LASERTAG NET

Equipment
for indoor laser tag
manufactured by LASERTAG.NET
(GALAXY platform)

Instruction
of the first start

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1. General specifications

Arena laser tag is one of the varieties of a fascinating and dynamic game of laser tag, taking place in real time and space. The difference of this type is that the games are held in closed darkened rooms, as a rule, anthurized under space wars.

The goal of the game is to get the infrared ray of the blaster into the sensors mounted on the opponent's vest or weapons, or installed on special equipment. For each successful action (hitting an opponent, capturing the base, domination box, etc.), the player and his team are awarded points. For falling from the opponent's blaster into the player's sensors, for rebirth, for an unsuccessful shot, etc. points can be removed (parameters are adjustable). Statistics are quickly transmitted to the control computer and can be displayed on a screen of a monitor, projector or television..

The minimum set for playing arena laser tag consists of sets of blaster + vest, router and chargers. Setup, management of the game kits, and also statistics accounting and broadcast is done through the Arena program installed on the device with the Windows operating system.

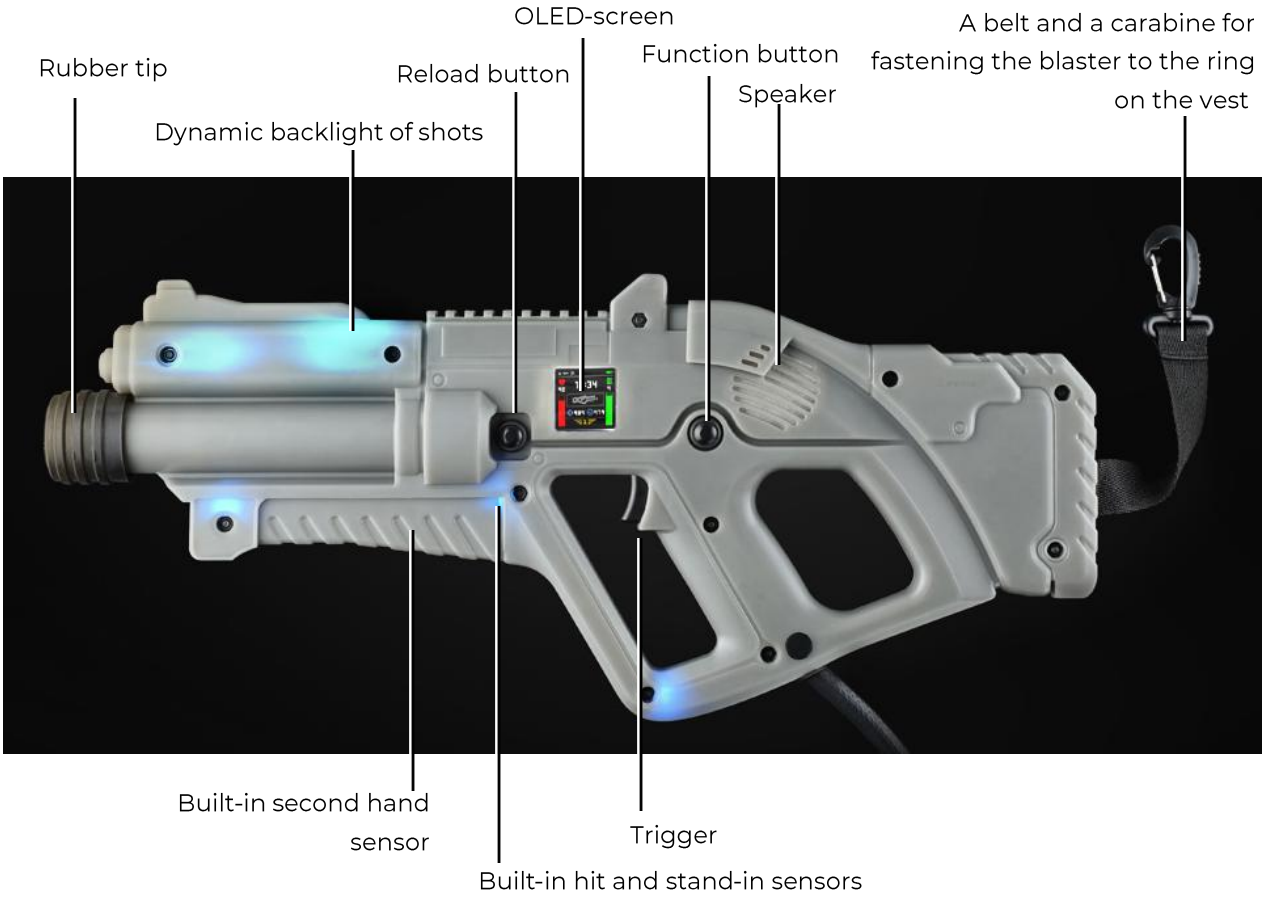
Overview of the kit

Also, for a variety of gameplay, electronic devices manufactured by our company can be used: Smart Domination Boxes, Multistations, SIRIUS station.

2. Blaster

Blaster is a simulator of "space" weapons, "hitting" an opponent with harmless infrared rays.

To increase realism the infrared beam at the moment of impulse is accompanied by a light beam similar to a laser pointer and dynamic backlight of shots.



The main elements of the blaster

The blaster is connected to the vest through a flexible cable, reinforced with a sleeve. Each blaster is equipped with a rubber tip, which reduces the risk of players getting physical injuries during possible collisions.

The blaster is equipped with 9 hit sensors built-in to the body (4 on each side + frontal), which enable the opponent to hit the player not only in the vest, but also in his weapon. Flashing RGB-LEDs in white on these sensors, as well as an audio signal, informs the player that he was hit.

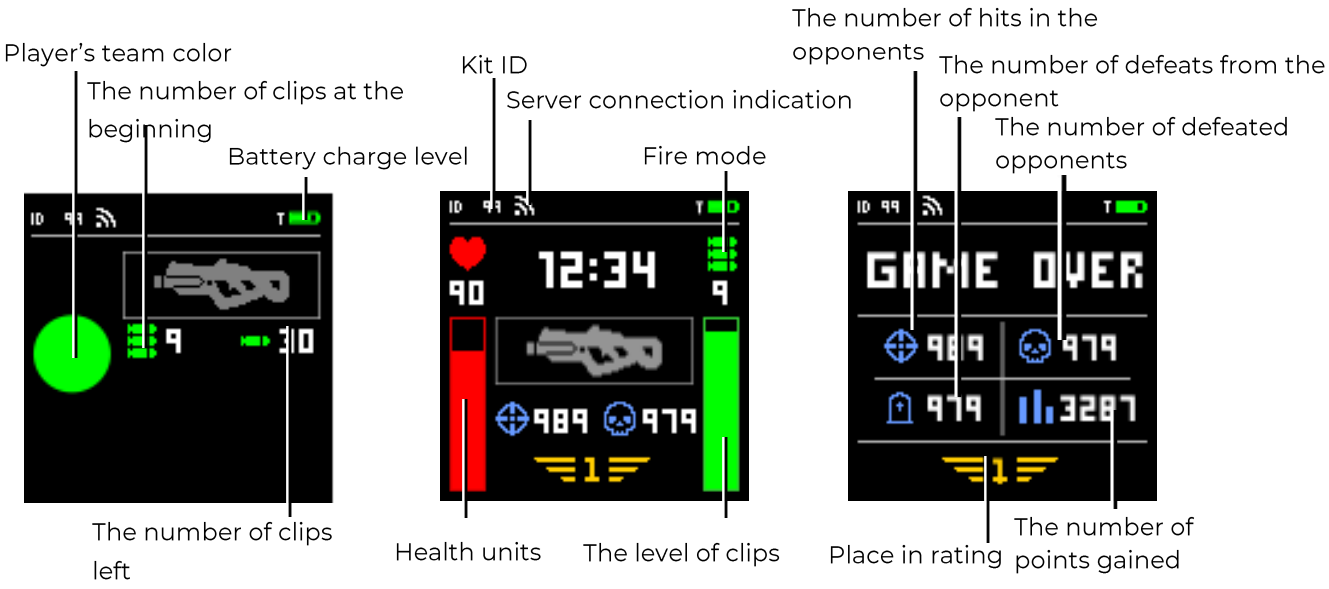
In addition to the hit indicators, a dynamic backlight synchronized with the shot was used in the blaster body.

