LLC LASERWAR

«LASERTAG CONFIGURATOR»
MOBILE APPLICATION
FOR LASER TAG EQUIPMENT
GAME PARAMETERS
CONFIGURATION

2015

SUMMARY

This manual is intended for independent study of LASERTAG CONFIGURATOR mobile application that is used for laser tag equipment game parameters configuration. In this Manual, you will find information on creating characters, presets, setting up game parameters and sending them to play sets. The Manual also contains information on how to form game statistics, save it, print and share in social networks.

The numerous pictures make the Manual easy to use not only for professionals, but also for beginners.

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Introduction

LASERTAG CONFIGURATOR is the first in Russia mobile application for Android tablets aimed at a wide range of users and designed for working with equipment by LASERWAR. It allows to effortlessly send techinical and tactical characteristics settings to laser tag equipment, use ready and own settings and receive game statistics from blasters.

The application has a user-friendly interface and allows to use all the advantages of the most recent versions of laser tag equipment. Setting up play sets before big events has been made quick and easy due to the fact that now there are preset technical and tactical characteristics that can be simultaneously loaded onto an unlimited number of play sets. Now organizers do not need a PC to create characters, game parameters presets in advance and instantly load them onto laser tag equipment.

Use the configurator to:
- create and edit play characters;
- use ready game presets and create own ones;
- choose sound arrangement of game events;
- send game parameters to several laser tag play sets simultaneously;
- read, save game statistics and even share it in social networks.

The configurator has been made even more straightforward. Our aim was to make it possible for you to promptly change any game parameters of the equipment and to configure game sets quickly wherever you are. Here are the advantages of the LASERTAG CONFIGURATOR:
- brand new interface;
- revised settings menu;
- you can set up play sets of the most recent generations anytime anywhere;
- it takes less time to send parameters to play sets or to read statistics;
- comprehensive game statistics with players' achievements displayed;
- save statistics in various formats, print and publish it in the Vkontakte social network from the application.

Application activation and its components

▪ Technical and software requirements

- Android operating system version 4.0.3 or later.
- Minimum screen resolution – 600 dots (screen size 7 inches).
- Bluetooth adapter to connect play sets.
- PDF document management tool to view game statistics.
- Online access to publish game statistics in Vkontakte.
- The installed program takes up about 24 Mb of space.

▪ Program installation and launch

It will take a couple of minutes to install the LASERTAG CONFIGURATOR application. The configurator can be downloaded from **«Google Play»** free of charge. Upon that, the application will request permission to use photo, video and audio files and establish connection with Bluetooth devices - this is essential for connecting laser tag equipment and creating statistics documents. Upon the application launch you will see LASERTAG CONFIGURATOR shortcut on the home screen and will be able to go on to work with the program.
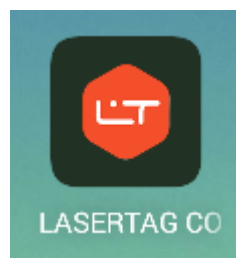

LASERTAG CONFIGURATOR is launched like any othe Android application.

There are six tabs in the main menu:
- Configuration   – for setting up technical and tactical characteristics and sending them to equipment;

- Presets – for creating and sending ready game parameters settings;
- Statistics – for reading game statistics, printing it and sharing in social networks;
- Characters – for creation, changing and deleting game characters for equipment v. 8;
- Sounds – a selection of sound arrangement for game events for equipment v. 8;
- Firmware update – instant upload of most recent firmware versions to laser tag equipment.
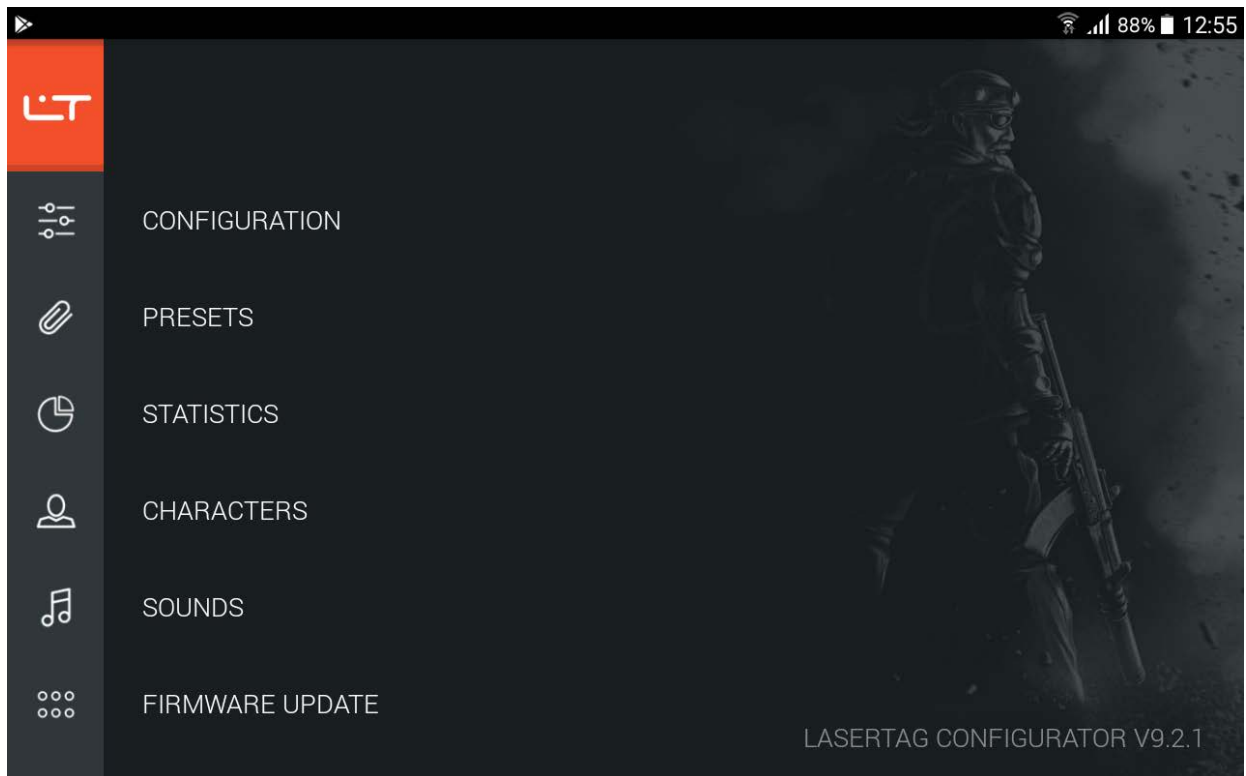
The version of the application can be found at the bottom of the window. To go back to this window from any other unit, click on the LT icon at the top of the window.

▪ Connecting laser tag equipment

LASERTAG CONFIGURATOR is compatible with laser tag equipment play sets version 7 or above. Before you connect play sets to the configurator, make certain that the Bluetooth has been activated on the tablet. You can connect several play sets at a time (their amount is only limited by your tablet capabilities).

In order to launch your equipment in play mode, turn on your play set. Upon that, the equipment will produce a sound signal. Next, turn on the head band. If the laser tag equipment has been connected correctly the headband LEDs will start flashing.

To launch a play set in configuration mode simply turn on the blaster, no need to turn on the headband. When the configurator identifies the device you will hear the sound signal *Configuration mode on*.

Use the application to upgrade equipment firmware. The equipment must be launched in the Boot mode for this: as you turn on the blaster hold the trigger (do not turn on the headband). The blaster will not produce any sound signal, but the green On/Off LED will light up (if there is one).

If the equipment is turned on for the first time the system may request a pin code (it is standard for all blasters - 1234). Entering the pin code will not be required later.

