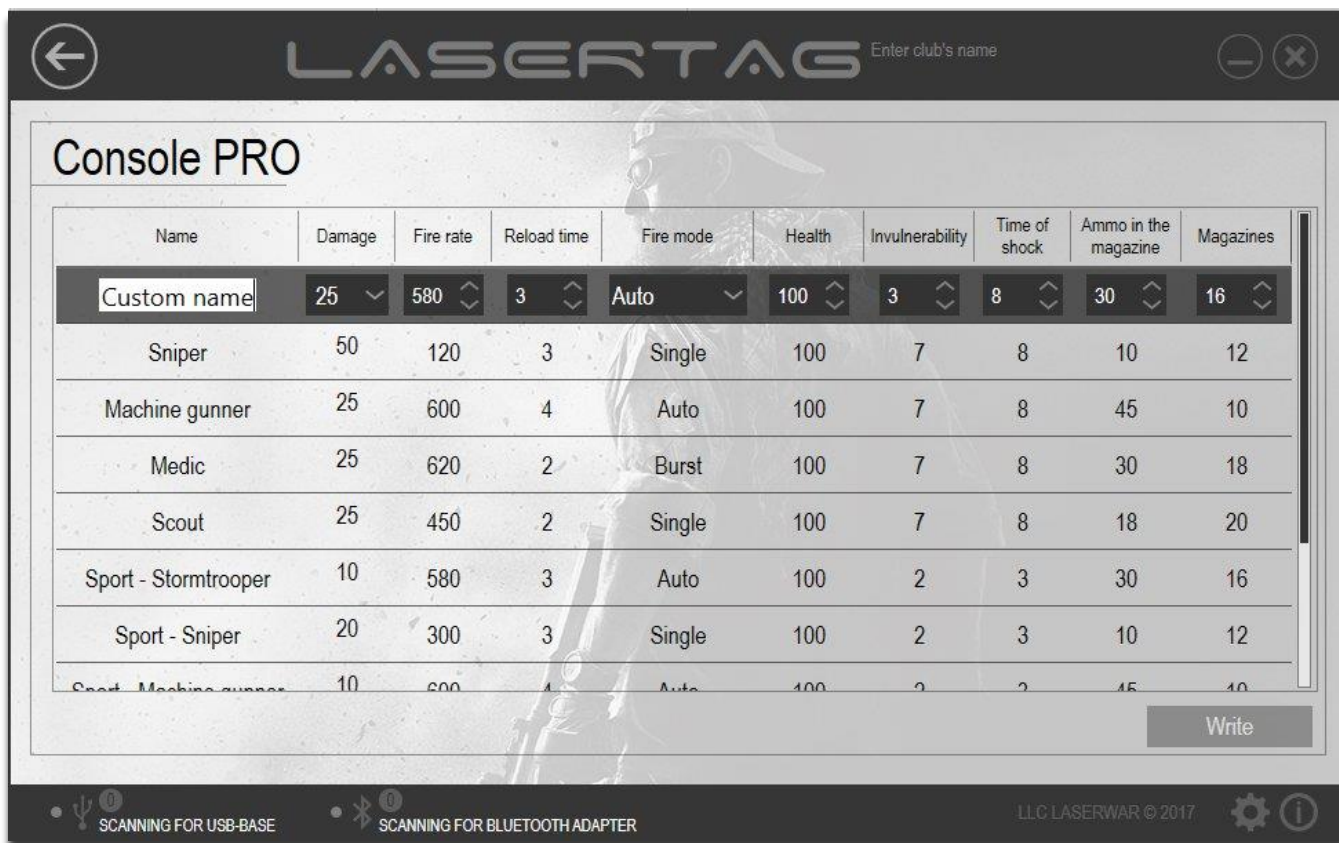


Figure 76

To write the settings to the device, click on "Write". The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 77.

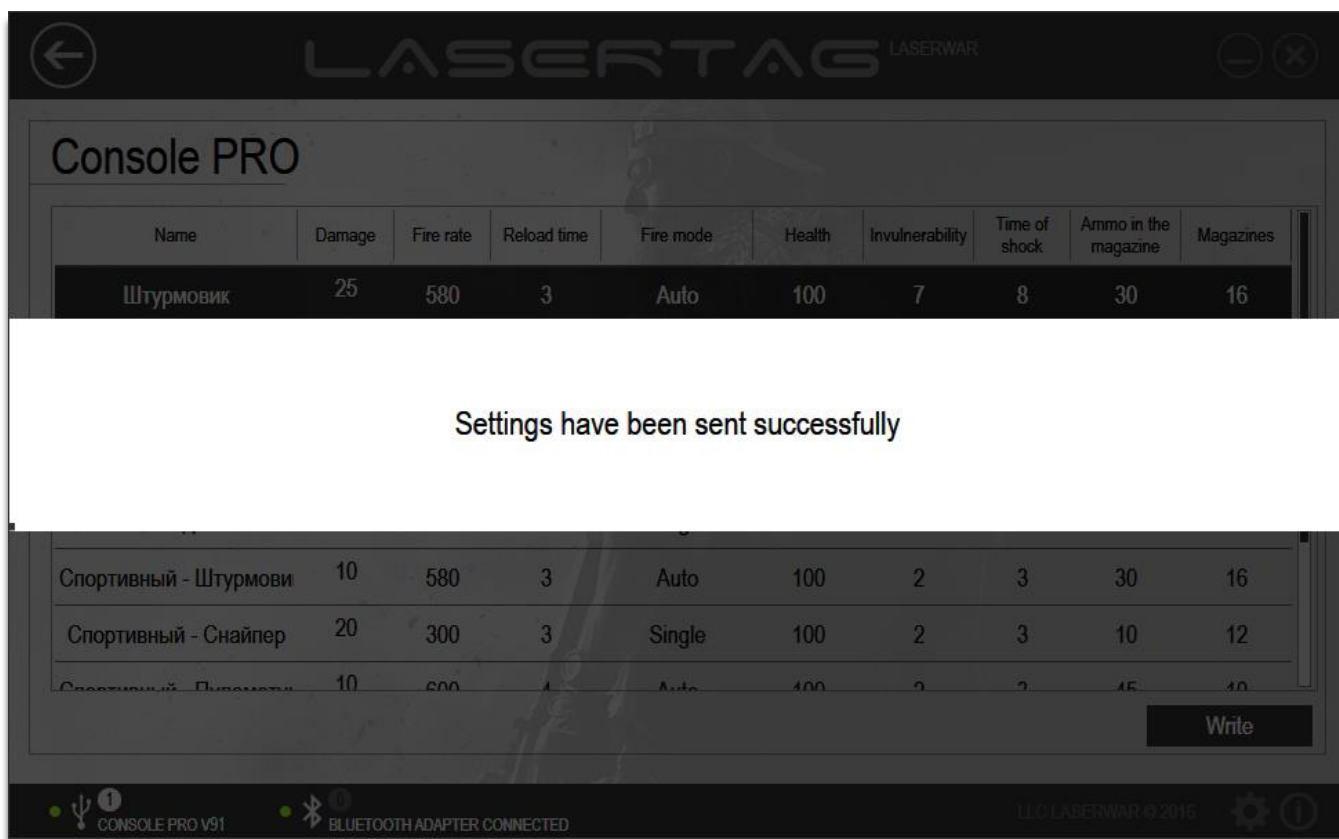


Figure 77

#### 4.4.8 "Hostage" kit

The main window of "Hostage" kit is shown in Figure 78.

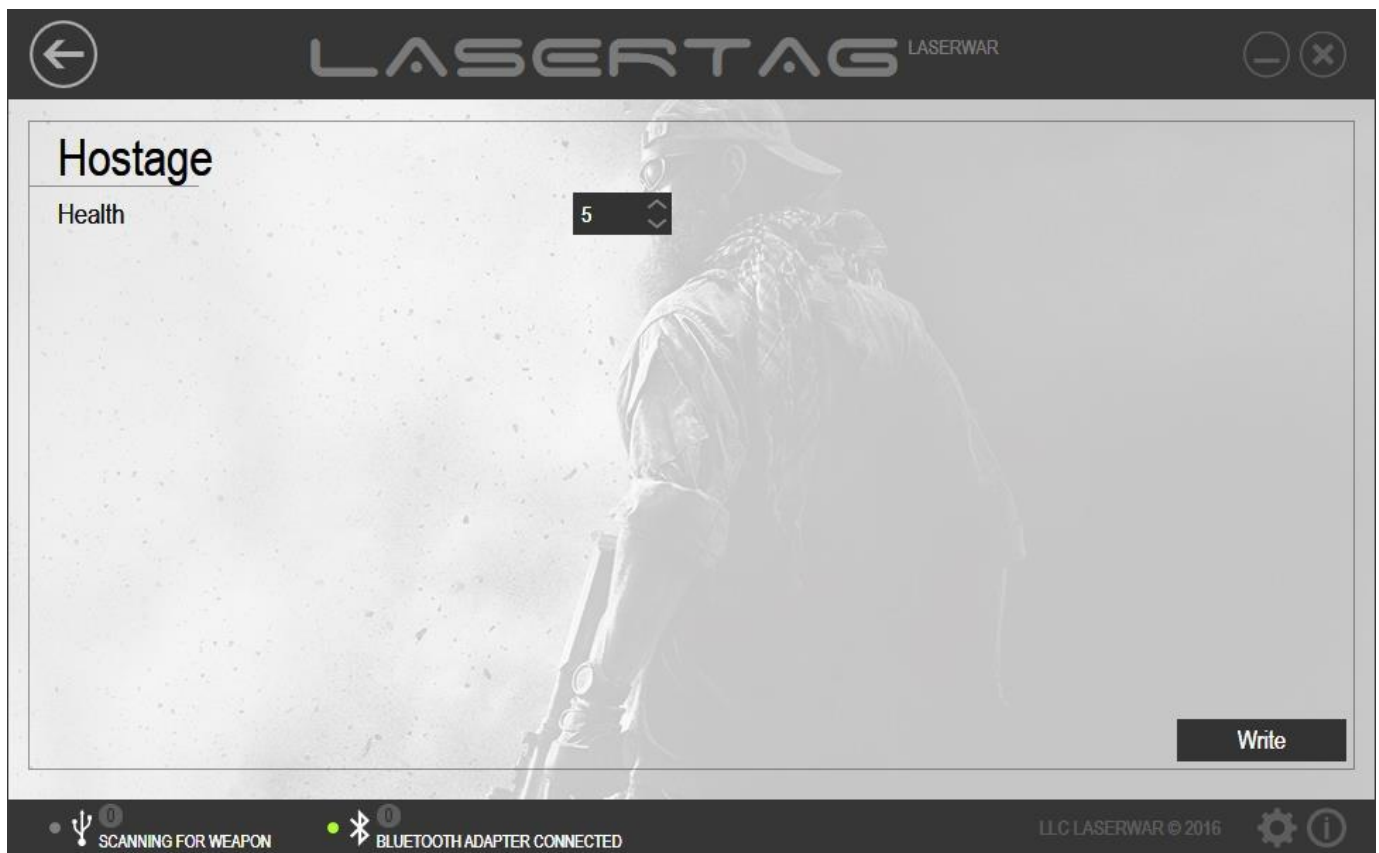


Figure 78

To work with the subsection, the device should be on and doesn't run the "New game" mode. Moreover, the "Hostage" kit must be located in direct visibility of USB Base, not far than 1 ft.

To send the "Health" hitpoints option to the device, you must enter the data in the field (the option is set in the range from 1 to 200) and click on "Write" button. The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 79. "Hostage" kit beeps, and it means that the settings are sent successfully.