A two-hand sensor is installed in the case, which does not allow playing the game, holding the blaster with one hand.

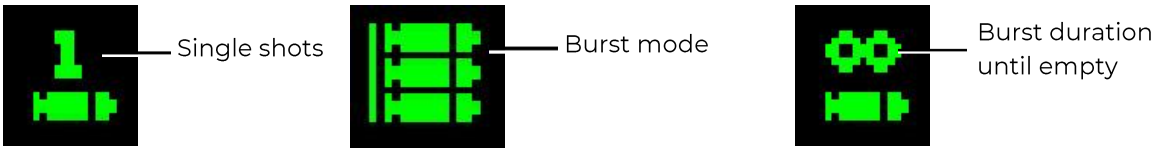
The blaster is fitted with a color OLED screen, which works in three modes:

- Pre-game one displays initial parameters to start the game round;
- Game mode displays actual player's info during the game round;
- Post-game one displays game statistics after the game is over.

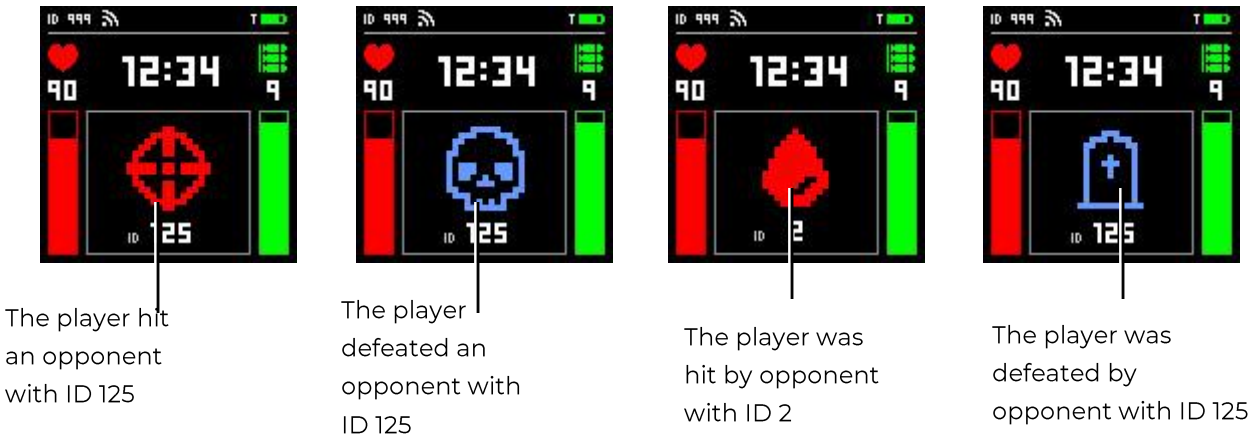
There are 10 values that are displayed on the screen at once: dynamic health and ammo level scales, number of successful hits, type of weapon, rating and much more.