Program units

▪ Configuration

In the *Configuration* unit you can view technical and tactical characteristics of playsets, set up game parameters easily and send them to equipment, as well as quickly set up play sets by selecting ready presets.
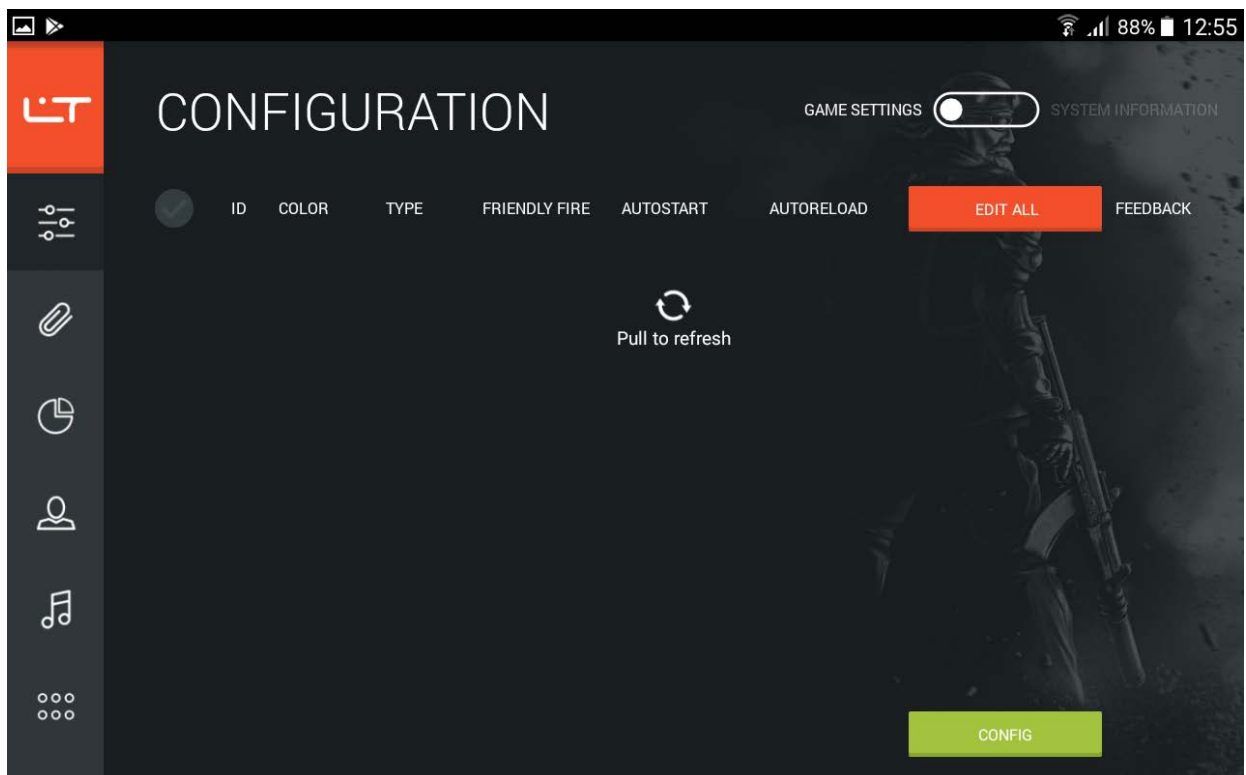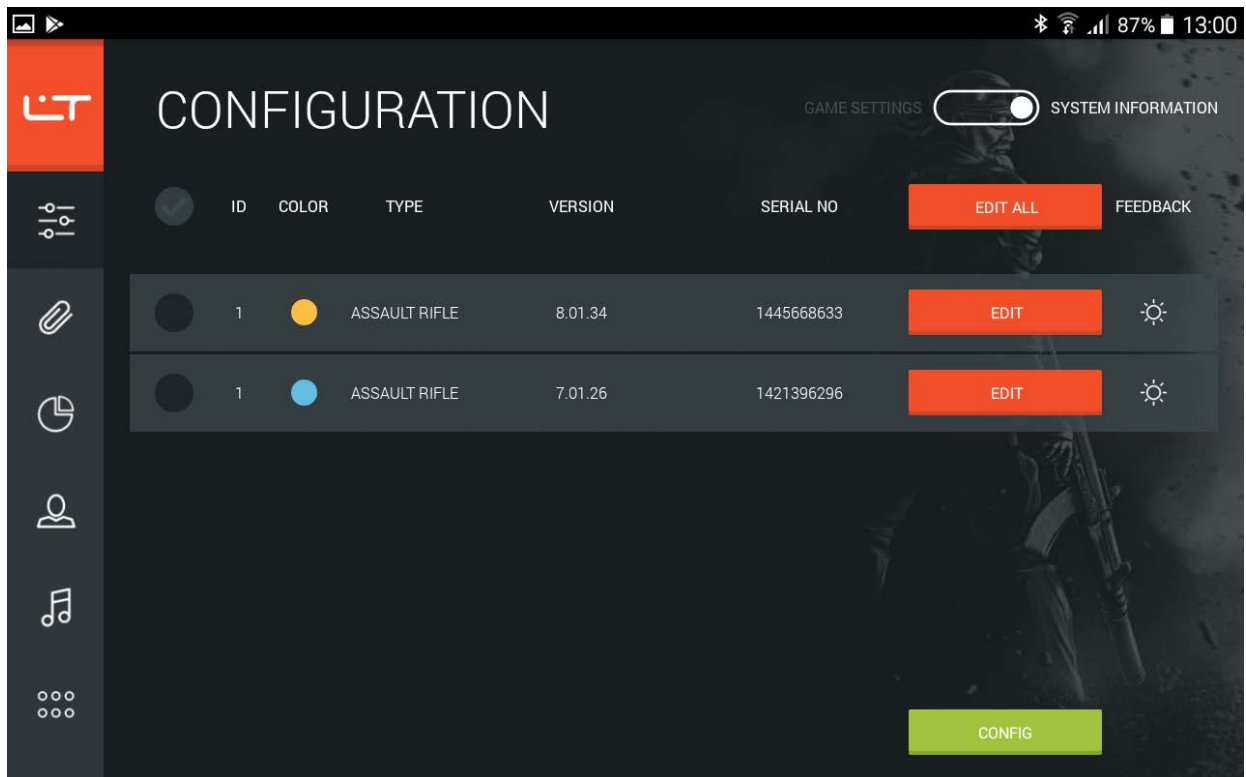
Connect playsets by launching them in configuration mode. In the application drag the update icon down. Equipment search will be performed and after some time a list of connected devices will be formed.
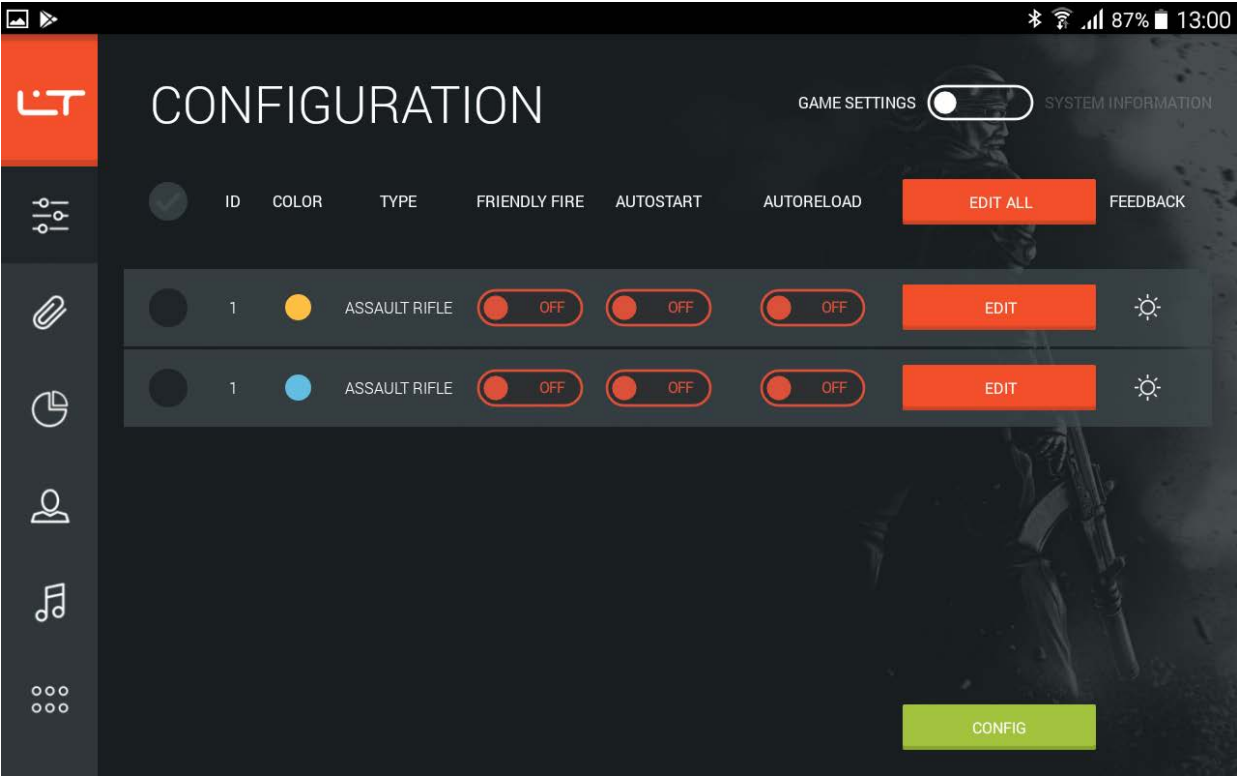
In order to see firmware versions and serial numbers of connected equipment sets select the *System info* tab.

Should you have any trouble identifying a play set click on ☼. Upon that you will hear   a sound signal
  produced by the respective blaster.

Use the *Game settings* tab to view and change identificator data for each set, team colours and friendly fire settings, autostart and autoreloading. To change a blaster identificator click on it and scroll down until you find the required value (you must bear in mind that the IDs of the play sets that are used for the same event must be unique). Change team colour by clicking on the circle and choosing the colour you want. To activate friendly fire mode, autostart or autoreload slide the respective switch to the On position.
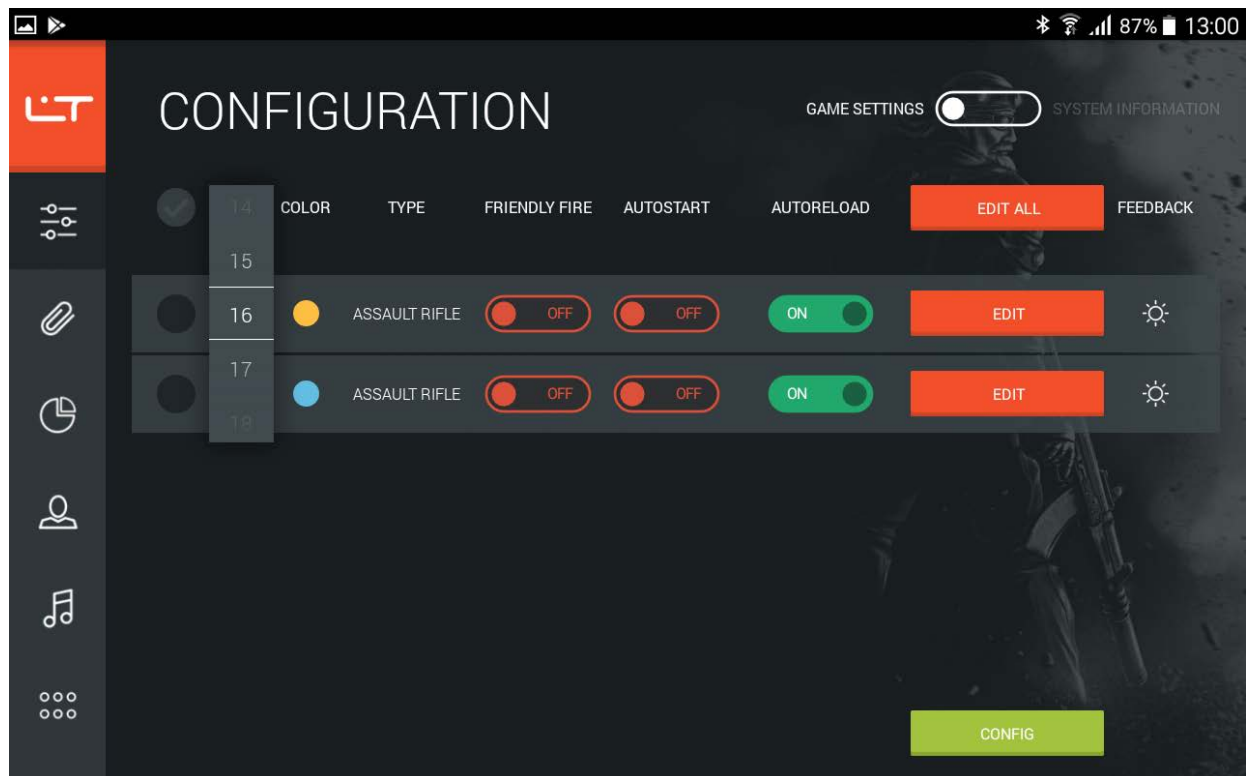
The configurator can be used for sending same settings to all your blasters or for simultaneous sending of different game parameters to several sets. By clicking on **Edit** you will open the menu of the chosen blaster. The scanned technical and tactical characteristics of the set that will appear on the screen can be changed. Parameters of a given blaster are edited in this same manner. If you still want to send uniform settings to all sets, click on **Preset for all** and enter the required technical and tactical characteristics. You can create uniform settings for all sets by selecting one preset for all and then change some of the parameters for certain sets by means of the **Edit** icon.

Upon clicking on **Edit** a window with scanned characteristics of a chosen play set will appear (signified by the *Obtained parameters* inscription). The preset creation window is same for all blasters, the only difference would be the scanned parameters of sets.

You can quickly change some of the parameters or select a ready preset and adjust it the way you find appropriate.

To select a preset, scroll right or left above the image of a group of blasters. Upon that, the technical and tactical characteristics settings, as well as weapon types will be displayed on the screen. You can send ready preset to the equipment or alter certain parameters: then they will be sent to the equipment, yet they will not affect the preset itself in any way (you can change settings and create own presets in the *Presets* unit).

To change the type of weapon, scroll the feed with images of groups of weapons left or right. Next, select a weapon type from a group at the bottom of the window.

You can also change certain settings of technical and tactical characteristics - they are in the right section of the window. Scroll up to select the setting that needs to be changed and pull the scroll box to the required value. If you want to select a particular parameter value, click on the red icon and scroll up or down to the required value. Comprehensive descriptions of all technical and tactical characteristics settings are given in the appendix.