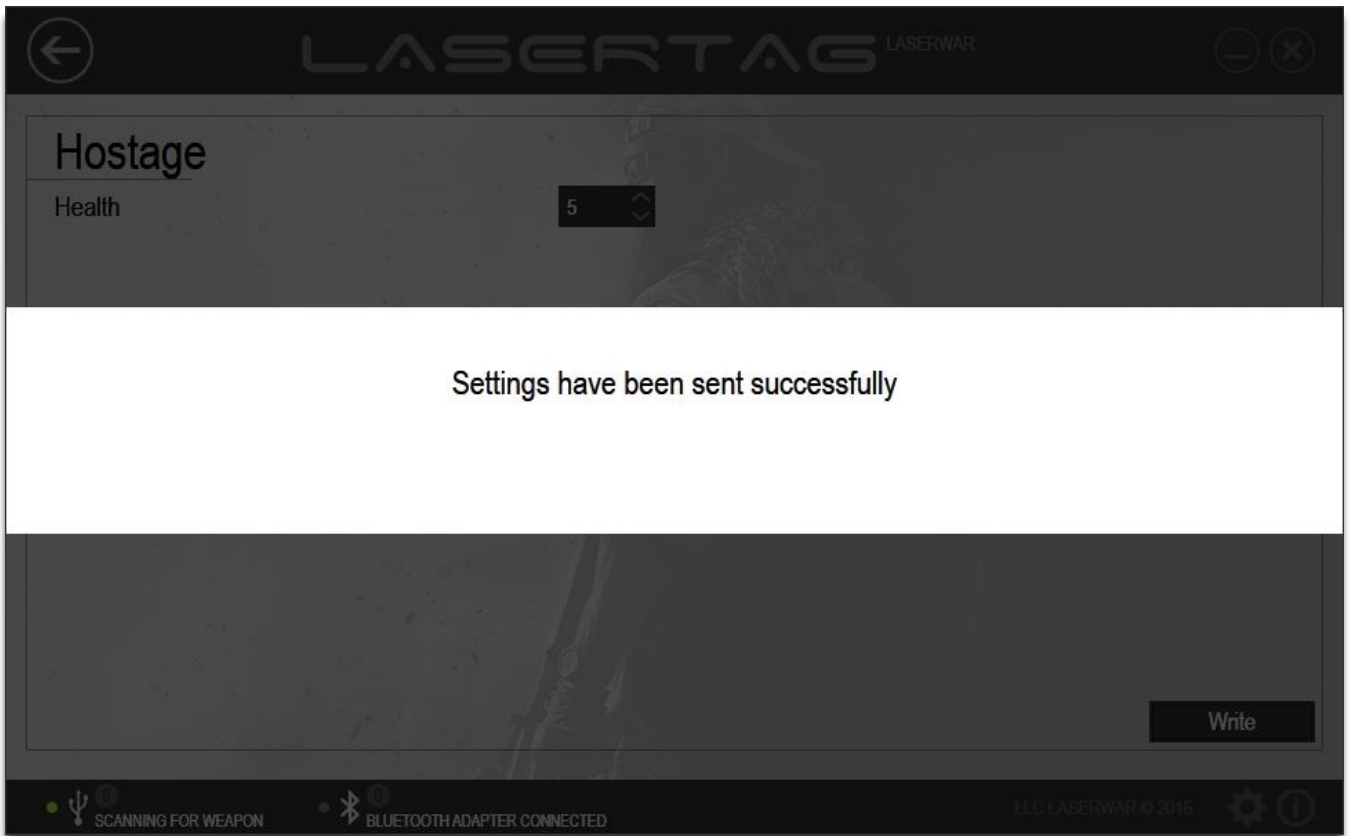


Figure 79

#### 4.4.9 "Vest/Helmet"

The main window of "Vest/helmet" subsection is shown in Figure 80.

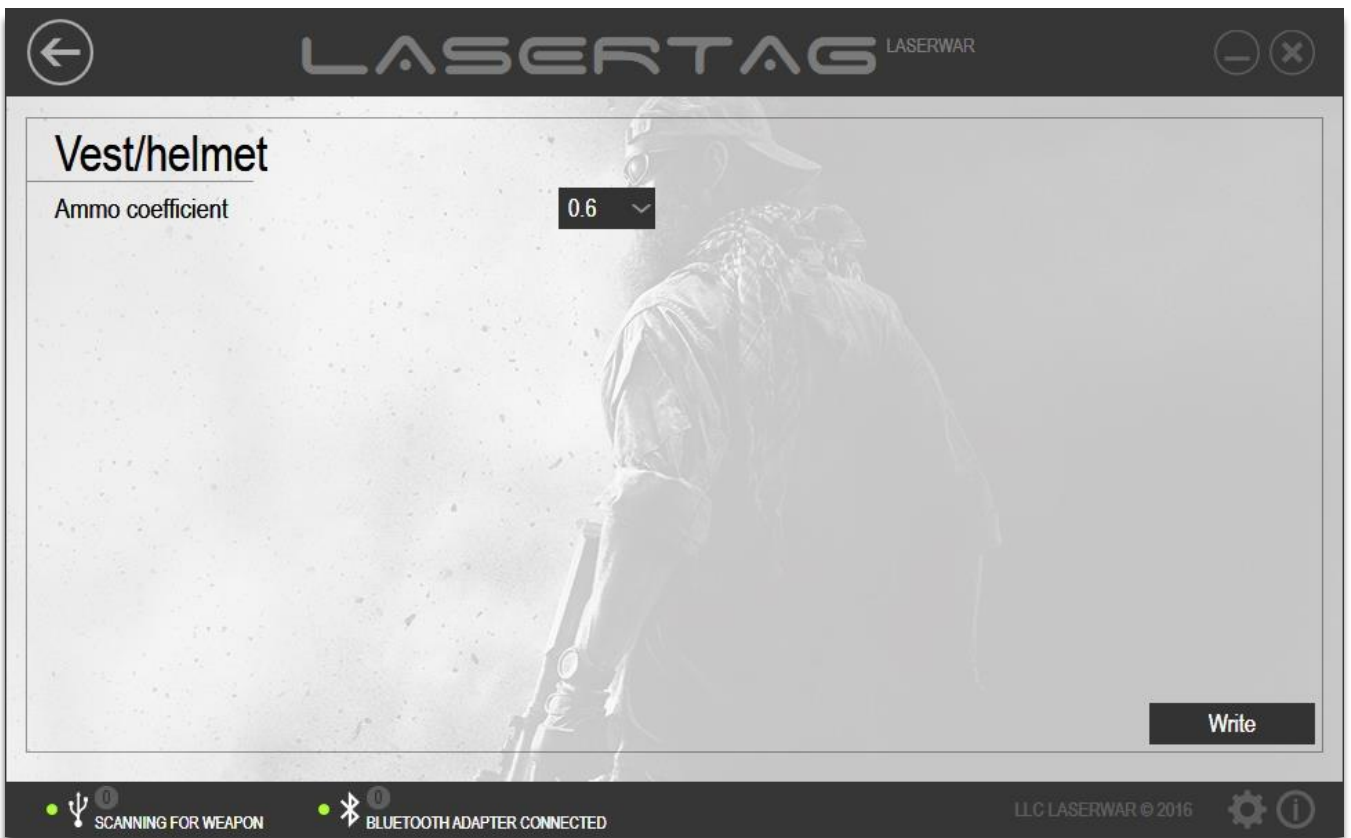


Figure 80

To work with the subsection, the device must run in the configuration mode. The device should be placed exact opposite USB Base at the distance of no more than 3 feet, directing the sensor to its center.

To send the "Ammo coefficient" option to the device, you must enter the data in the field (the setting is set in the range from 0.2 to 1 in increments of 0.2 ) and click on "Write" button. The screen displays the progress animation of sending the settings, and when the process is successfully finished, the window displays "Settings have been sent successfully" message shown in Figure 81. Laser tag Vest or Helmet beeps sound signals, the number of which depends on the retained value (0.2 - 1 beep; 0.4 - 2 beeps; 0.6 - 3 beeps; 0.8 - 4 beeps; 1 - 5 beeps).

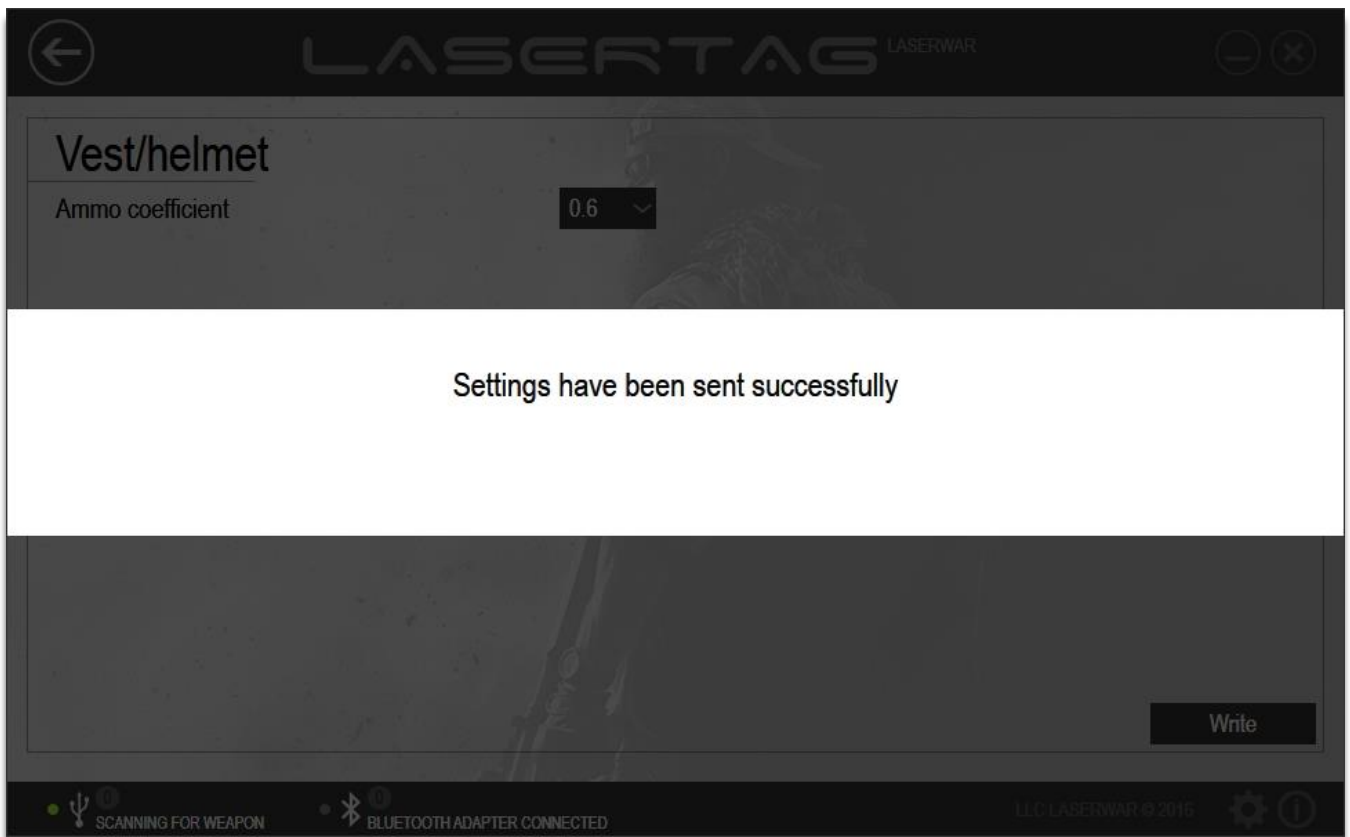


Figure 81

#### 4.4.10 "Grenade launcher"

The main window of underbarrel "Grenade launcher" is shown in Figure 82.