Information displayed on the OLED screen of the blaster



Pictograms keys of firing modes



Game situations displaying on the screen of the blaster

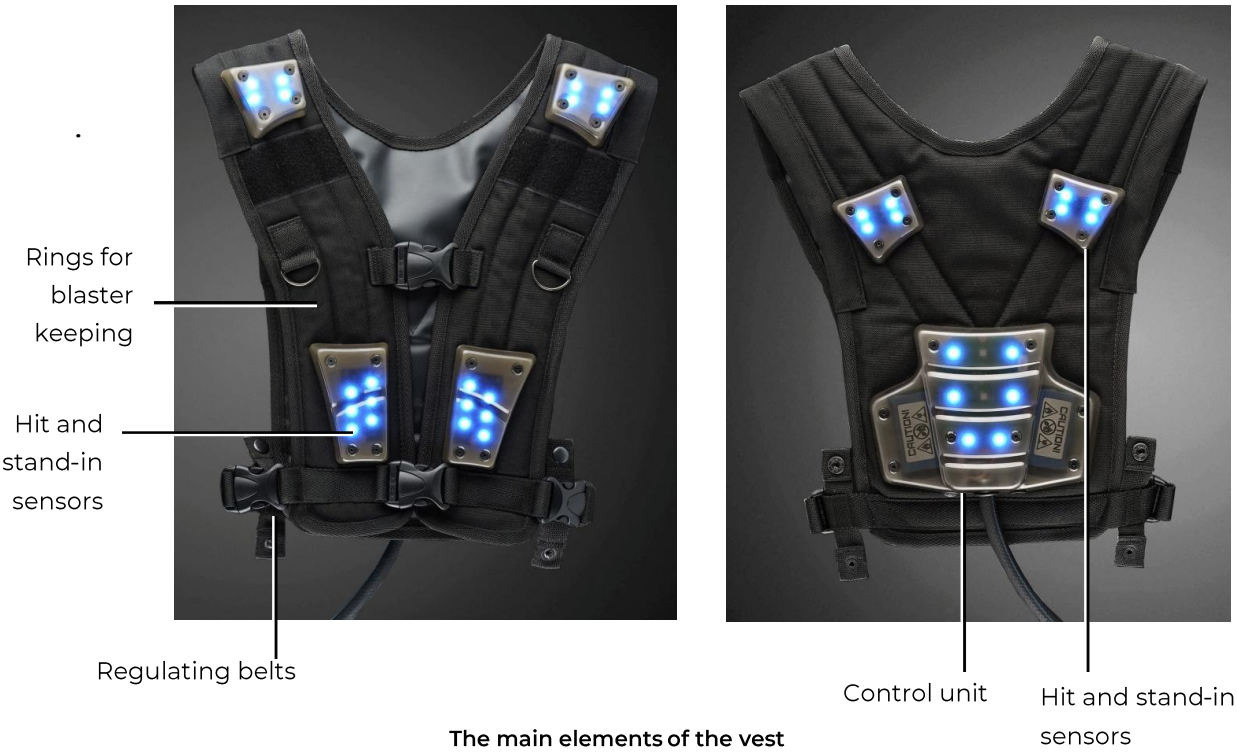
3. Vest

The vest is an integral part of the arena laser tag game kit and is connected to the blaster with a special cable.

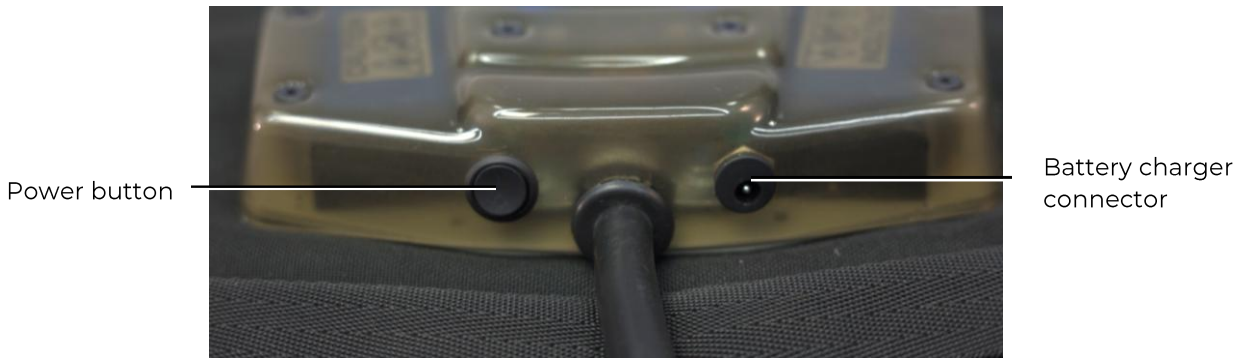
The vest has 7 damage and indication sensors (4 in the front and 3 in the back), the bodies of which are made of durable polycarbonate. The sensors are equipped with vibro-light indication and operate independently of each other, which allows you to record the differential damage to the player by zone visually.

The textile base of the vest is made of durable, wear-resistant cordura material. Two adjustable belts located on the sides allow you to adjust the size of the vest to the complexion and age of most players.

The kit is powered by 2 Li-ion batteries (7.4 V, total capacity 5200 mAh),built- in the control unit of the vest.



The main elements of the vest



External elements of the control unit

Configuring, game kits controlling, as well as removing statistics, is carried out using the Arena computer program, which is included in the package.