After all the settings of the technical and tactical characteristics have been selected click on **Select** (or click anywhere outside of the window to exit the unit if you do not want to save the changes).
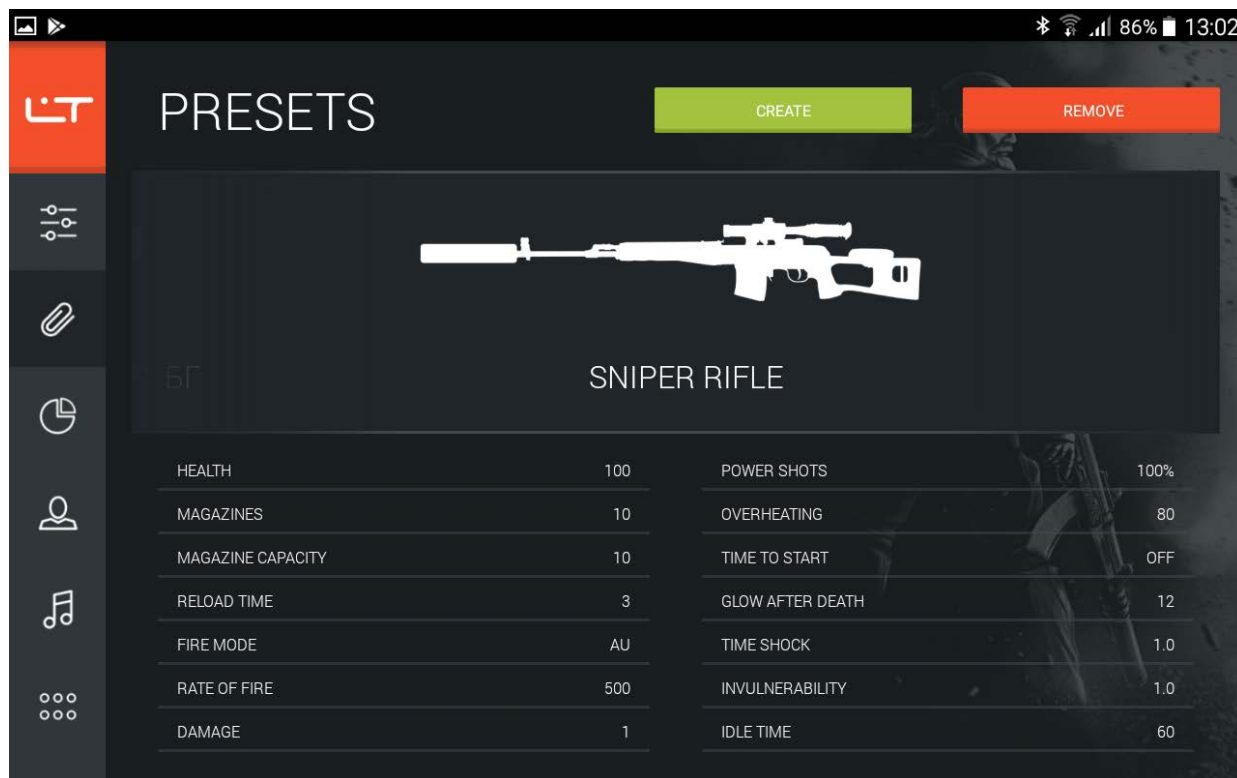
When you select the required parameters tick the play sets to which you would like to send the settings and click on **Send.** You can quickly highlight all the connected blasters by leaving a tick at the top of the list.
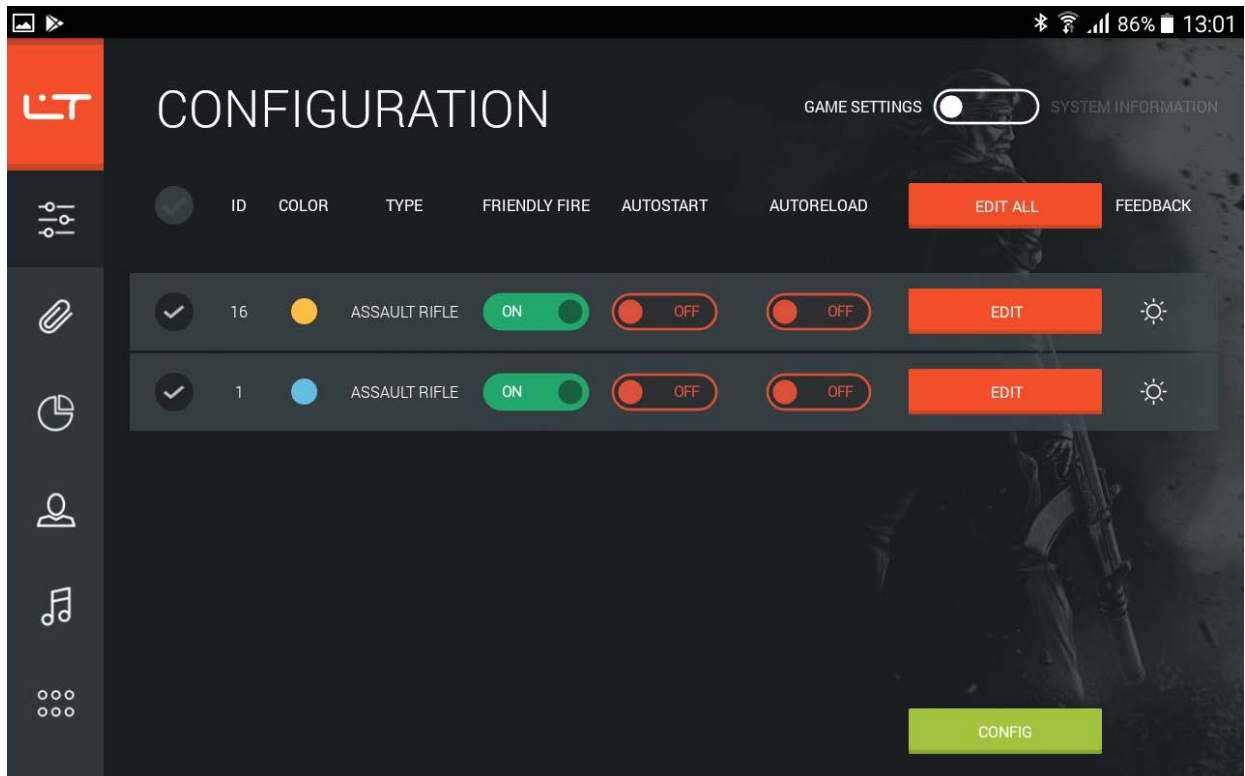

A progress indicator will appear on the screen. After a while the settings will be sent to the selected play sets.

- **Presets**

In the *Presets* unit you can create or edit presets - the ready settings of technical and tactical characteristics which can be quickly sent to equipment through the *Configuration* unit.

HEALTH	100	POWER SHOTS	100%
MAGAZINES	10	OVERHEATING	80
MAGAZINE CAPACITY	10	TIME TO START	OFF
RELOAD TIME	3	GLOW AFTER DEATH	12
FIRE MODE	AU	TIME SHOCK	1.0
RATE OF FIRE	500	INVULNERABILITY	1.0
DAMAGE	1	IDLE TIME	60

To select a preset, scroll weapon images feed left or right. As you do so, you can view ready preset settings right away. Use this unit to effortlessly create own presets by going to **Create**.
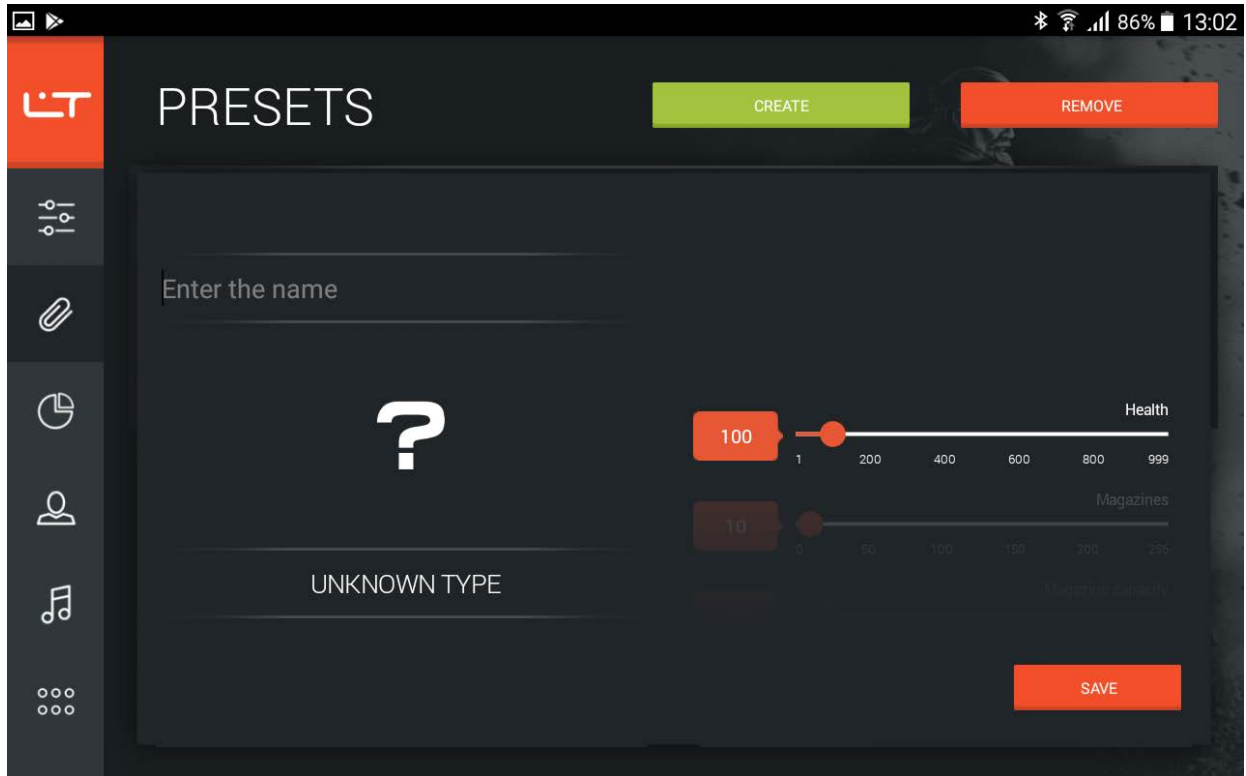
Enter preset name in the top field and select weapon type. For your convenience, we have devided weapon types into groups: select the group by scrolling weapon images left or right. Then, select a weapon type from a group at the bottom section of the window.

You can also change certain settings of technical and tactical characteristics - they are in the right section of the window. Scroll up to select the setting you would like to change. To select a value of the parameter pull the scroll box to the required value or click on the red icon with the parameter value and use the scroll bar to pull up or down to the required value. A more detailed description of all the settings of technical and tactical characteristics are given in the appendix.

When you are done with the preset, click on **Save**. Simply select it in the *Configuration* unit so as to instantly send the ready settings to a blaster.

Presets can be easily edited by clicking and holding a preset image, or removed from the list by selecting the preset and clicking on **Delete**.
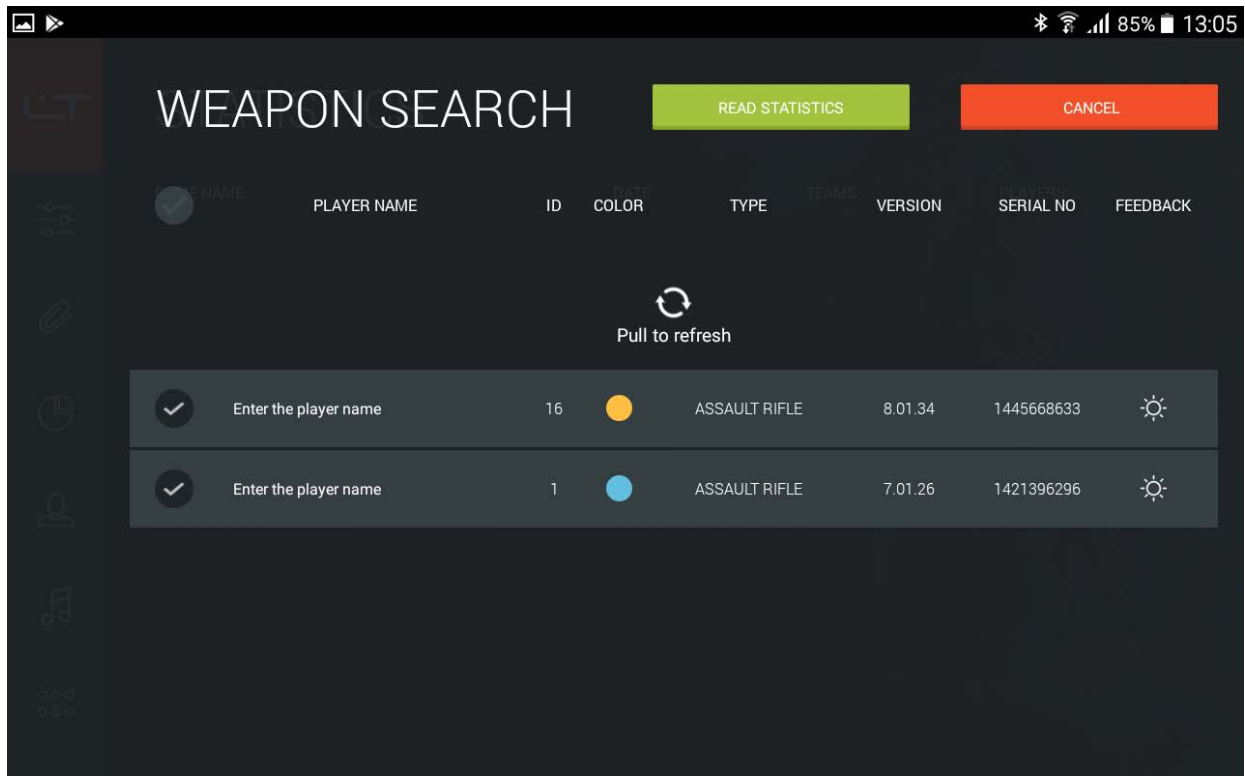
- **Statistics**