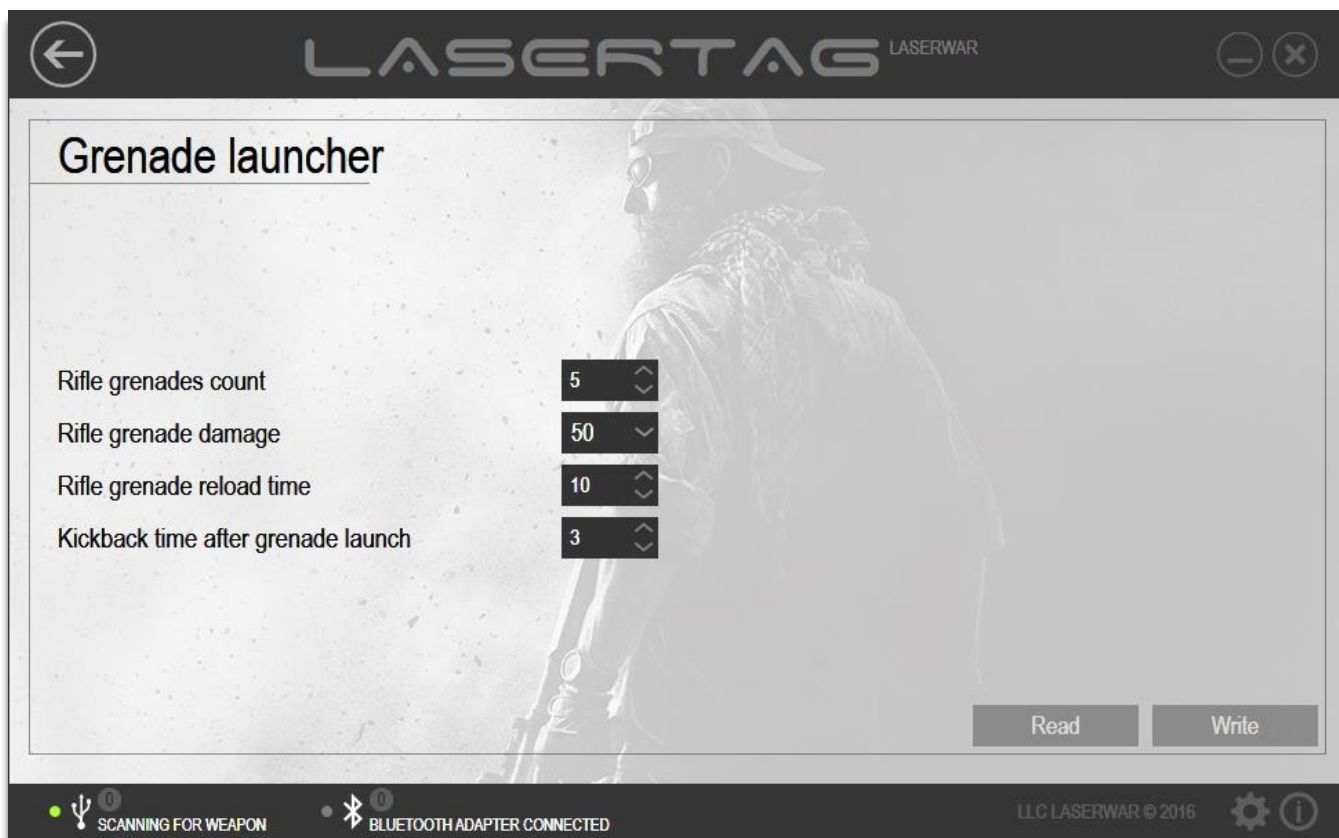


Figure 82

To work with the subsection, the game kit must run the configuration mode. The connection of game kits and operation modes are described in details in 3.6. When the game kit is connected properly the headband LEDs start flashing and the "Read" and "Write" buttons become active (Figure 83).

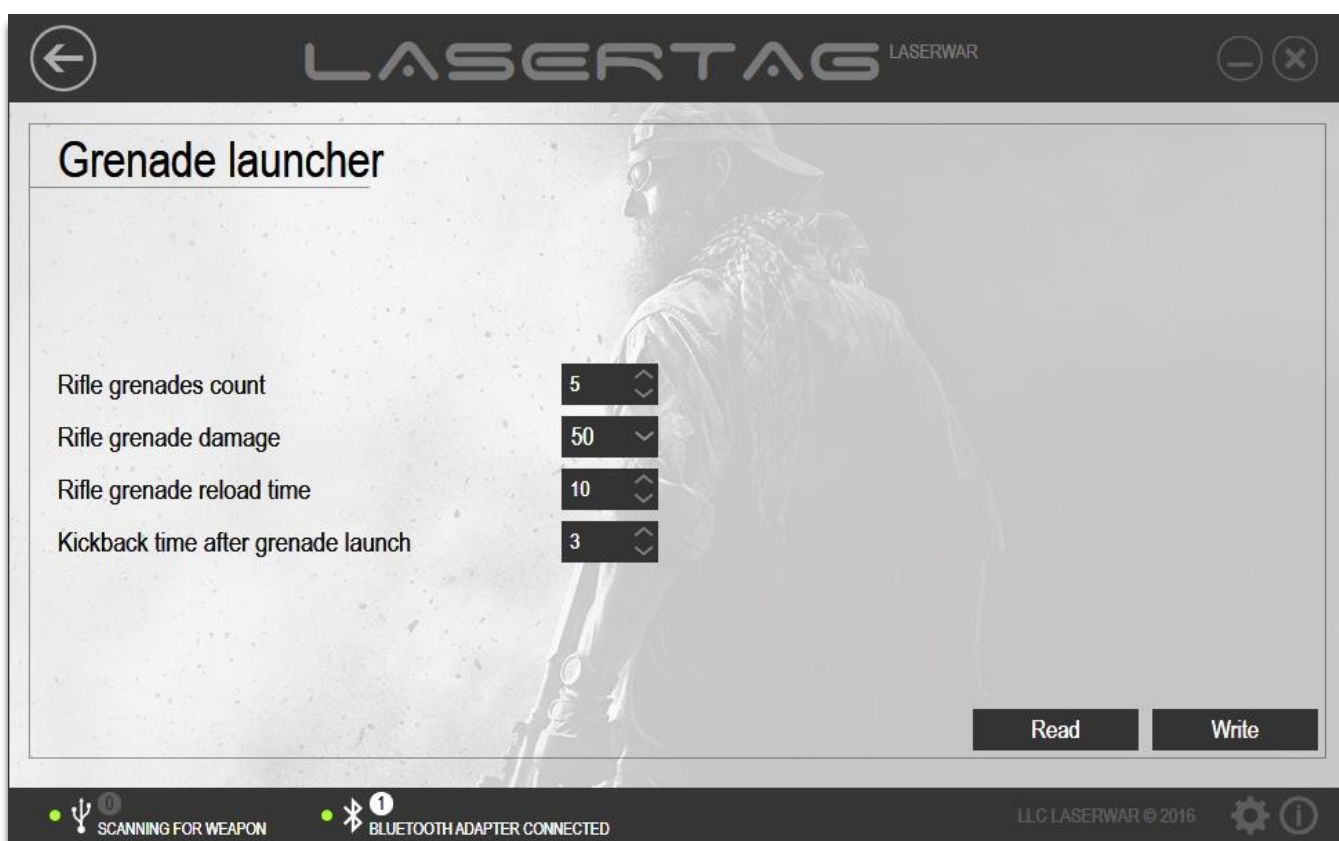


Figure 83

To see the settings that were previously sent to the device, click on "Read". At that the screen displays the progress animation of reading of settings (Figure 84).

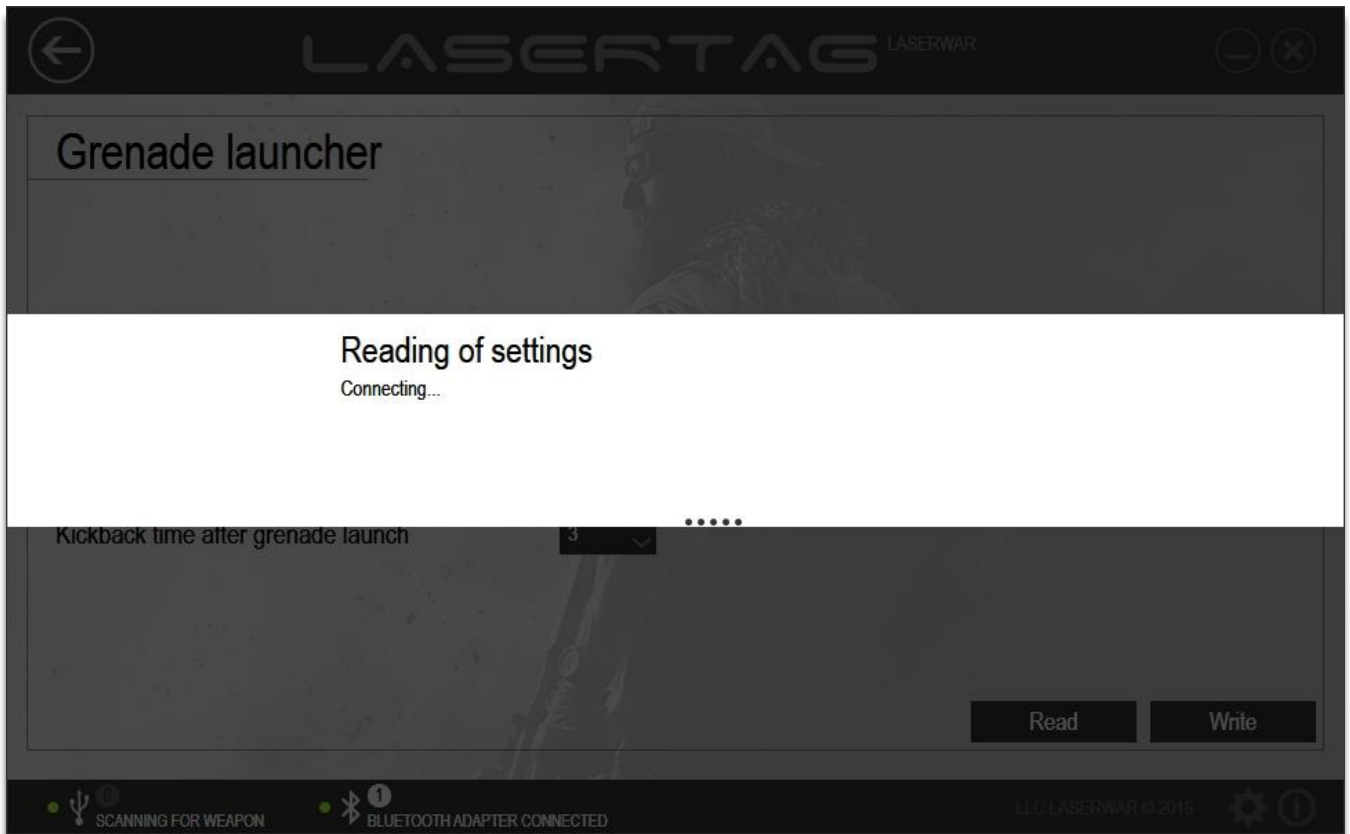


Figure 84

After reading of settings, the window looks like the one shown in Figure 85.