4. Charging device

To charge the batteries of the arena laser tag equipment, the delivery set includes a charger connected to a 220 V electrical network.

The output voltage is 8.4 V, the maximum charge current is 2.

Charging device

Arena laser tag equipment, produced by Lasertag.net uses lithium-ion batteries with an internal overcharge, deep discharge and shortcut protection circuit.

However, the safe handling of Li-ion batteries should be payed serious attention.

Use a ventilated and fire-safe room to charge the batteries. If the batteries could ignite, they can't cause a fire in the entire room.

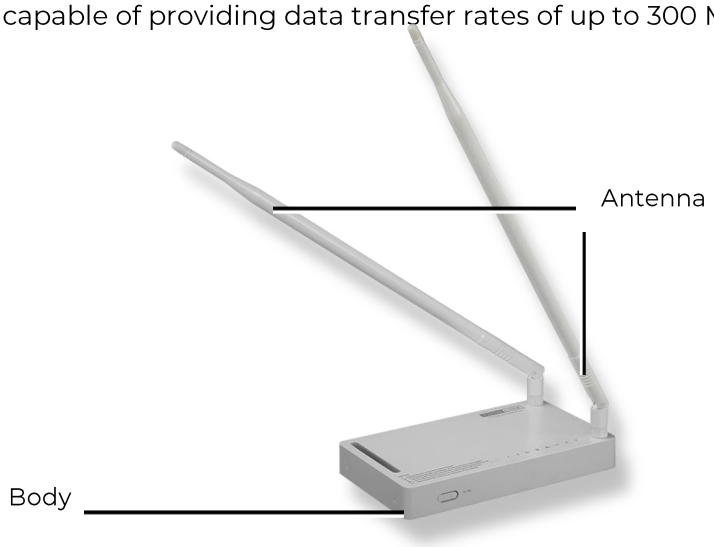
The temperature mode of the charge of lithium-ion batteries affects their capacity, which decreases when charging in the cold or in the heat. The charge can be carried out at an ambient temperature ranging from +4° C to + 40° C, but the optimum charging temperature is +24°C.

Insert the charger output plug into the suitable socket on the vest control unit. Plug the charger into a 220 V connector.

The average charge time of the kit is 3 hours.

5. Wi-Fi Router

As a wi-fi unit in the set of .Lasertag.net. laser tag equipment the N300RH device from the company Totolink is supplied.The router is based on the Realtek RTL8196E-CG network processor and is capable of providing data transfer rates of up to 300 Mbps.



Totolink N300RH general view

The router is equipped with an external power supply (12 V, 1A), a UTP cable and two antennae with a gain of 11 dBi.

When using a portable power source (powerbank) for operation of the router, the output voltage is necessary to be 12 V - the rated voltage of the router's power supply.

Do not use the power supply of the router to charge the batteries of laser tag equipment!

The RST/WPS button resets all router settings. It (if the operating system is Windows 7 or higher) allows you quickly to connect to a secured Wi-Fi network. Instead of entering the password, just click this button.

LAN ports

There are 4 LAN ports, a WAN port for connecting the provider cable and a connector for connecting the power supply on the terminating panel.

The device is delivered completely set up for operation with the software and the equipment for laser tag produced by the Lasertag.net company.

6. Smart Domination Box

The Smart Domination Box – it is an absolutely new development of the Domination Box. The main difference from a standard Domination box is the presence of indicator scale, that shows the capture degree of each command, as well as 5 modes, which allow to record the capture for both - time and shots.

Capture is made by an infrared ray pulse directed from the laser tag gun into the sensor. The sensor is placed in the lower inner part of the device, so the emitter must be placed vertically downward relative to the base plane of the Domination box.

The device is powered by Li-ion batteries (7.4 V, total capacity 5200 mAh) located in the case.The batteries are charged from the mains with a standard charger with an output voltage of 8.4 V and a maximum charge current of 2 A.

External view of Smart DB

The goal of the domination box is to record your “capture” by players of different teams, summarize the total capture time or the number of hits in the DB infrared receiver and determine the winner.

Device settings and control are performed in the Arena program via Wi-Fi.

The Smart Domination box has three operating modes: standby, game and service.