In the *Statistics* unit you can view game statistics, save it, print it out and even publish in a social network.
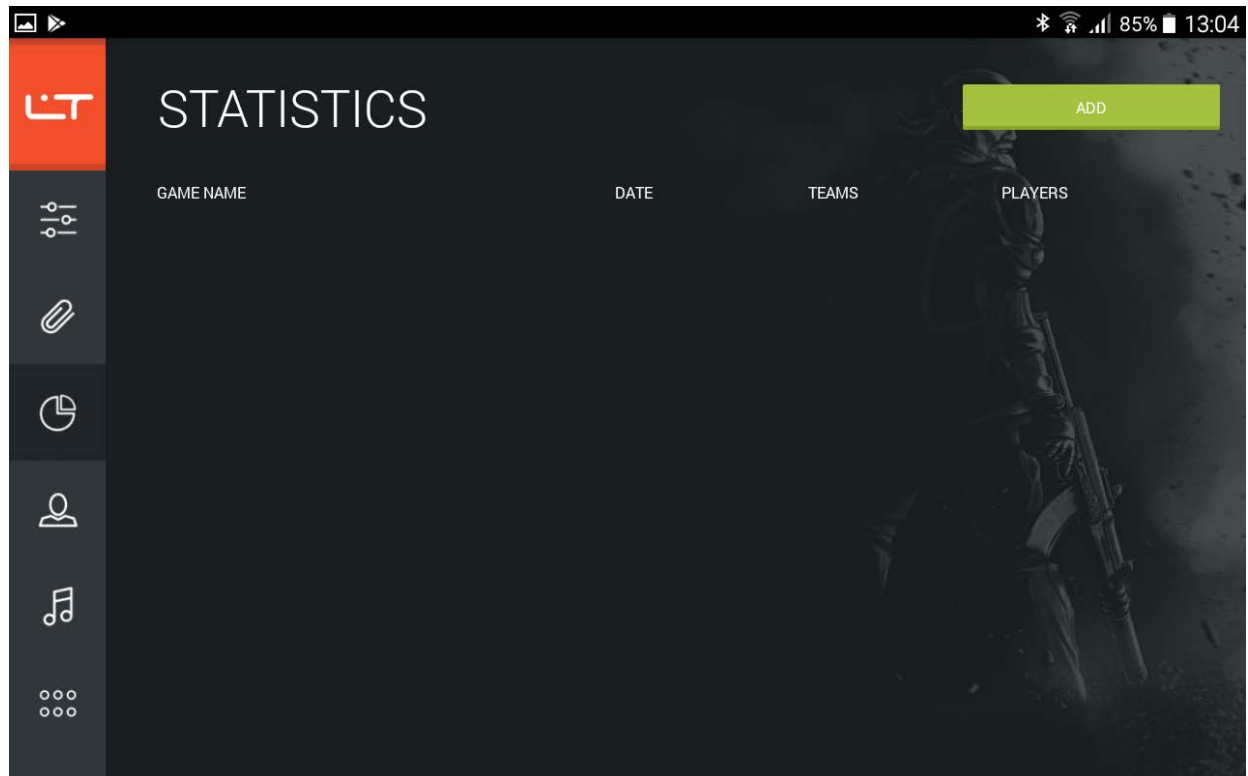
Start by creating an event: for this, click on **Add**. The configurator will automatically generate a game name, which will include the date and time of its creation. Leave this name or create your own, then click on **Next**.

You can use the configurator to simultaneously read statistics from many play sets. To update the list of connected devices pull the update icon down. The program will scan for devices and after a while, a list of connected blasters will be displayed.

For each set that has been found you can state the player's name by entering it in the *Enter player name* field - this name will be displayed in statistics. If you do not change the player's name the configurator will assign the name automatically (Player 1, Player 2 and so on).

Leave ticks next to the play sets the statistics of which needs to be read. Remember that statistics may be considered credible only after it has been read from each play set of all the teams that participated in the event. To straightforwardly detect a connected set of devices click on ☼. Upon that, the corresponding equipment will produce a sound signal.

Select the required devices and click on **Read Statistics**. Statistic data processing will start (during the process the statistic data will not be removed from equipment memory). After the process of statistics reading has been complete the following parameters will be displayed for each blaster: rating, hits precision as well as the number of shots that have been fired, the number of killings and virtual deaths of players. At the top of the window one can view team score and a list of players' achievements by scrolling it left.
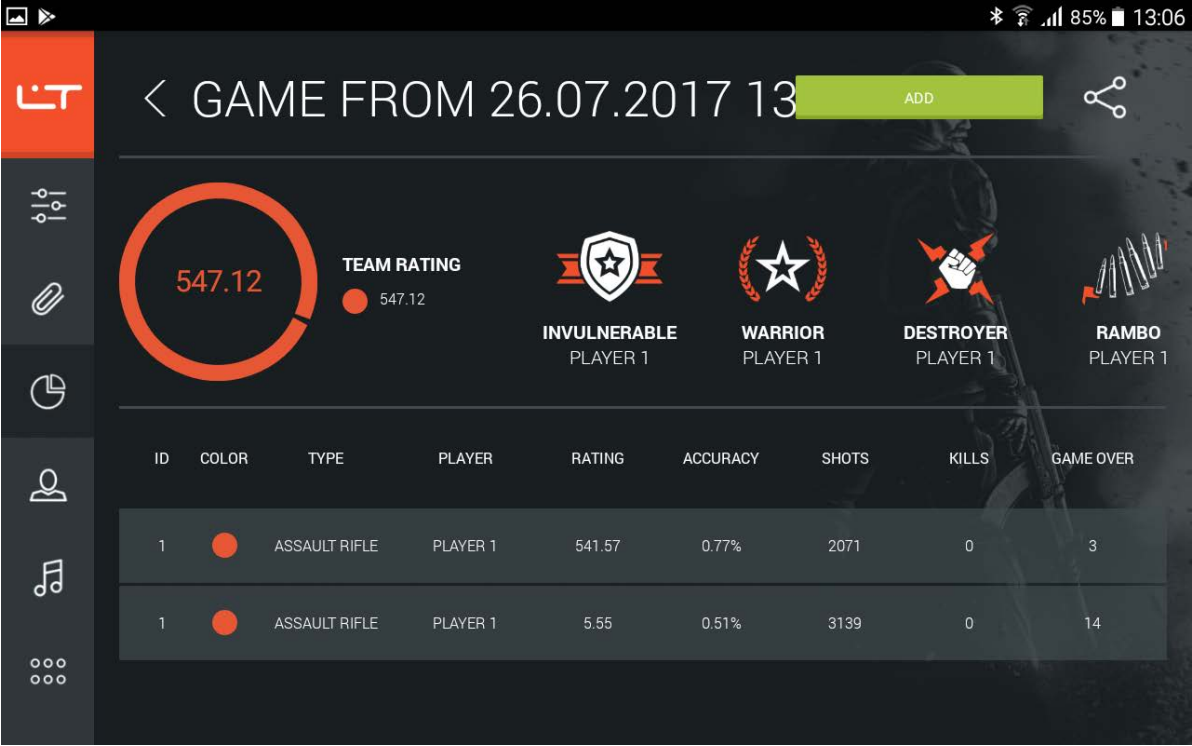
You can change a player's name or remove the line from statistics altogether. To do that, click and hold on the line and select which action you want to perform.
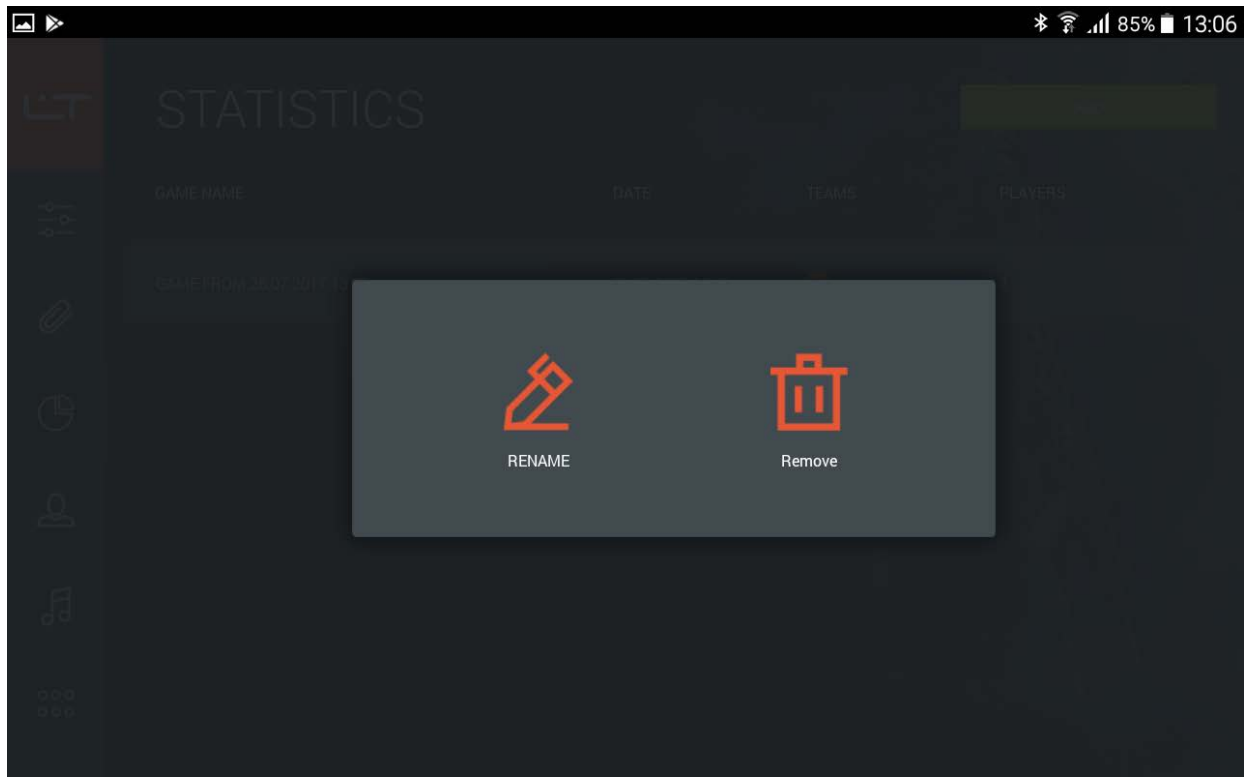
Refer to this unit to view each player's detailed statistics. Just click on the line with player's details.
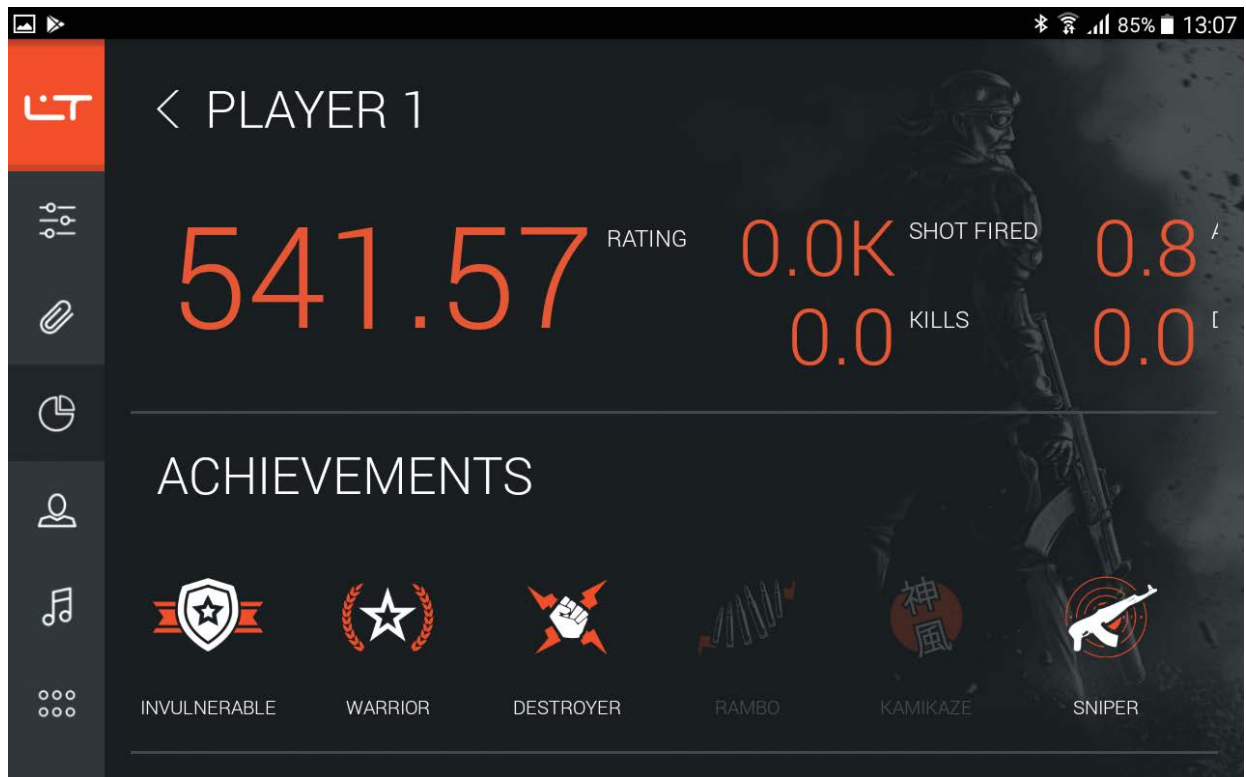
A player's name and his statistics data are displayed in this window (the statistics can be viewed by scrolling right or left), while a list of player's achievements is at the bottom of the window.
To go back to the event statistics overview, touch on the area where the player's name is displayed.