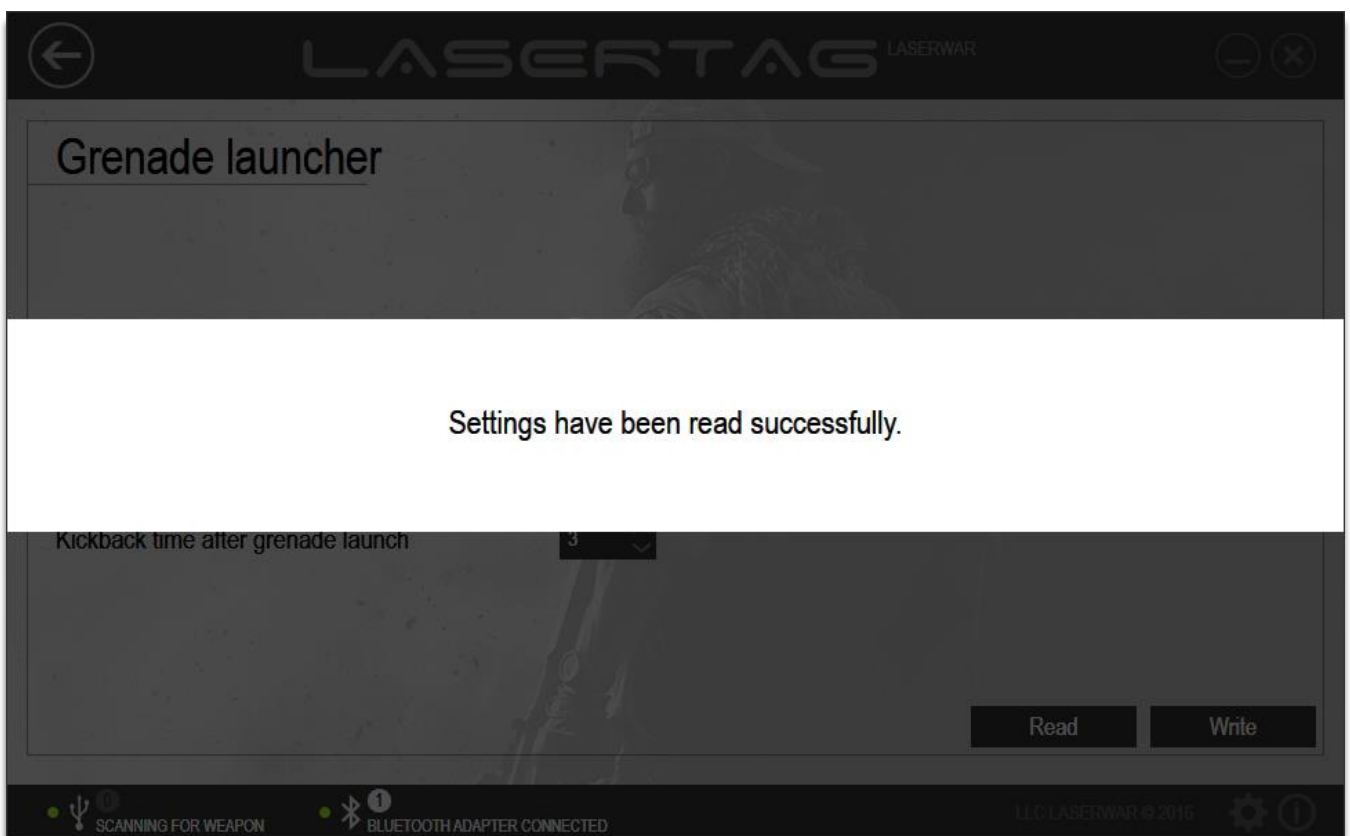




Figure 85

The device game settings are available to view in the corresponding window fields.

To create the technical parameters for sending to the device, enter the data in the fields described below.

Option	Description
<i>Rifle grenades count</i>	Type in or enter with the arrows  the number of rifle grenades. The parameter is set to range between 0 and 100.
<i>Rifle grenade damage</i>	Specify the amount of damage (in health points) caused by the explosion of rifle grenades when the enemy is defeated. With the differential damage grenade, the real killing weapon power can be imitated. Select a value between 1 and 100 from the drop-down list.
<i>Rifle grenade reload time</i>	Type in or enter with the arrows  the time (in seconds) to reload the grenade launcher. At this time, the grenade launcher is blocked and the player cannot fire a shot. The parameter is set to range between 0 and 100.
<i>Kickback time after grenade launch</i>	Enter the time (in seconds) when the player cannot use the main laser tag gun after shooting with grenade launcher. The parameter is set to range between 0 and 60.

When all the options are set, you should send them to the laser tag device. To do it, make sure that USB Base is connected to your computer, and that the game kit runs the configuration mode, and then click on "Write". At that the screen displays the progress animation of sending (Figure 86).

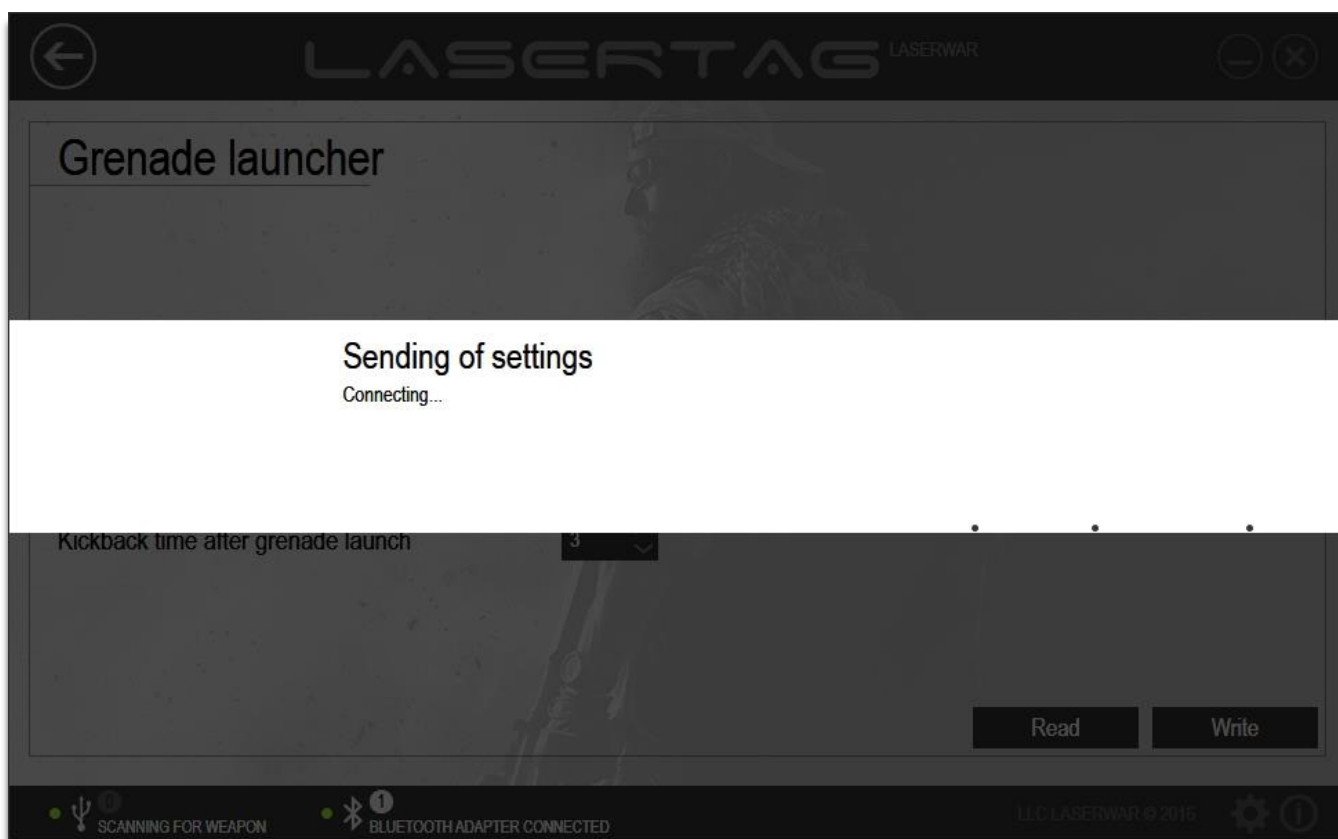


Figure 86

When the sending is successfully finished, the program window looks like the one shown in Figure 87.

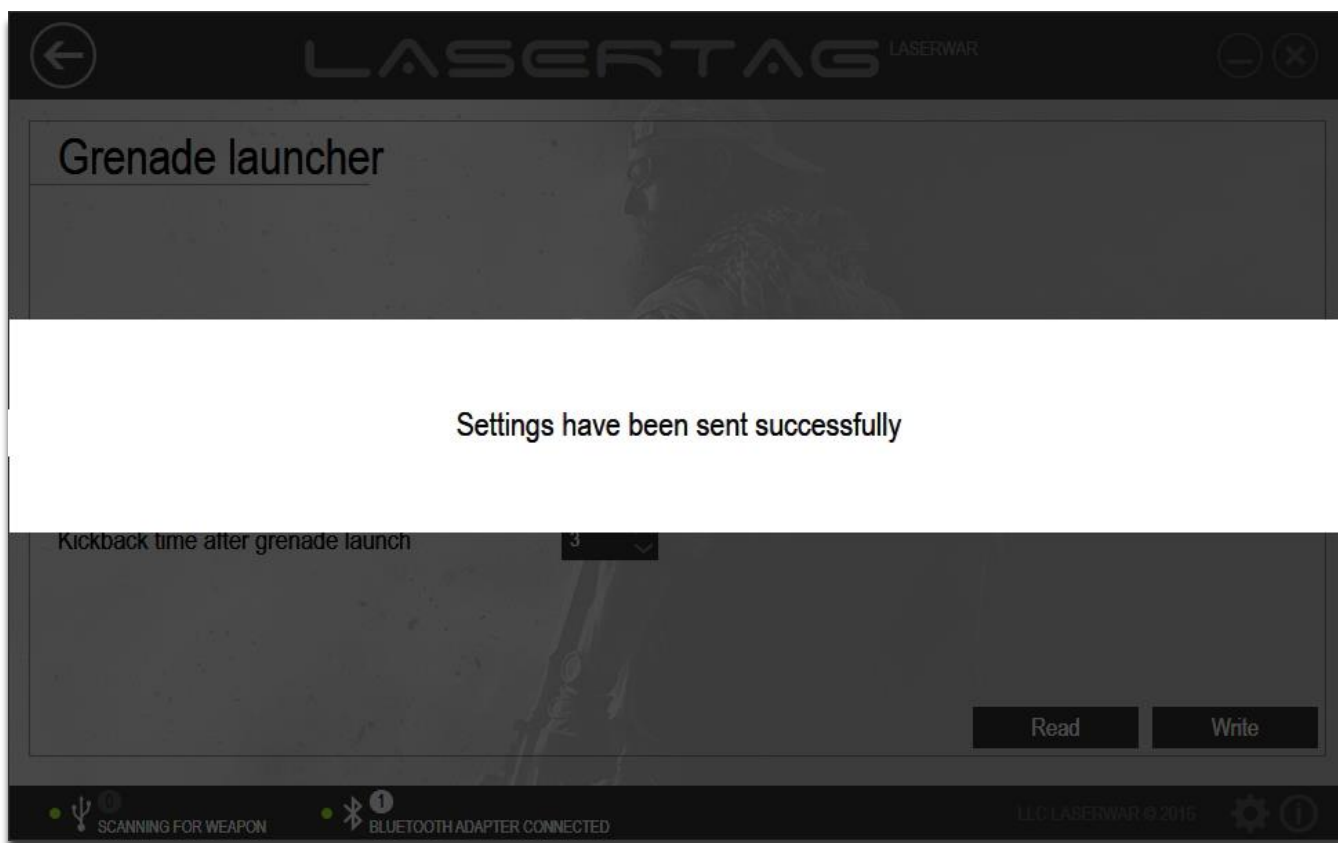


Figure 87

## 4.5 "Statistics" section

"Statistics" section is designed to view the game statistics, to print it out, and to post it in a social network. To work with the section, you should connect your laser tag device v. 4-7 in the configuration mode using USB Base. The connection of devices v. 4-7 and operation modes are described in details in 3.6.

Laser tag device v. 8-9 must run in the configuration mode and be connected to the computer with a Bluetooth adapter. The connection of devices v. 8-9 and operation modes are described in details in 3.7.

To open the section, select "Statistics" in the center of the main program window (Figure 88).