Upon power-up, the Domination Box switches to the standby mode. Two central LEDs are lit with the color of the current DB mode. To find out the battery’s charge level in this mode you should press and release the service button. The number of glowing purple LEDs will indicate the battery charge: 16 LEDs - 100%, 9 - 50%, etc.

The domination box can work in 5 display modes ("Capture for time"; "Capture with shots"; "Tug of war"; "Triple capture" and "Raise the flag"), each of which is configured either by the number of shots or by time DB holding required to determine the winner of the round. Indication of the settings is carried out by the glow of 10 central LEDs. The color of their glow corresponds to a certain mode, which is displayed in a sticker placed on the device case.

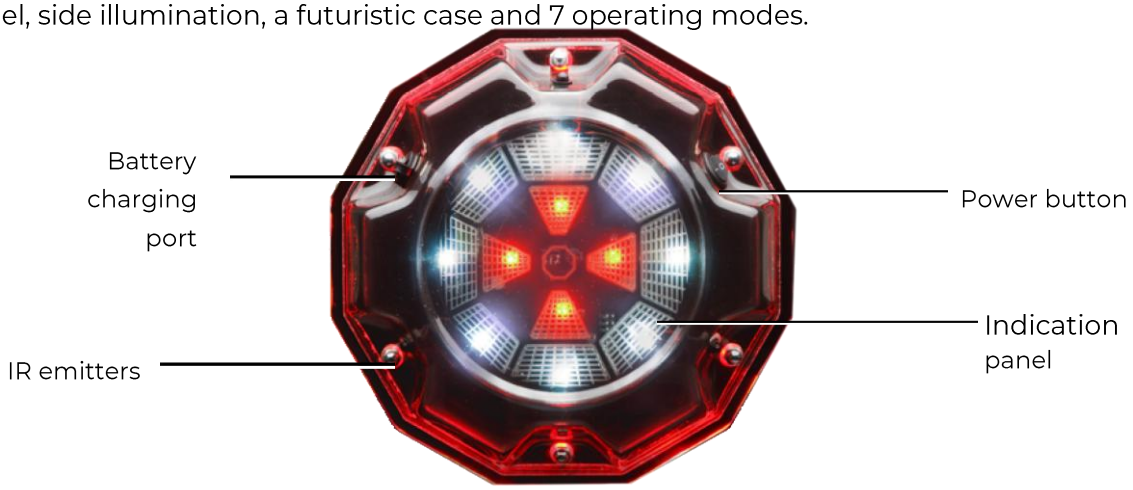
In the capture modes for time, you can set the timer for 1, 2, 4, 5, 7, 10, 15, 20, and 30 minutes.

In the modes of capture by shots, the number of hits in the device receiver is set from 50 to 500 in increment of 50.

The modes are set and their parameters are configured from the Arena scenario editor.

7. SIRIUS Station

Station SIRIUS (StS) is an analogue of the indispensable attribute of many scenario laser tag games - the Utility Box. It differs from the standard device by the presence of an indicator panel, side illumination, a futuristic case and 7 operating modes.



"SIRIUS" game station

Power supply: 220 V network via a power supply unit (8.4 V 1 A) or a built-in 7.4 V 2600 mAh battery. Sound: no.

The device's activation (impact on the player's sets) is done in three ways, depending on the mode: by shooting the device ("Bonus" mode), automatically by timer (other modes) and compulsory: when a palm covers a sensor for a short time, the touch sensor is activated ("Med kit", "Respawn" and "Arsenal ").

Range with direct visibility: 5-7 meters.

In sleep mode (before the start of the game and at the end), when the connection with the server is established, the station LEDs light up smoothly and fade alternately in different colors.

When the game starts, the device starts working in the selected mode with the settings specified in the program (the frequency of issued commands, the impact on players of certain teams, the number of shots for deactivation, etc.). Indication will correspond to the mode.