In the statistics window, you can create HTML, PDF or XML files, share the statistics in the Vkontakte social network or print it out right away. To do so, click on the **Share** icon at the top of the window.
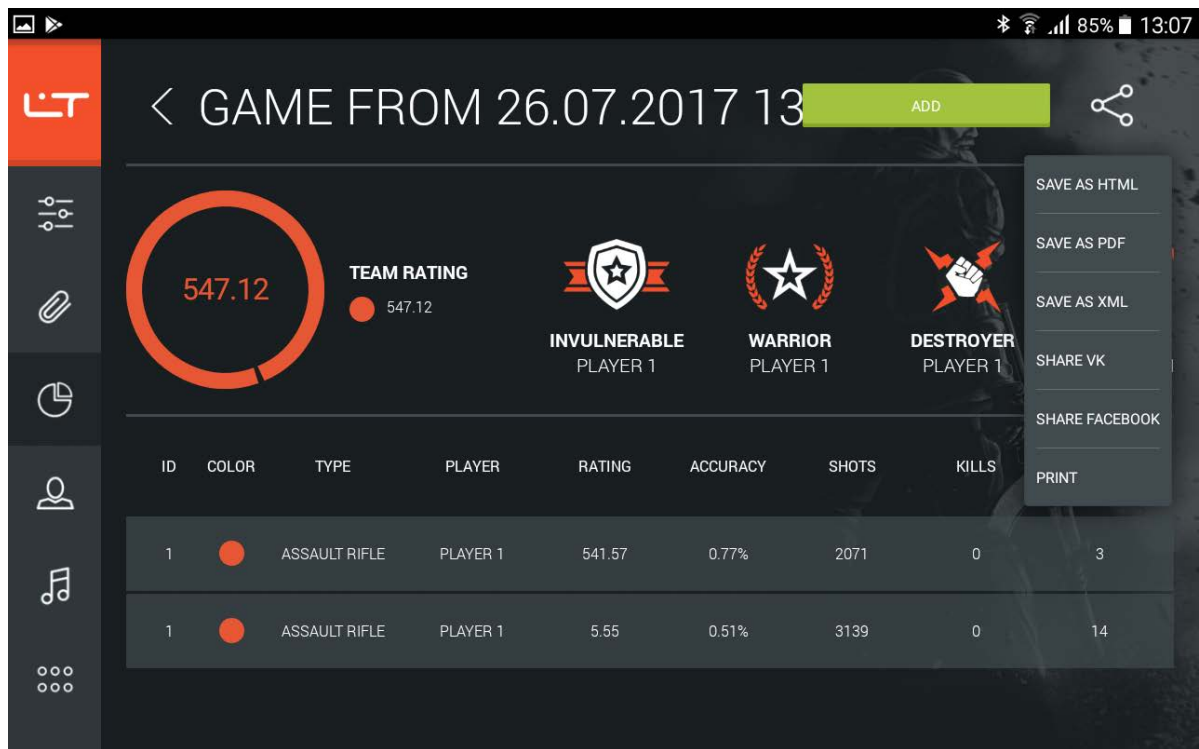
Select in which format you would like to save the statistics: HTML, PDF or XML (Statistics that has been saved in XML format can be viewed in the LASERTAG CONFIGURATOR app for Windows). The document that will be created will contain most comprehensive information - not only basic statistics, but also team score, a list of achievements and players' personal statistics. The document can be printed out or saved. The document can be printed out through the configurator, too.

The statistics can be easily published in the Vkontakte social network. As you do that, you will be requested by the configurator to access your personal account in Vkontakte and allow the application access to your personal account. Next, the configurator will create PDF and HTML files and suggest that you choose a community in which you will share your statistics. The application will only offer the communities which you are a member of and in which you have admin rights.
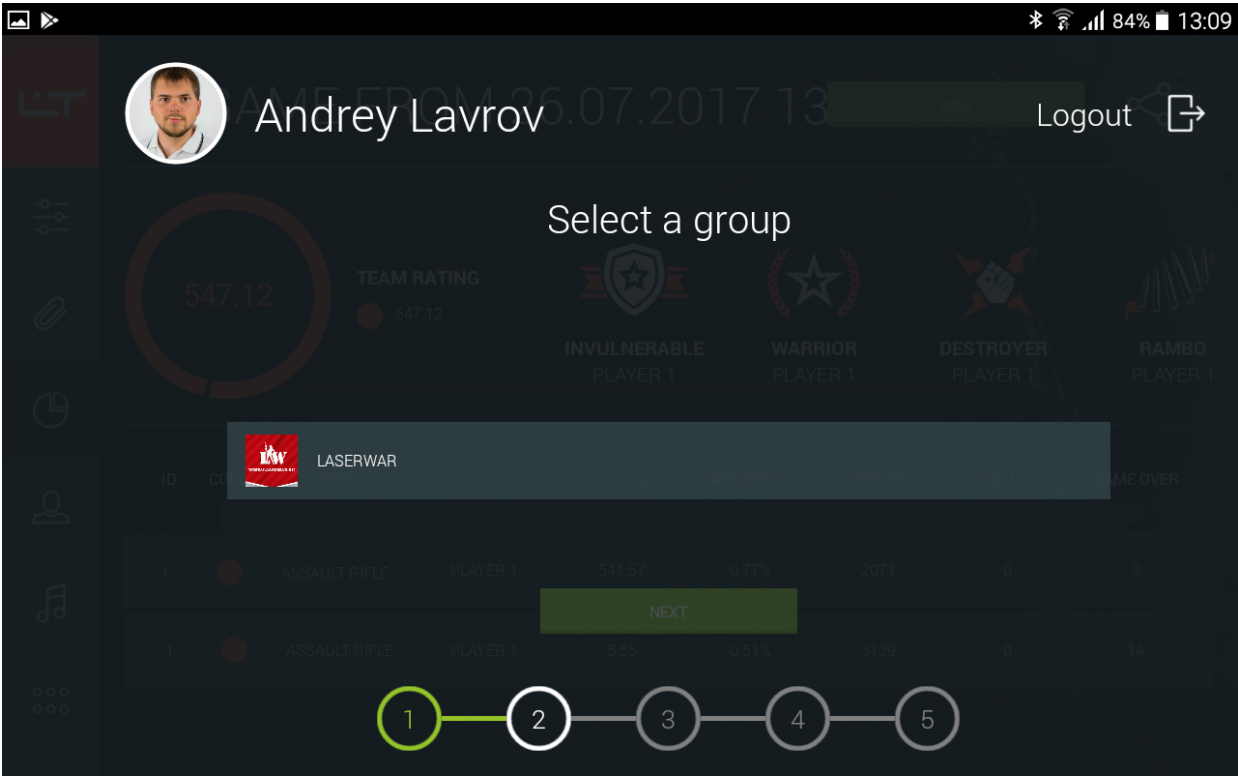
Click on **Next** and enter the description of the event. This text will appear in a message on the group wall.
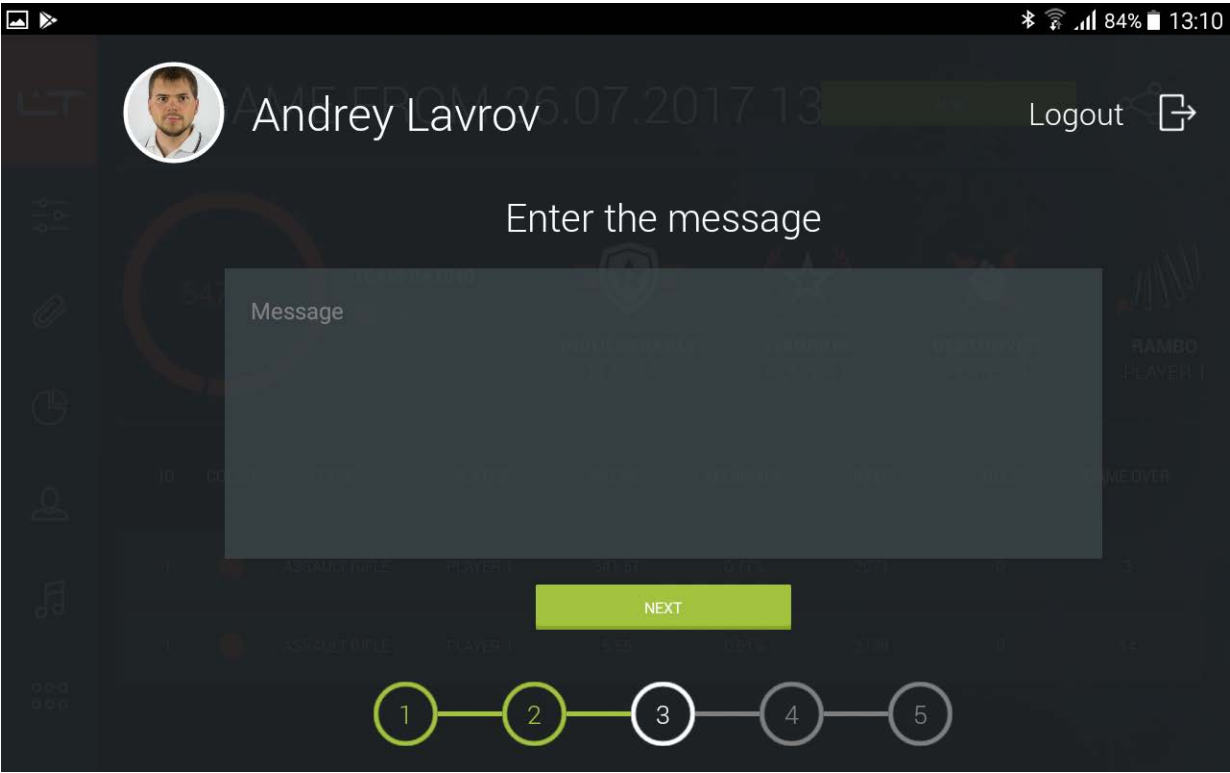
During the next step, the configurator makes a screenshot of the statistics window and shares it on the community wall along with statistics documents.
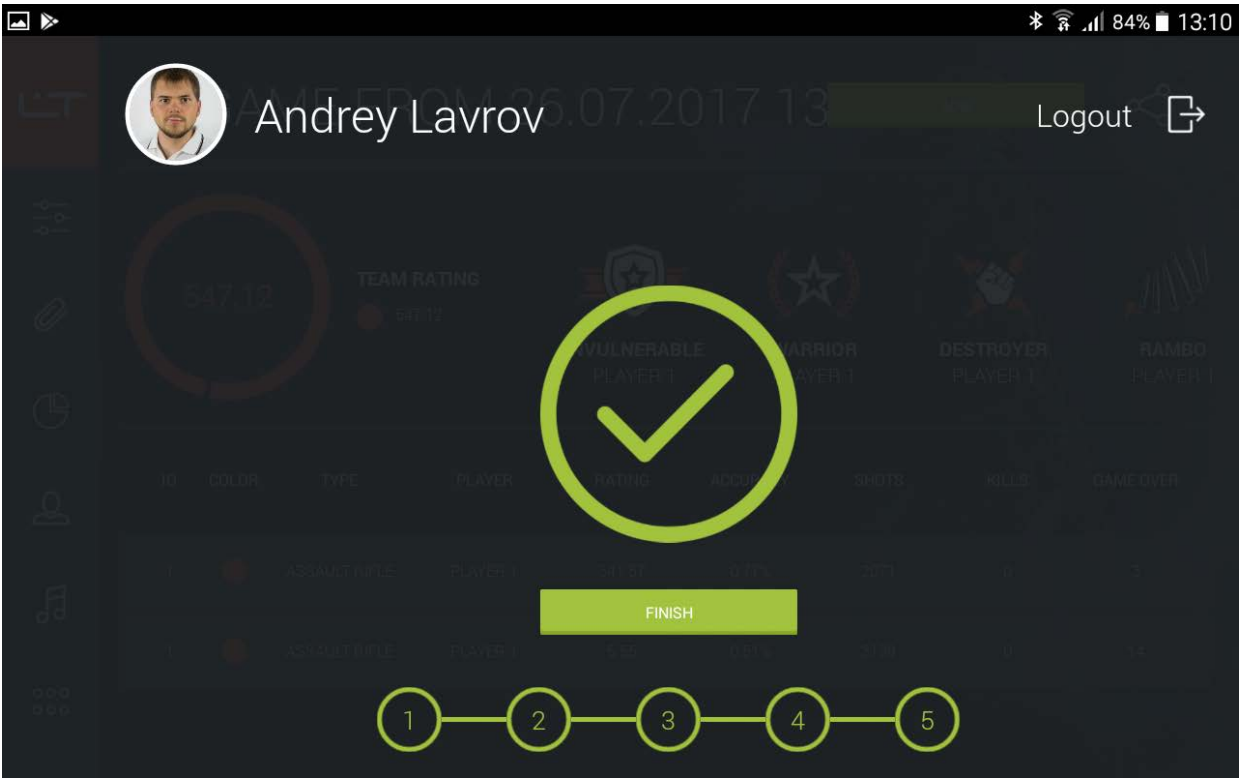
- **Characters**