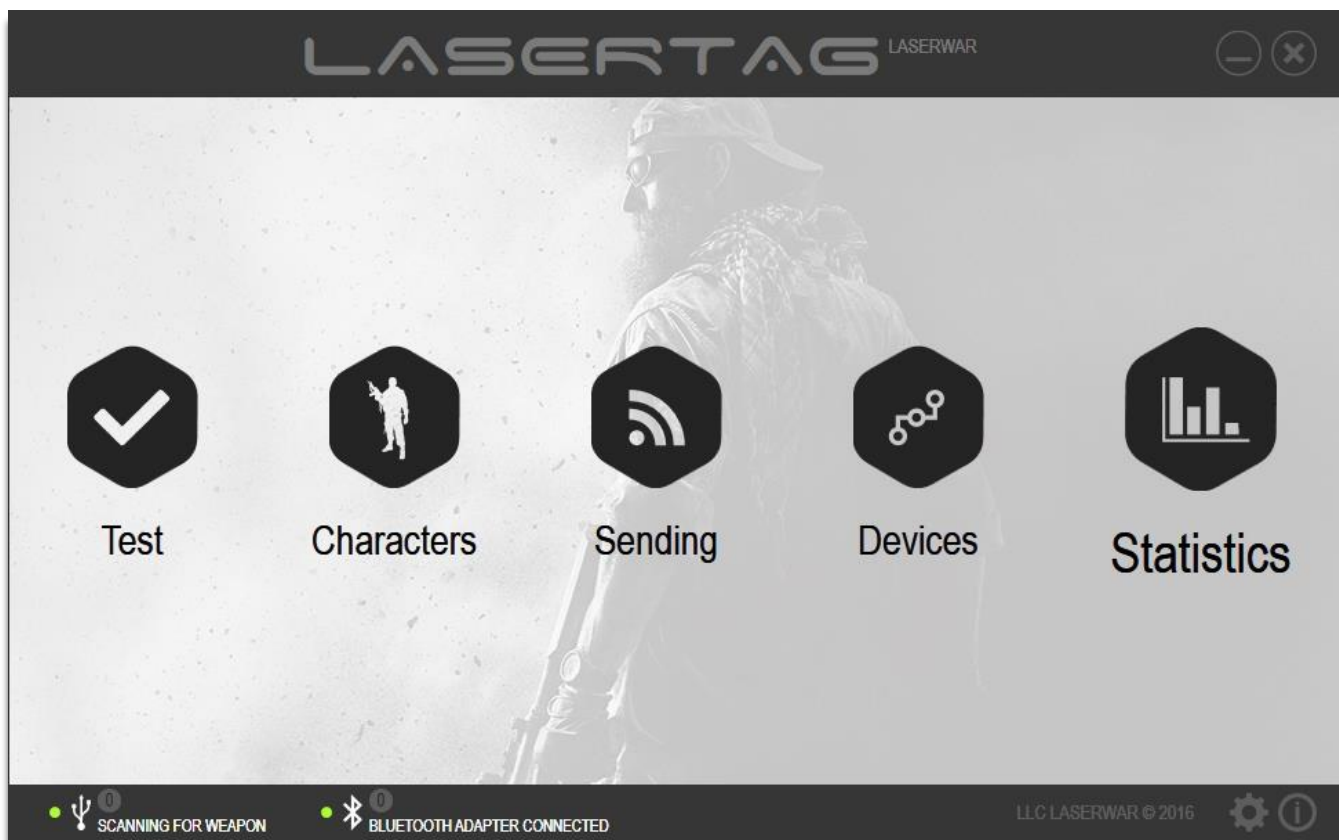


Figure 88

The main window of the section is shown in Figure 89.



Figure 89

If the game device has not been connected or statistics have not been read earlier, most of the functions in this section are not available. If statistics were previously read and saved in the \* . XML format, you can open it using the "Open" button.

**To read statistics from one 4-7 generation device** using USB Base, click on "Add". The program opens a window with a player's ID and an entry line of a player's name.

After you have entered the player's name, click on "Continue". Reading of statistics will start. Statistics will be read in a few seconds. At that the screen displays the progress animation of the reading of statistics (Figure 90), and USB Base LED will flash in red and green.

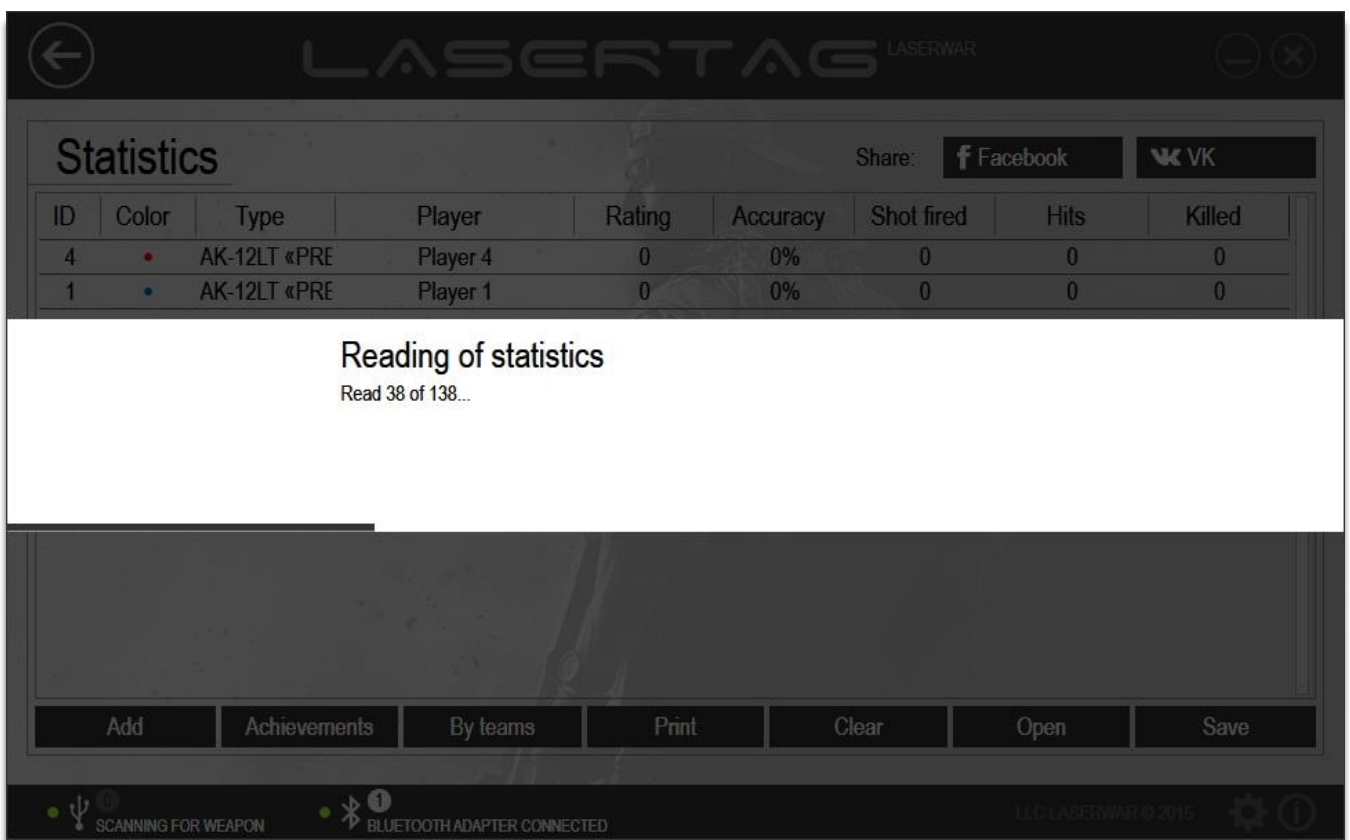


Figure 90

After the successful reading of statistics is finished, the information is displayed on the screen (Figure 91).

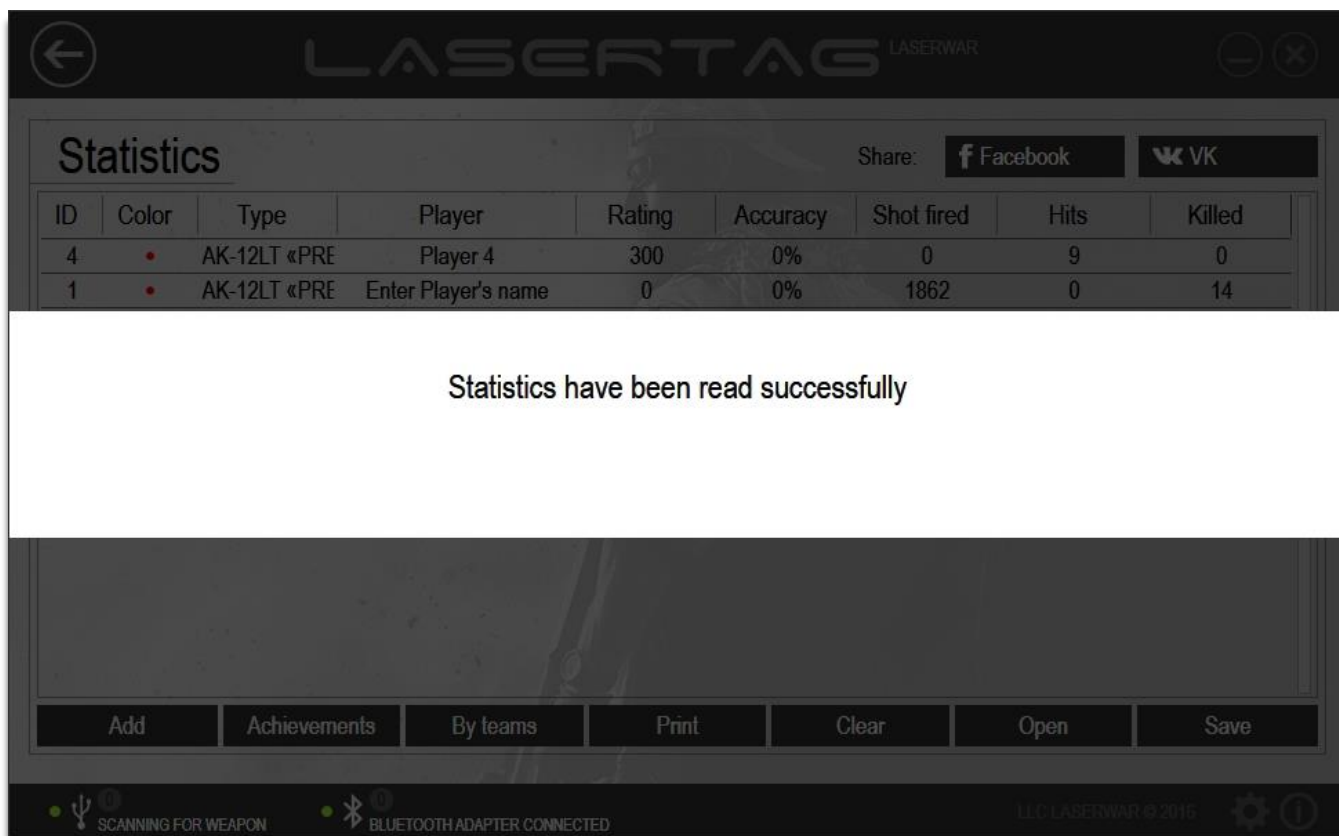


Figure 91

To read statistics from several 7-9 generation devices using a Bluetooth adapter, click on "Add". The system searches for devices to read statistics.

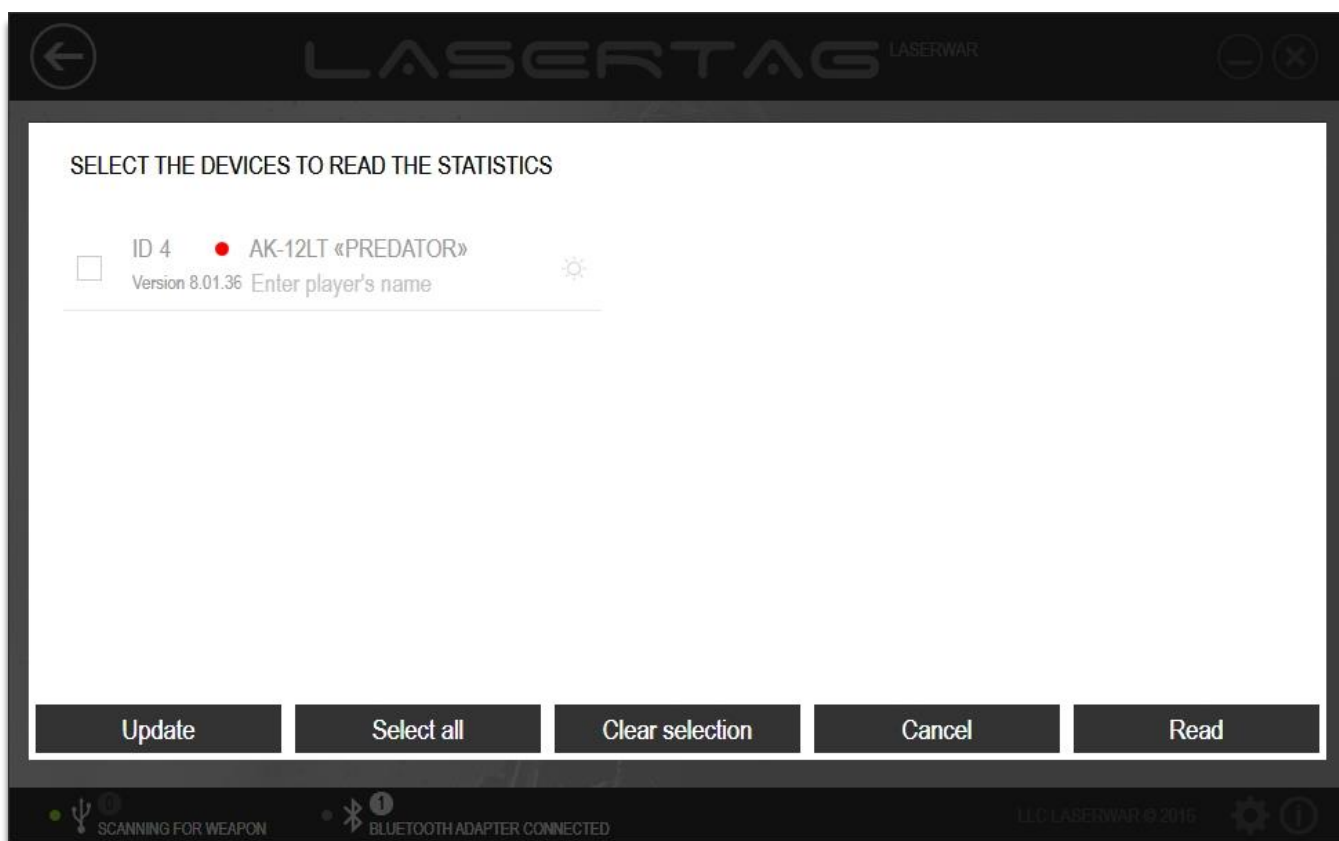



Figure 92

This does not update the list of connected devices; to search the connected devices again, click on "Update".

**In 7+ generation game laser tag guns, you can read the game statistics from multiple game kits at the same time.** Select the devices whose statistics you want to read and check the checkboxes next to them. To identify the connected kit exactly, click on the icon . The relevant device should beep. You can check the boxes next to all of the kits using "Select All" or, on the contrary, clear all the boxes clicking on "Clear Selection".

For each kit, you can specify the player's name in the "Enter player's name" field. The entered value will be displayed in statistics.

Click on "Cancel" to discard the data reading, or click on "Read" to read the game statistics from the selected devices memory. At that the screen displays the progress animation of the reading of statistics, and after this process is successfully finished the window displays "Statistics have been read successfully" message and the program window looks like the one shown in Figure 93.

**IMPORTANT!** -statistics are considered valid only after statistics of each game kit have been read.

While reading of game statistics, it is removed by default from the device memory. If necessary, this option can be off in the settings section, as described in detail in 3.9.



Figure 93

The following data are provided in statistics.

Option	Description
ID	Individual player's ID
Color	Player's team color
Type	Weapons type specified while sending the settings (in the "Sending" section). This option is displayed as "Unknown type" for devices of 4-6 generation/
Rating	The player's rating is calculated according to the formula:  $\frac{\text{Opponent players hits}}{\text{Being injured} + 1} \times \frac{100 + \text{Accuracy}}{3}$
Accuracy	The percentage of hits to the total number of shots
Shot fired	Total number of shots during the game
Hits	Total number of hits during the game
Injured	Total number of "injuries" during the game
Killed	Total number of "deaths" during the game

If you need, you can change the player's name in statistics. To do it, click twice on the name in the "Player" column, and then make the changes (example shown in Figure 94).

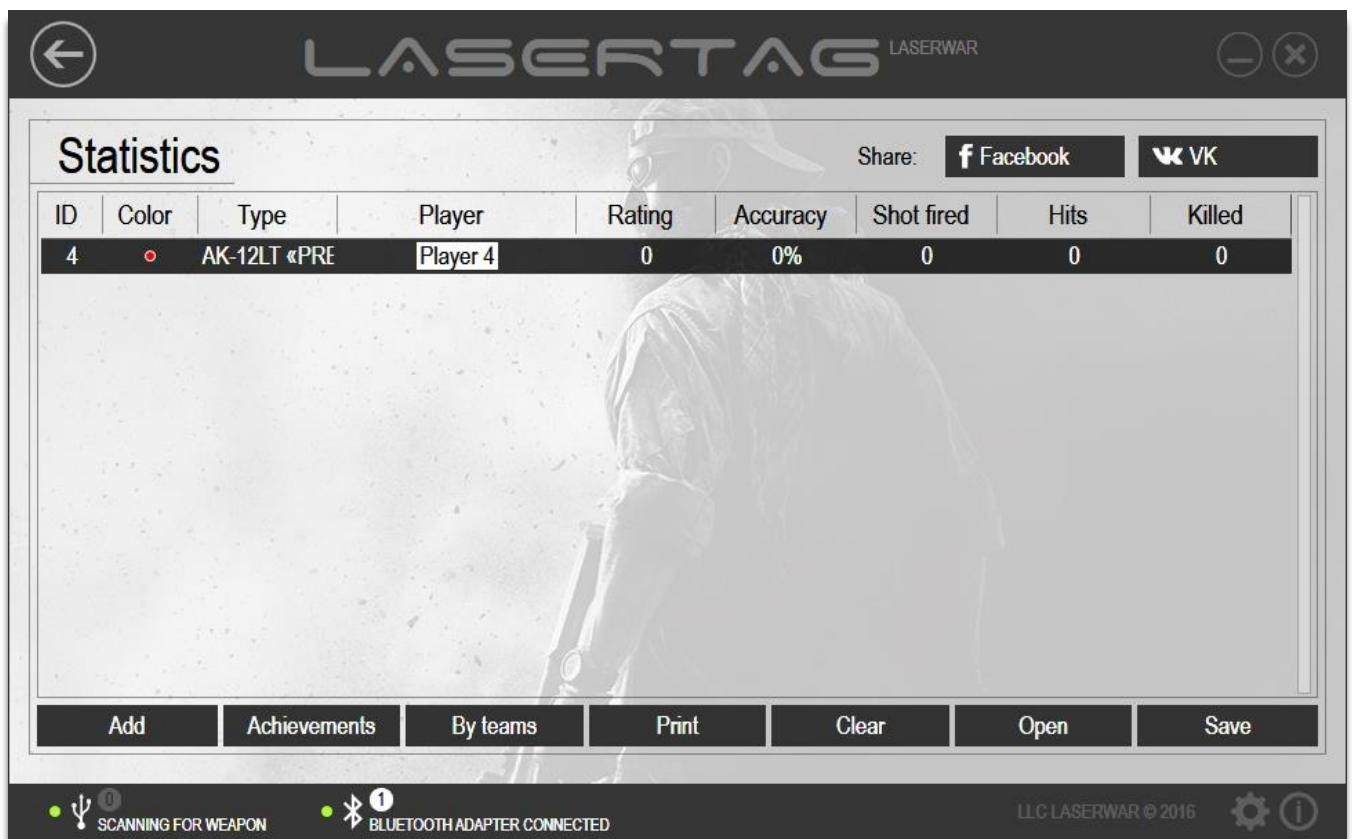


Figure 94

Each player's detailed statistics are also viewable. To open the detailed statistics, click twice on the line with the player's data. This opens a window similar to the one shown in Figure 95.

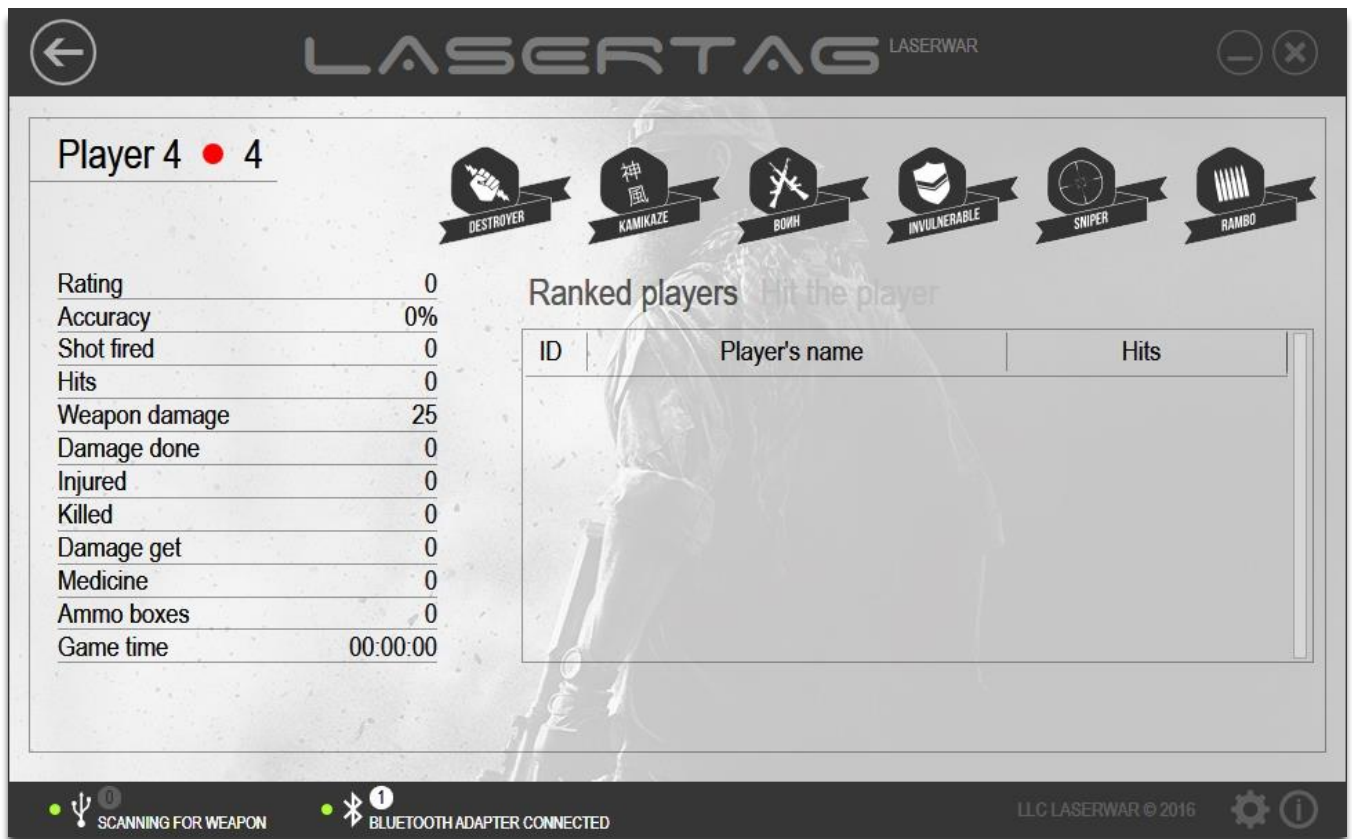


Figure 95

The top-left corner of the window displays the player's name, the team color, and ID. In the top-right corner there is a list of game achievements, and the icons of the player's achievements are highlighted in black.

On the left side of the window there are detailed data of game statistics. On the right side of the window there is a list of the players defeated by the player during the battle. To see the list of the players who defeated the player, click on "Hit the player" (Figure 96).