In the *Characters* unit one can view ready presets of various game characters, change them and even create own ones and then send them to play sets v. 8.
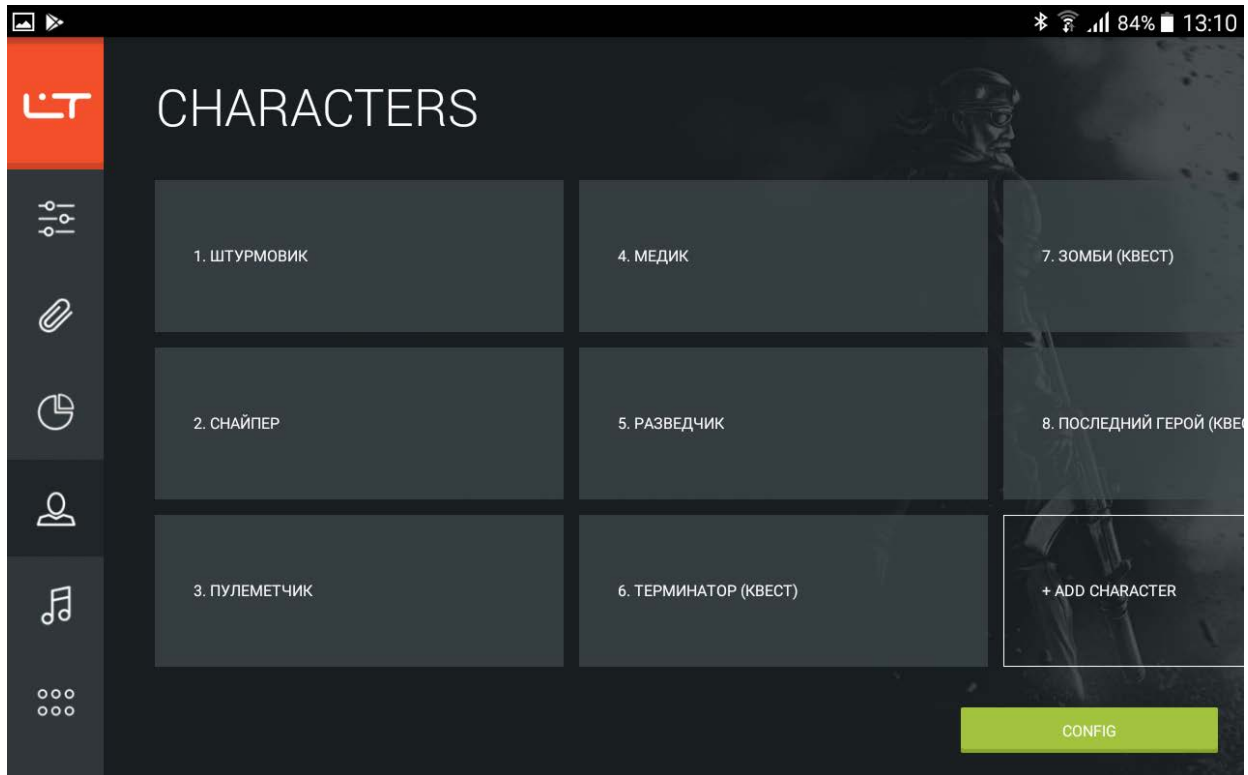
By scrolling left one can view a list of characters with unique technical and tactical characteristics. The application comes with 8 preset characters (three of them are quest characters and can be used for one round only) and you can easily create own characters whenever you need any.

Click on the tile with a character name in order to view or change his settings or touch the *Add character* tile to create own character.
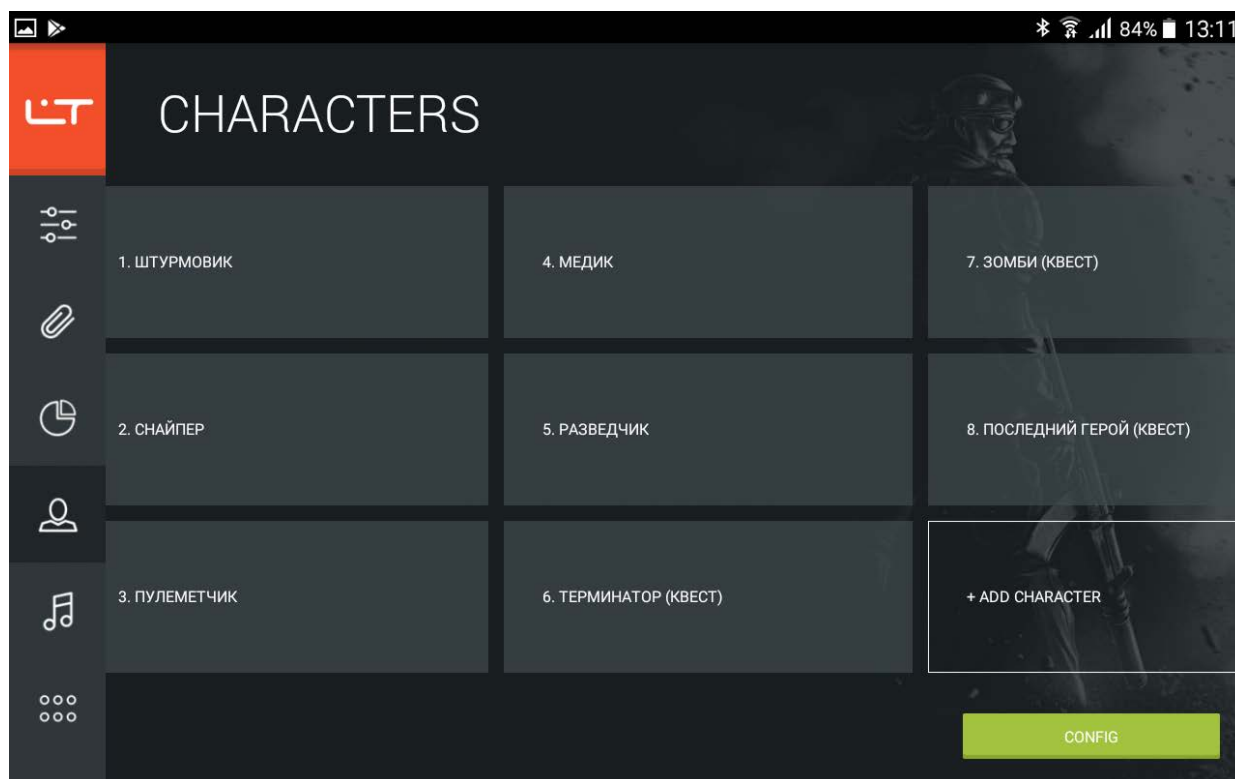
Enter the character name at the top of the window and move on to setting up parameters.
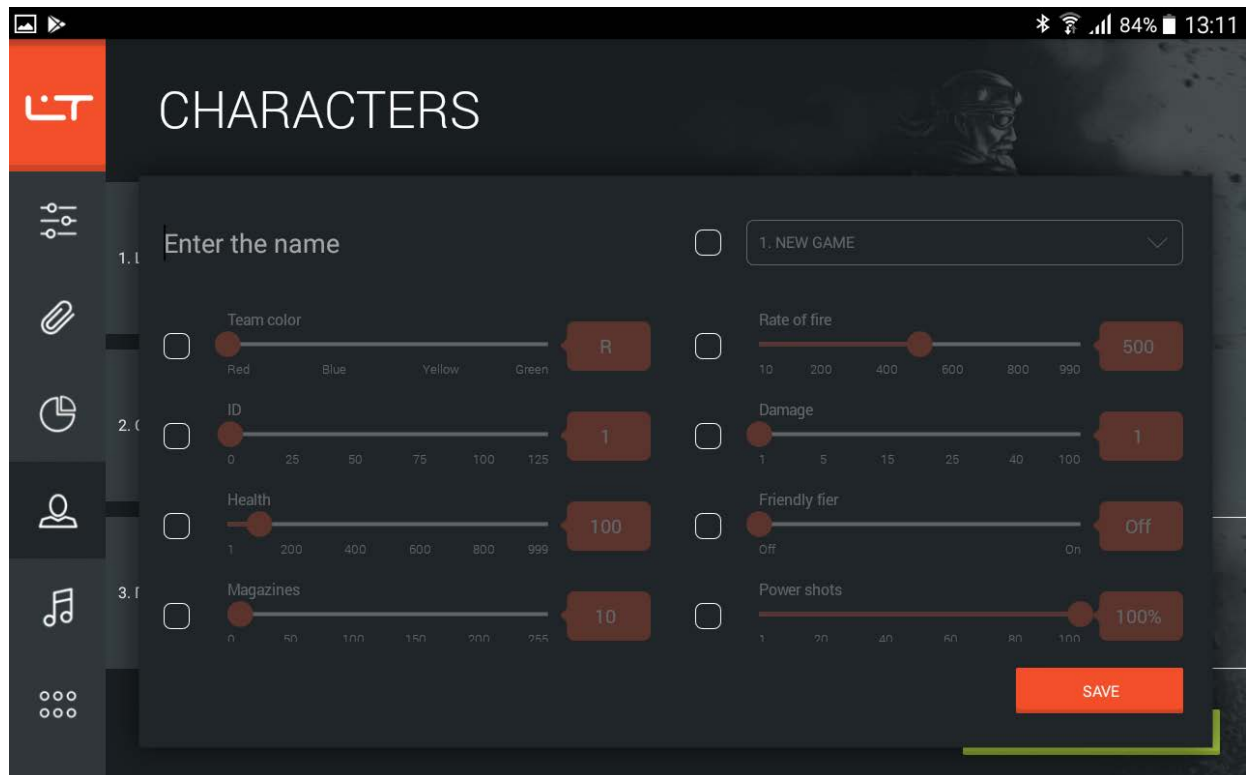
To change a parameter tick it and pull the scroll box to the required value (if you want to select a particular value of a parameter click on the red icon and pull the scroll box up or down to the value that is required). When the data is sent to equipment only the values of the parameters that have been ticked will be updated, while the parameters that have not been ticked will remain unchanged. More information on setting up technical and tactical characteristics can be found in the appendix.