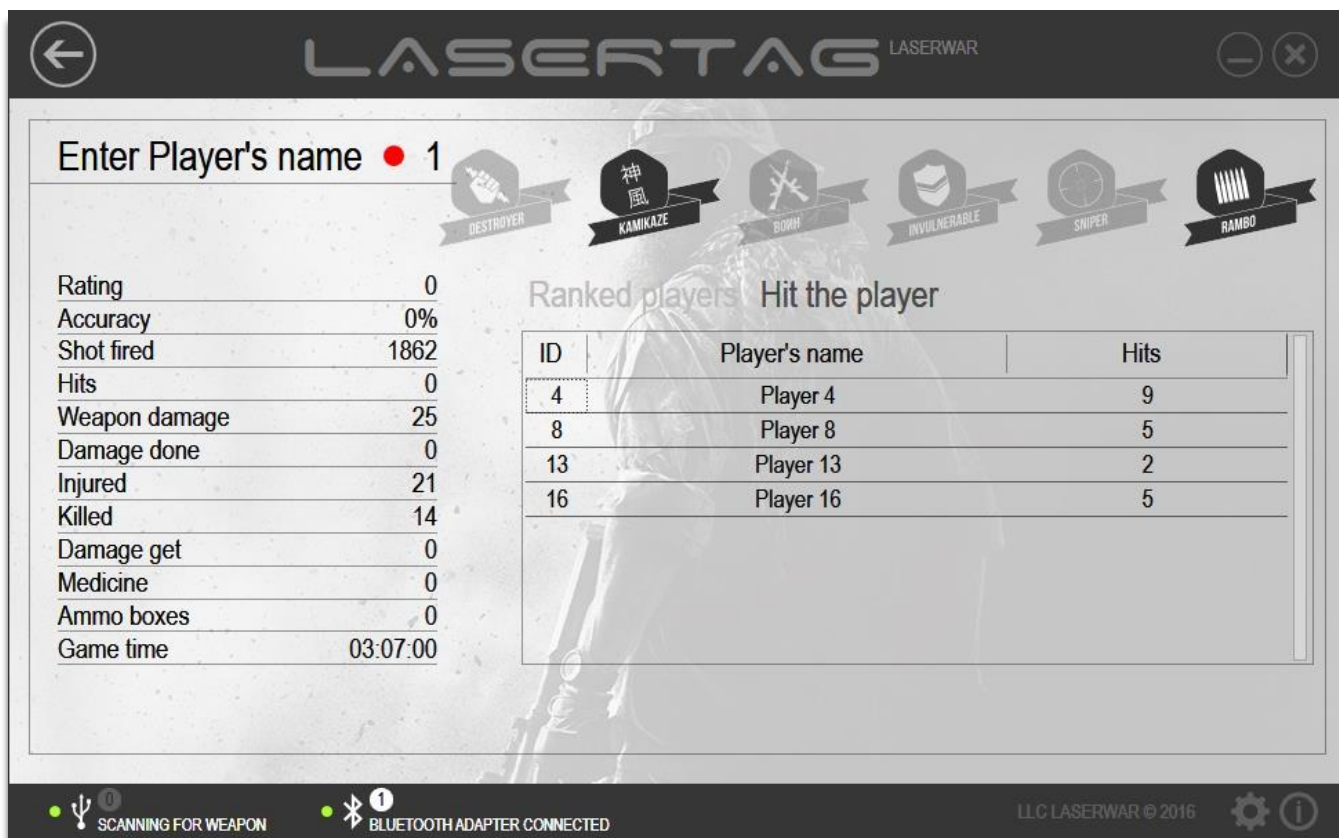


Figure 97







Click on "Back"  to return to general statistics display mode (Figure 94).

Based on game statistics a list of players ' achievements is created that can be viewed clicking on "Achievements" button in the main window of the bottom section (Figure 94). The screen displays a list of the players ' achievements (the example is shown in Figure 97).



Figure 97

The list shows the achievements described below.

Achievement	Description
 DESTROYER	The largest amount of damage among all teams players
 INVULNERABLE	The fewest number of hits among all teams players
 KAMIKAZE	The largest number of "deaths" among all teams players
 WARRIOR	The highest rating among all teams players
 SNIPER	The highest accuracy among all teams players
 RAMBO	The largest number of shots fired among all teams players

To view the team rating, click on "By teams" in the main section window (Figure 95). This opens the "Teams Statistics" window, the example of which is shown in Figure 98.

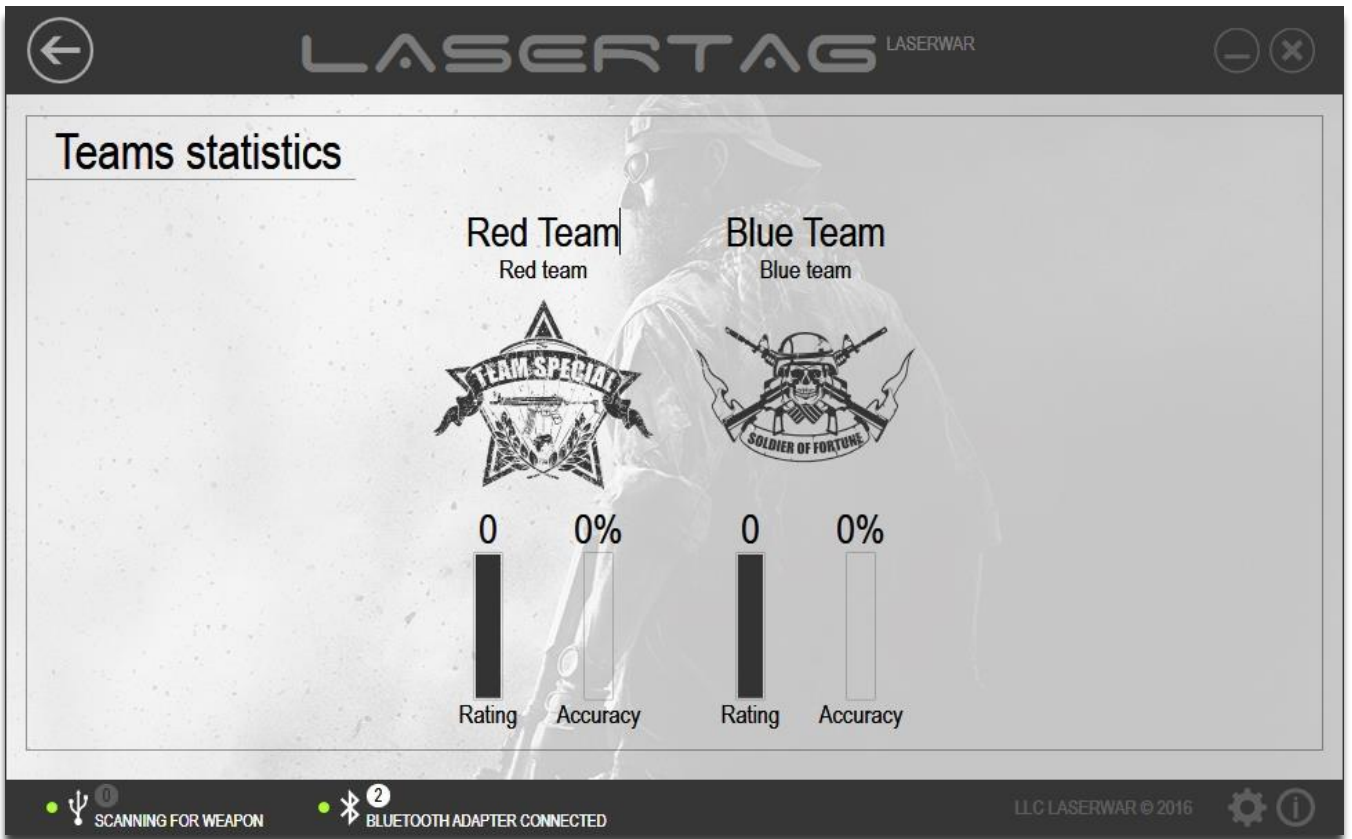


Figure 98

If necessary, you can change the team name in statistics. To do it, click twice on the team name and then make the changes (example shown in Figure 99).

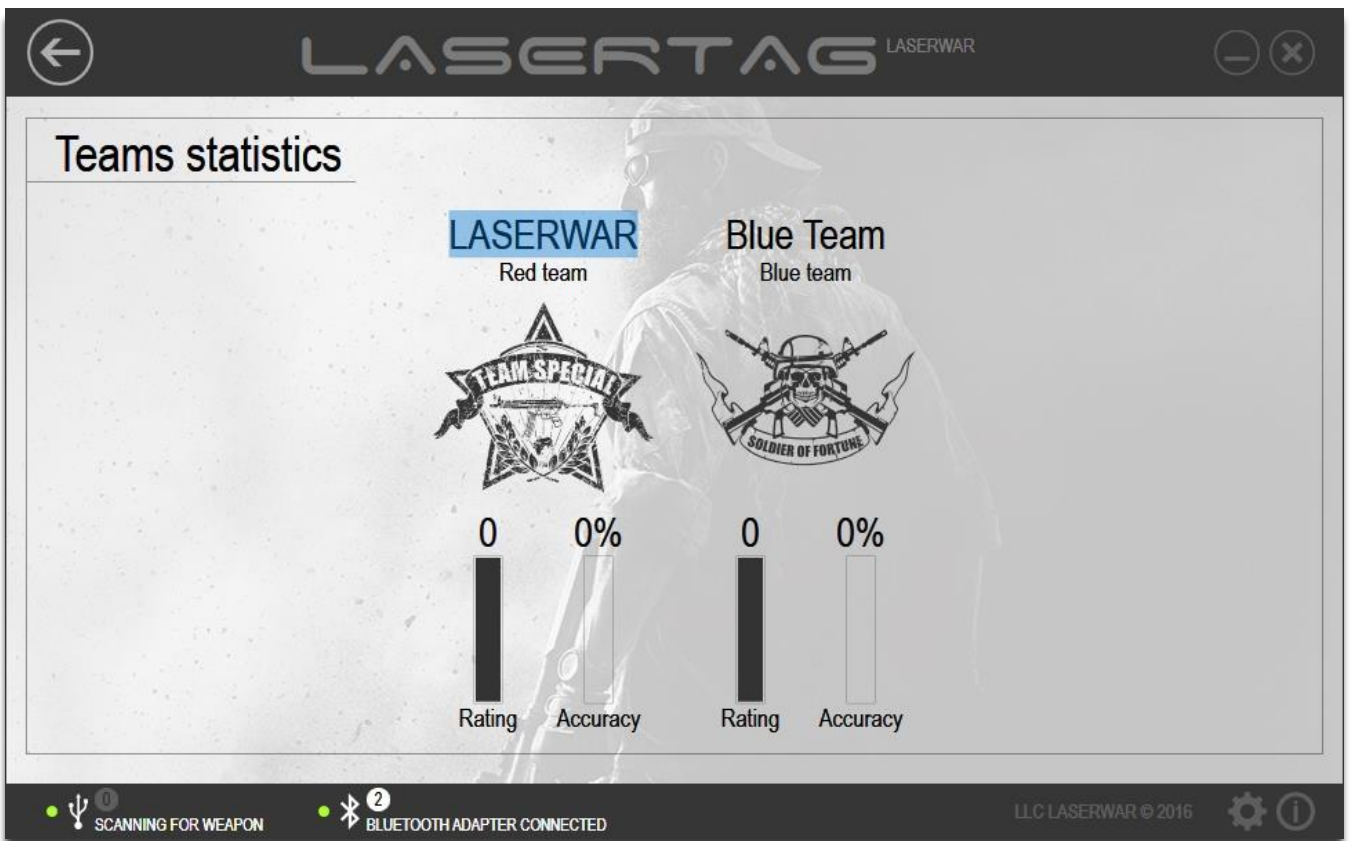


Figure 99

To save or print out statistics, click on "Print" in the main window of the section (Figure 94). The program will create a PDF document that contains comprehensive information - not only general statistics (Figure 102), but also team ratings (Figure 100), achievements (Figure 101), and personal players' statistics (Figure 102). The club's name or activity is displayed at the top of each page (see 3.3).

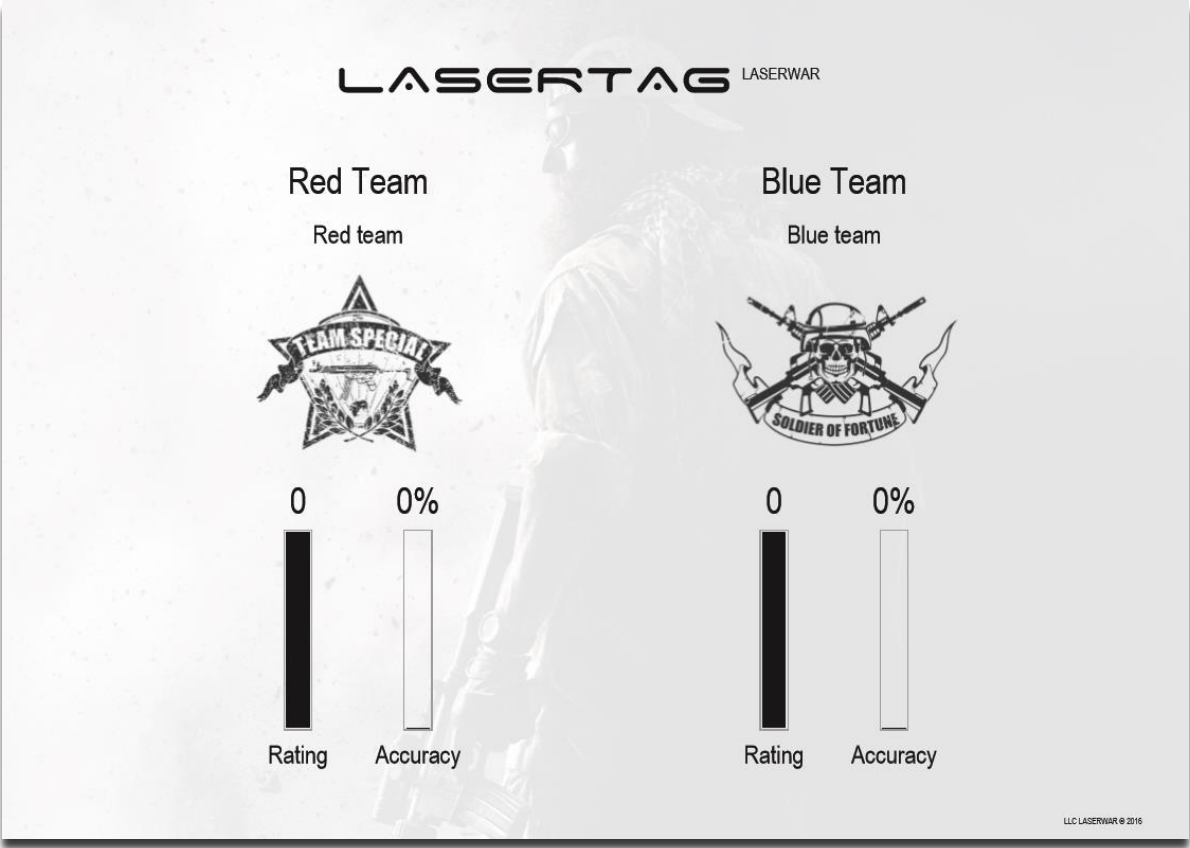


Figure 100



Figure 101

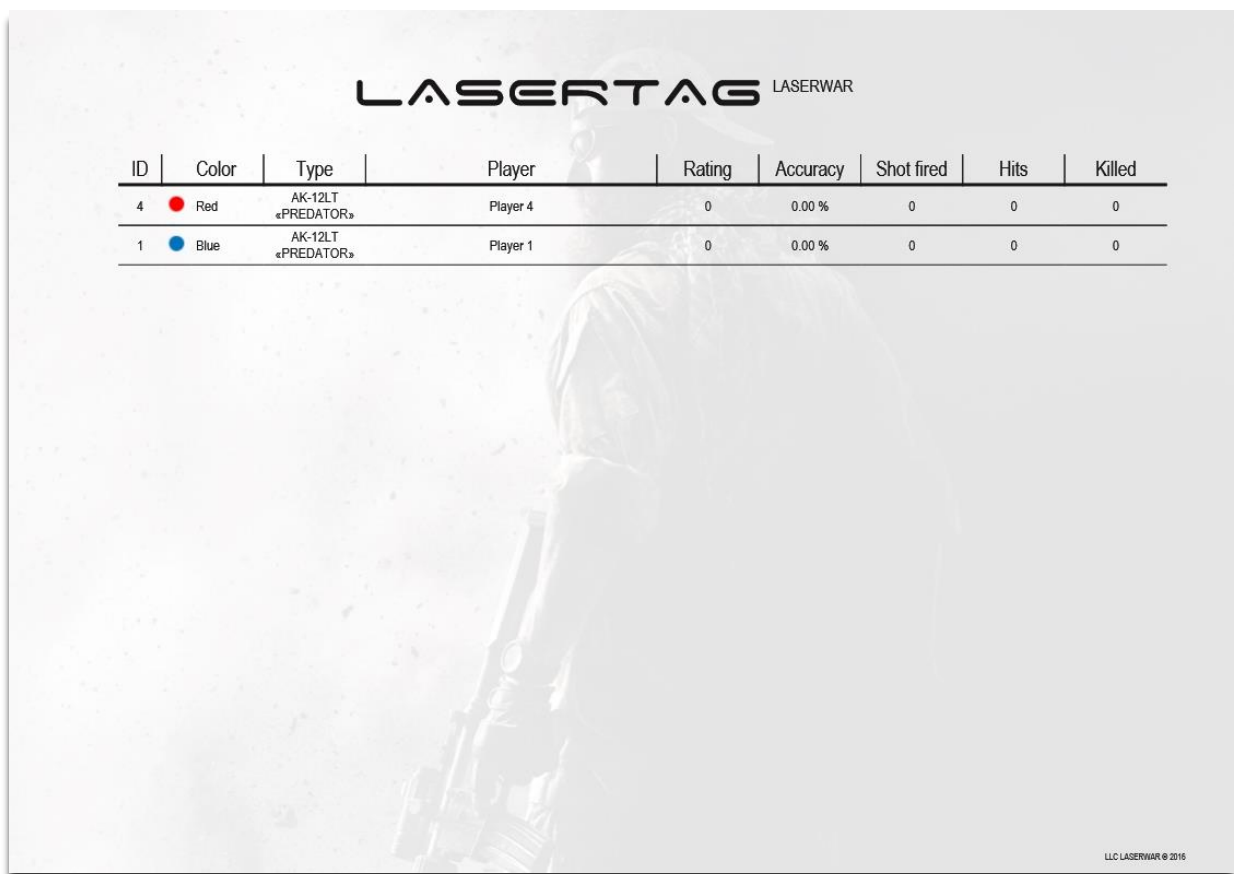


Figure 102

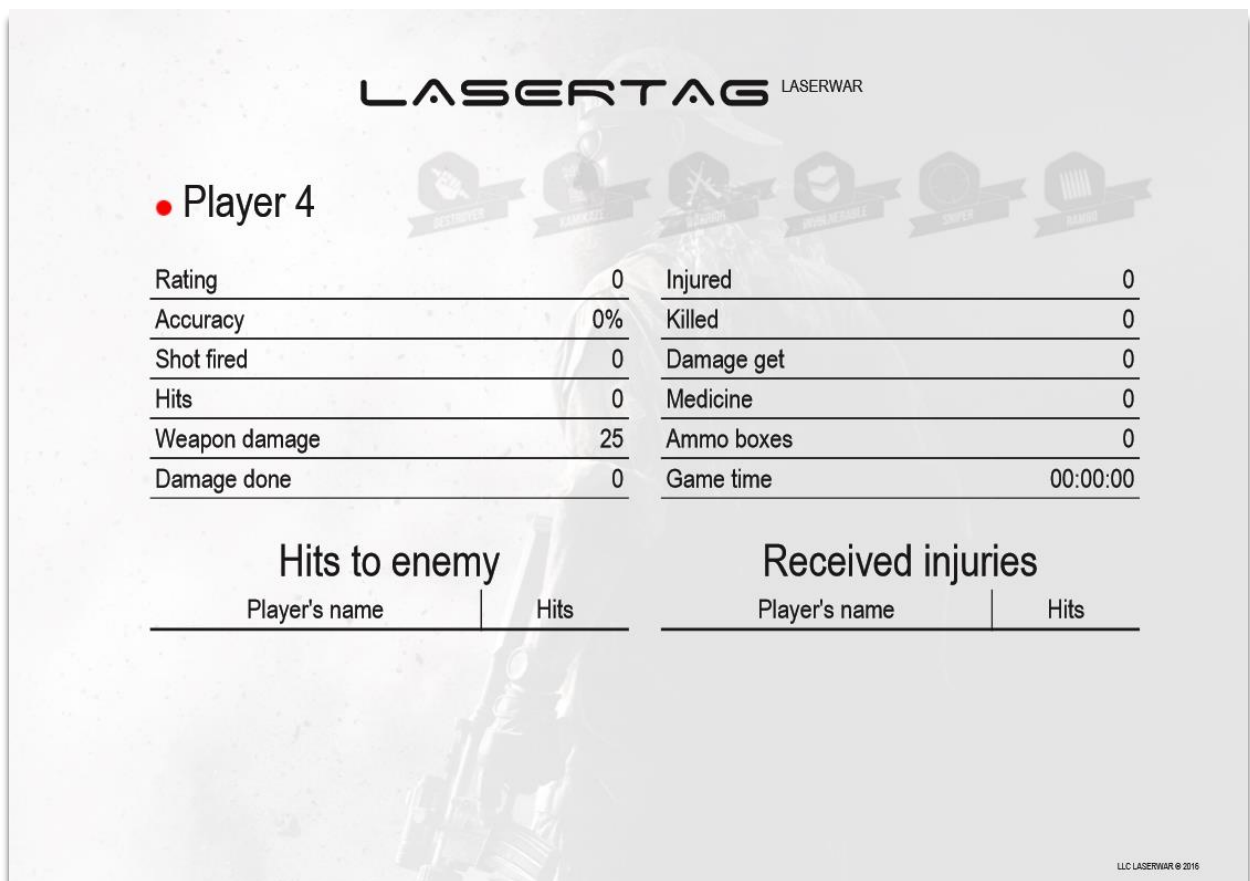


Figure 103

The PDF document can be printed out or saved by the editor's standard tools.

Statistics can be posted in Facebook or VK social networks. To do it, click on Facebook or VK button at the top of the main window of the section (Figure 94). The program will offer you to sign in to your Facebook or VK account.

After you have successfully signed into the social network, you should allow the program to access your account when your social network asks about it.

Laser Tag Configurator will prepare a PDF document similar to those shown in figures 100-103. A message appears on the screen at this time (Figure 104).



*Figure 104*

The finished document is displayed for preview and can be automatically published in Facebook or VK social networks

To clear statistics, click the button with the "Clear" button in the main window of the section (Figure 94).

To save statistics in the \*.XML format, click on "Save" in the main window of the section (Figure 94). The screen displays a standard "Save as" window. The file is saved with a standard operating system method. You can view the saved file later. To do it, click on "Open" (Figure 94), and in the Windows Standard Open window select the XML file. The screen displays the saved statistics (the example is shown in Figure 94).

## 5 Technical support

You can address all issues related to the operation of the "LASERTAG CONFIGURATOR", and the problems in the operation process, please contact technical support from 10:00 to 18:00 (Moscow time) on weekdays by tel. + 7 (800) 555-95-90 and + 7 (4812) 377-000 (as well as by extra phone numbers: + 7 (964) 616-15-15, + 7 (951) 694-01-00), by e-mail [help@laserwar.ru](mailto:help@laserwar.ru) or on our web-site [www.laserwar.ru](http://www.laserwar.ru) website.

When you contact our technical support, you should prepare the following information:


- Description of the situation when the problem occurred.
- The sequence of user's actions that caused the problem.
- The program version. To see the version of "LASERTAG CONFIGURATOR", click on "About program"  at the bottom of the main window. The screen displays an information window, as shown in Figure 105.



Figure 105

To close the window, click on "OK".

If possible, attach a display copy of the problem message.