After you have edited the game character click on **Save**.

To send the updated data of game characters to play sets click on **Send** and the configurator will perform search for connected devices. Leave ticks next to the blasters in which you want to update the list of characters and click on **Send**.

To delete a character click on ✕ on a tile with its name. Please note that preset characters cannot be deleted.
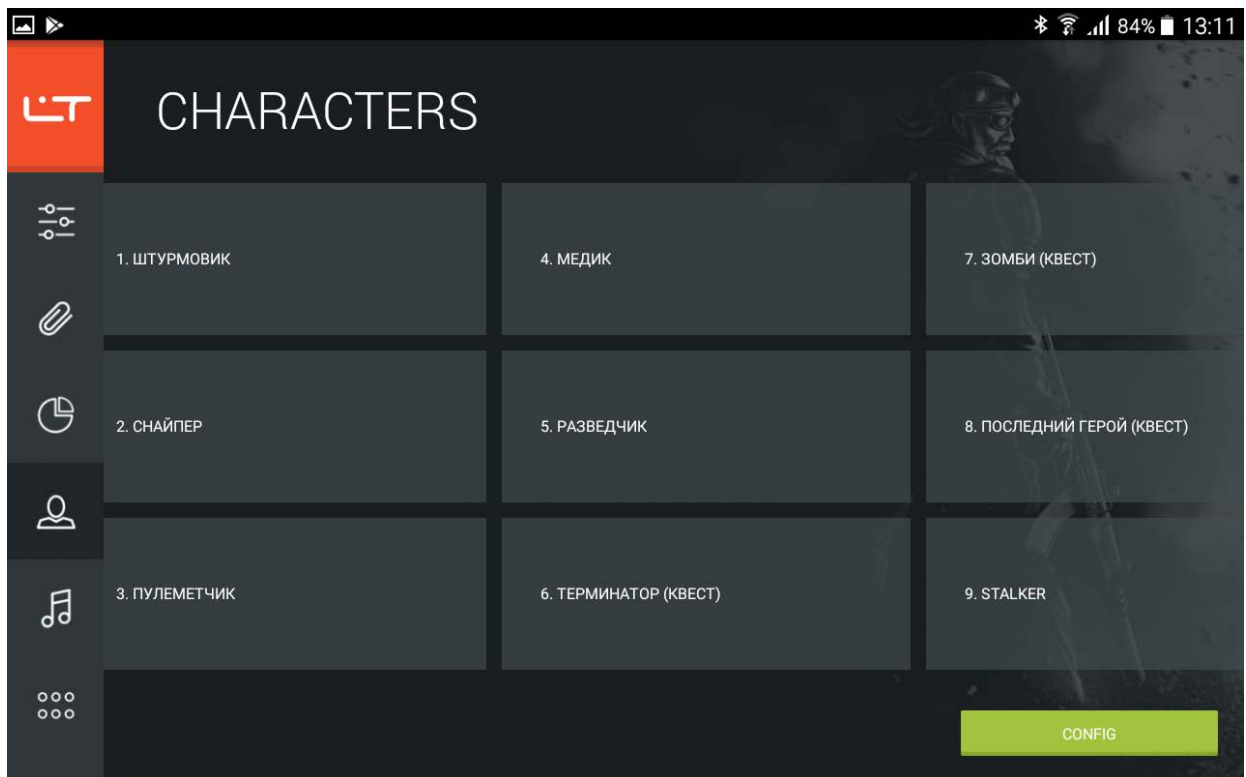
- **Sounds**

In laser tag equipment v. 8 you can change the standard selection of sounds. You can listen to and update the sound arrangement of game events in the *Sounds* unit.
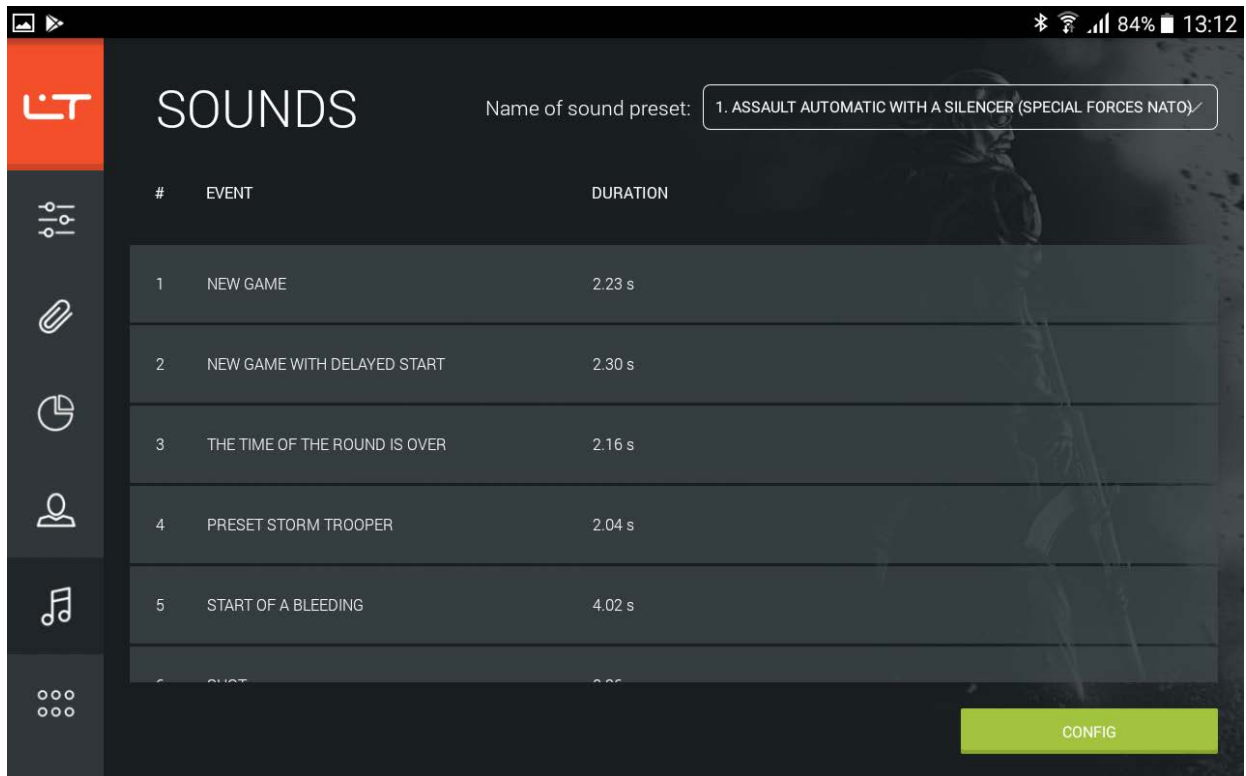
At the top of the window, click on the name of a sound selection (or a sound preset). Upon that, a list of audio files from the selected preset will be displayed in the window. You can listen to them by clicking on the line with its name. You can send any preset to a play set by clicking on **Send**. Upon that the configurator will initiate search for connected blasters. You will need to select the blasters that require updating of their sound arrangement.

- **Firmware upgrade**

When you launch the application (provided that your tablet is connected to the internet) the configurator will automatically initiate search for a new firmware version and will let you know if one is available (a tag will appear on the firmware icon).
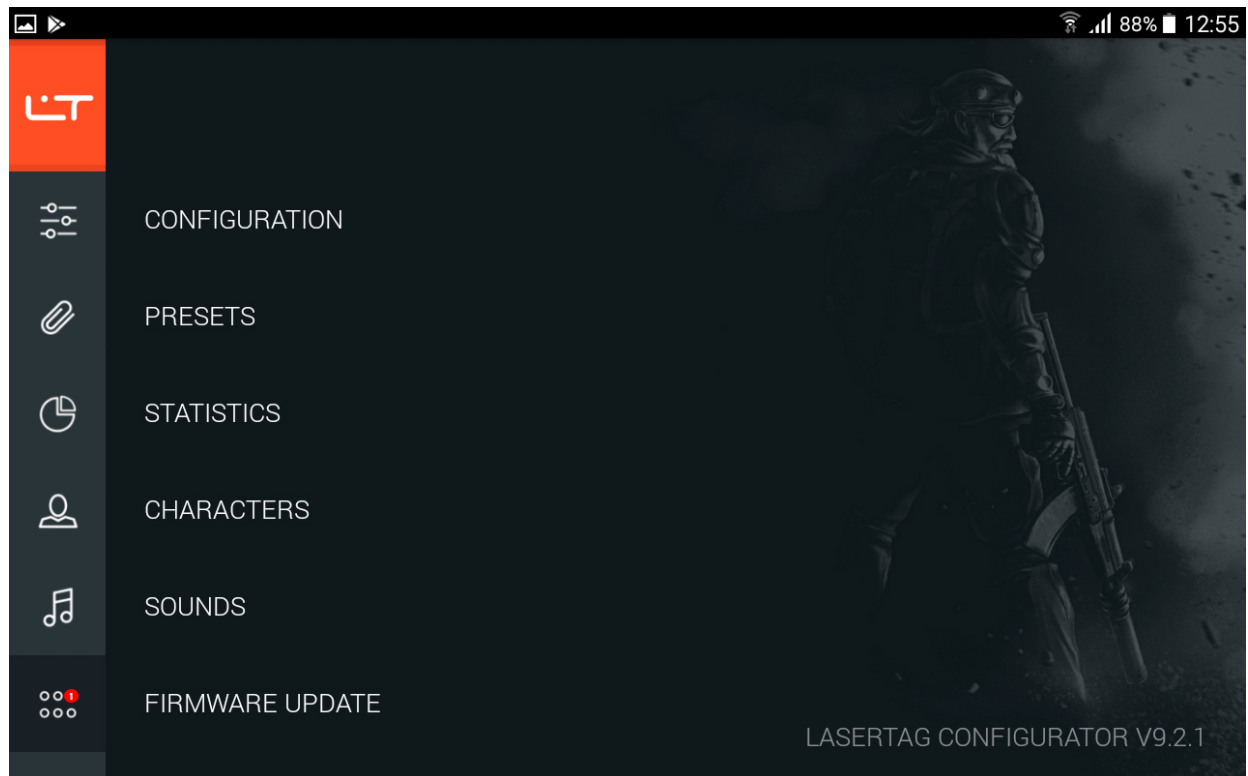
Open the unit and check the information about firmware updates at the bottom of the unit.
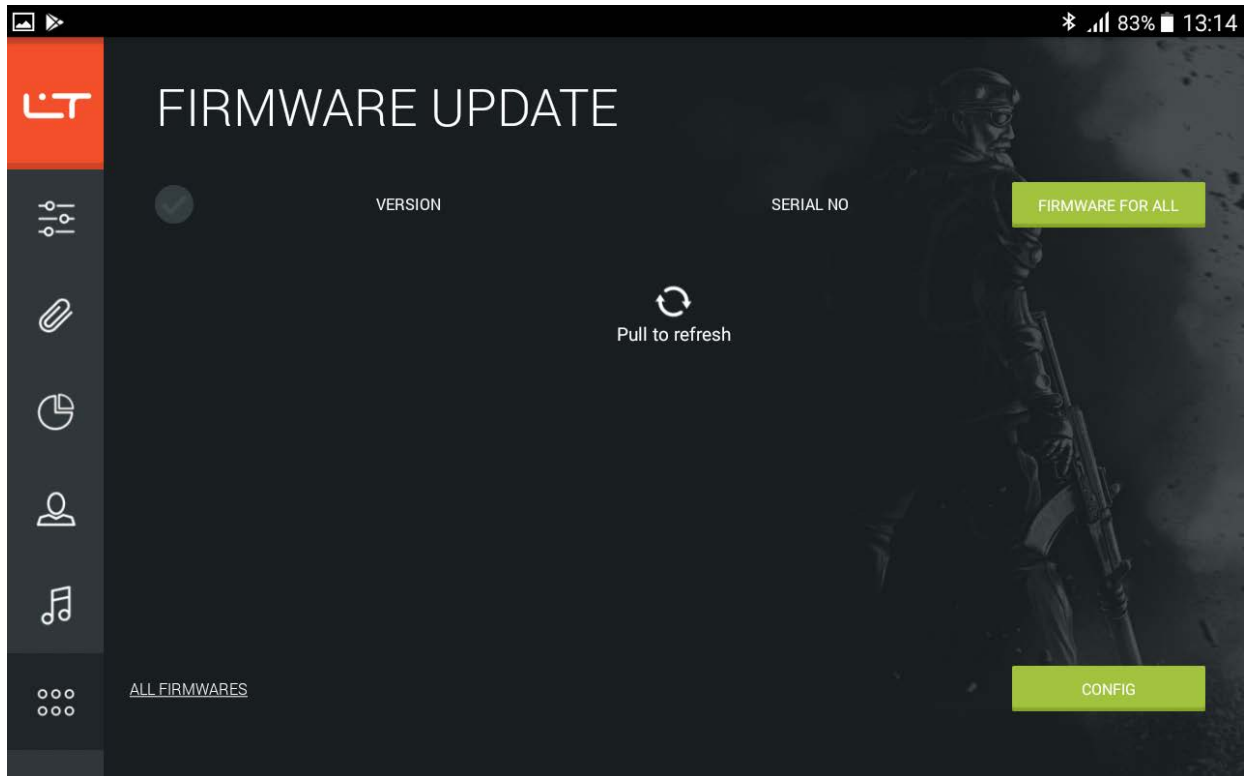
Turn on the blasters that need to be upgraded (when doing this, remember to hold triggers for entering the Boot mode). Pull the update icon down and the configurator will search for connected sets.

Flag the sets in which you want to upgrade firmware (you can select several sets or all of them by leaving a tick at the top of the table). If you are unsure which sets you need to select click on ☼

Upon that, the respective equipment will produce a sound signal. Click on **Send** and the firmware of the selected sets will be updated within seconds.

After that, the set will restart in its usual mode. If the equipment does not restart you can carry out this task by yourself by turning the play set off and then turning it on again (do not hold the trigger while doing that). After the equipment has been restarted all the settings of technical and tactical characteristics that have been previously sent to it will be reset to factory settings. Therefore, you will have to send the blaster type and game parameters once again.

Technical support

If you have any questions about using the LASERTAG CONFIGURATOR mobile application or if you have any issues with its operation please contact our technical support team Monday to Friday 10 am to 18 pm (Moscow time) on **+7 (800) 555-95-90, +7 (4812) 377-000** (or on **+7 (964) 616-15-15**, **+7 (951) 694-01-00**), e-mail: help@laserwar.ru or visit our website www.laserwar.ru.

When you contact our technical support team you will have to provide the following information:

- describe how the problem occured;
- what actions caused the problem;
- program version (you can find it at the bottom of the main window of the system).

A screenshot displaying the problem will be of great assistance.

Appendix

▪ Technical and tactical characteristics of play equipment

- Team colour

  The colour of the team shows which team the selected set belongs to. As a rule, 2 to 4 teams with different colours participate in a game (Red, Blue, Yellow, Green). If two or more teams have same colour and Friendly fire mode is Off, shots will not inflict damage. If teams have different colours or Friendly fire mode is On, shots will inflict the damage that has been specified in the **Damage** field of the preset.

- Player ID

  A player's numerical identification. You can choose any value from 0 to 127. The identification is used for statistics calculation and must by unique for every play set. If any of the play sets have same IDs they will not be able to defeat each other. When sending parameters to the next batch of blasters one must ensure that they all have unique IDs.

- Friendly fire

  The mode of defeating own team players. If play sets have same colour and Friendly fire mode is Off, shots will not inflict damage. If play sets have same colour and Friendly fire mode is On, shots will inflict the damage that has been specified in the **Damage** field of the preset. We believe that playing laser tag with Friendly fire Off is a lot more exciting, therefore, we recommend that you do not activate it. Yet if realistic combat is your goal then do activate the Friendly fire function.

- Autostart

  When turning on the equipment you need to activate it by pushing the Restart button on a remote or a first aid kit. If the Autostart function has been activated, you will not need to restart your device by means of a remote or a first aid kit and you can play with your set right after you have turned it on. Individual players and owners of play sets may find this parameter useful.

- Autoreload

  If this parameter is on, the play set will reload automatically as soon as the cartridges in the magazine have finished. Those customers who assemble laser tag equipment by themselves may find this parameter useful, for there is no need to bring out a separate button or a charger microswitch.

- Health

  Number of health units. You can choose any value between 1 and 999.

- Magazines

  Number of additional magazines. You can choose any value between 0 and 255.

- Magazine capacity

  As a rule, the number of cartridges in one magazine corresponds to real parameters of technical and tactical characteristics of the respective type of equipment. The parameter ranges between 1 and 99.

- Reload time

  This parameter is only available for equipment v. 7. It denotes a time period (seconds) that is required to fully restore a magazine. You can choose any value between 1 and 255.

- Fire mode

  The mode of firing shots: *Auto* (automatic firing mode, no limit on the number of shots that are produced when a trigger is pulled and held), *Selective fire* (semi-automatic mode, ripple fire mode), *Single* (single-shot mode, i.e. *Sniper mode*). The firing mode for equipment v. 8 is selected through the **Number of shots** parameter.

- Shots in the burst

  The number of shots that are produced in Selective fire mode when a trigger is pulled once and held for a while. You can choose any value between 1 and 255.

  For equipment v. 8, *Firing mode* and *Shots in the burst* function as one parameter. They contain the following modes: Single mode, ∞ (Auto) mode, any other value stands for Selective fire mode.

- Rate of fire

  An imitation of combat weapon rate of fire: starting from slow-firing sniper rifles to machine gun burst fire. Select a value between 10 and 990 shots per minute.

- Damage

  The rate of damage (in health units) by an enemy's weapon. Thanks to the damage differentiation (variations of the shooting power parameter) the technical and tactical characteristics of a play set can be made very similar to those of prototype. You can choose a value between 1 and 100.

- Shooting power

    The parameters of distance of shots and respectively of ricochets. Shooting distance may vary depending on weather conditions.

- Overheating

    The number of shots before a barrel gets overheated. Firing combat weapons uninterruptedly is forbidden by safety measures, for a gun barrel may get deformed under high temperatures. When shooting becomes excessively intensive, a "barrel overheat" effect is emulated in the play set, shooting sound volume is brought down, firing and shot illumination cease altogether. The player needs to wait a few seconds until "the gun barrel cools down"; when the weapon starts producing loud fire sounds the player can go on fighting. The higher the rate of fire and the magazine capacity the more likely the weapon to get overheated. For this parameter, select a value between 10 and 254 shots or switch it off by selecting Off.

- Time to start

    Time is seconds till the start of a game. This parameter can be activated only by remote by selecting a command *New game - start delay*. You can choose a value between 1 and 3600 seconds, or switch it off altogether by selecting Off.

- Illumination after death

    Time (seconds) within which LEDs will be on and the headband will vibrate when a player runs out of health units. You can choose a value between 1 and 60.

    In equipment v. 8, this parameter value wilol not be taken into account. Illumination after death time will be 10 seconds.

- Time of shock

    Time (seconds) of shock after defeat. This is the overall time during which LEDs glow on a headband and it vibrates when a player suffers defeat. During this time, the player looses the ability to fire his blaster. Choose a value between 0.1 and 65.0.

- Invulnerability

    Time (in seconds) given to a player for hiding. Within the moment of invulnerability, a player's headband gets deactivated, he cannot fire shots and cannot be defeated. You can select a value between 0.1 and 3.0.

- Idle time

    A period of time (in minutes) during which a play set remains idle. At the end of the period, an alarm signal will sound. It is very useful for instructors and will protect accumulators against deep discharge in case one forgets to turn laser tag equipment off. One needs to select the time during which a play set will remain idle before the signal. Choose between 30 and 240.

- Vibration mode

    Select this option if you want the equipment to vibrate at the start of game events. They will not vibrate if this option is turned off. If *Tactile connection* is on, the play set will vibrate when a player gets defeated. If *Recoil imitation* is on, the blaster will vibrate when producing shots. If you select *All events*, the blaster will vibrate in both the abovementioned cases.

- Round time

    This parameter is only available for equipment v.8.

    If this parameter is off, a game round is not limited to any time. To choose the longest round duration, select On and round duration (1 to 240 minutes).

- Turn off the screen

    This parameter is only available for equipment v.8.

    This parameter is off by default and blaster screen (when available) is on throughout the time of device operation. To turn blaster screen off, select the On position of the switch. This helps increase the life of the accumulator and helps players stay hidden during a game that takes place in low light conditions. The screen will be off only during a game.

- Health regeneration

    This parameter is only available for equipment v.8.

    Activate this parameter to enable a player to restore 1% of health within a selected time interval without the need to use a first aid kit. To do this, select the time of health units restoration time in seconds (1 to 255). To turn this parameter off, select Off.

- Auto-revival time

    This parameter is only available for equipment v.8.

    This parameter is off by default. This means that losing all health units by a player is followed by his virtual death. He then must find a first aid kit to revive himself. You can set a time, though, after which a player restores all his health units and returns to the game. No first aid kit is required to do this. To use this parameter, select auto-revival time (0 - 60 seconds).

- Bleeding start

  This parameter is only available for equipment v.8.

  Bleeding is a special mode at which a player loses 1% of his health units within a selected time interval (it is not recommended that you use both Health regeneration mode and Bleeding start mode at the same time). This mode is activated when the amount of player's health units (in %) drops down below the configured value. To set up the amount of health units at which bleeding starts, state health percentage or select Off to deactivate this parameter.

- Bleeding interval

  This parameter is only available for equipment v.8.

  Select the frequency (in seconds) with which a player loses health units in Bleeding mode. To do this, state a bleeding interval in seconds (1 to 255) or select Off to deactivate this parameter.

- Fire sound volume

  This parameter is only available for equipment v.8.

  State the volume of shots produced by equipment (percentage of the maximum volume).

- Event sound volume

  This parameter is only available for equipment v.8.

  State the volume of sound effects of game events (percentage of the maximum volume).

- Defeat sensor of tager

  This parameter is only available for equipment v.8.

  State if the defeat sensor (when available) of a set is On or Off.

- Reload type

  This parameter is only available for equipment v.8.

  Select the type of magazine reloading:

  - Save – the required amount of cartridges is added to the remaining to the full capacity of the magazine;

  - Release – the remaining cartridges are taken out and the magazine is reloaded to the full capacity.

▪ **Game statistics data**

- ID

  Individual numerical player's identification.

- Colour   Player's team colour

- Weapon   The type of weapon selected in the settings (in the *Write* section). This parameter is displayed as *Unknown type* in equipment v. 4-6.

- Score   The formula used to calculate a player's score is:

$$\frac{HITS\ MADE}{WOUNDED + 1} \quad X \quad \frac{100 + PRECISION \times 2}{3}$$

- Precision   Percentage ratio of hits and overall number of shots that have been fired.

- Shots   Overall number of shots during a game.

- Killed   Overall number of *killed* rivals during a game.

- Deaths   Overall number of deaths during a game.

▪ Players' achievements

- Destroyer   Biggest amount of damage among the players of all the teams.

- Kamikaze   Biggest number of *deaths* among the players of all the teams.

- Warrior   A player with highest score among the players of all the teams.

- Invulnerable   A player that has been hit least among the players of all the teams.

- Sniper   The most precise player of all the players of all the teams.

- Rambo   A player that fired the biggest number of shots among the players of all the teams.