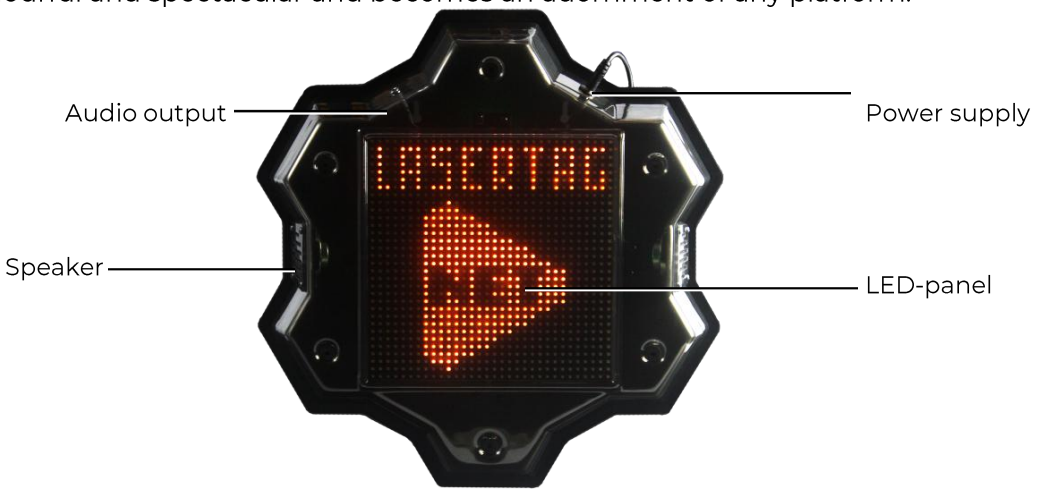
In the current release, SIRIUS station can operate in seven game modes: Respawn, Radiation, Medkit, Arsenal, Random, Bonus and Base.

Station indication depending on the mode

8. Multistation

The Multistation (MS) is a multifunctional additional device for playing laser tag which significantly increase the list of possible scenarios.

The main advantage of the device is the presence of an LED panel screen (192x192 mm, 1024 pixels), which clearly shows in which mode the station is activated. Also, thanks to a futuristic design, interactive animation and side lighting, Multistation makes the games more colourful and spectacular and becomes an adornment of any platform.



External Elements of the Multistation

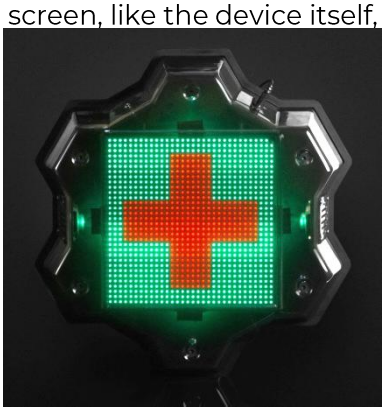
Power supply: 220 V network via 8.4 V 2 A. power supply.

Sound: built-in speakers + audio output.

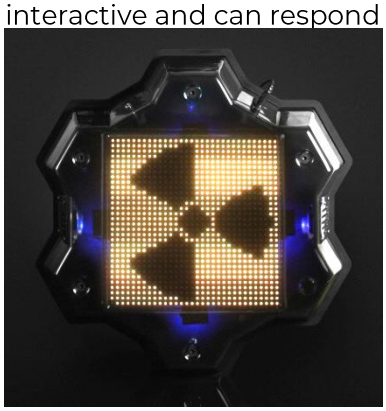
The Multistation is inherently the development of a standard laser tag device - the Utility Box. But besides this, it acquired the functions of a Domination Box, an Electronic bomb and a Base.

In the current release, the Multistation can work in seven modes: Medical Kit, Arsenal, Respawn, Bomb, Domination box, Radiation and Base.

When the game round starts, on the LED screen of the Multi-station, instead of the company logo, a picture appears showing in which mode the device is operating. Moreover, the screen, like the device itself, is interactive and can respond to the actions of players.

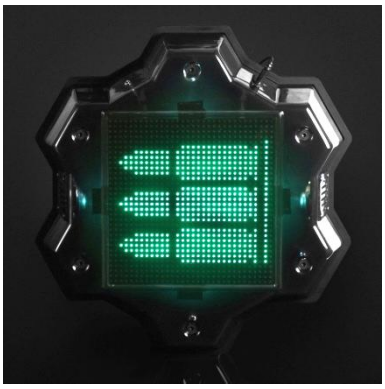


Medkit

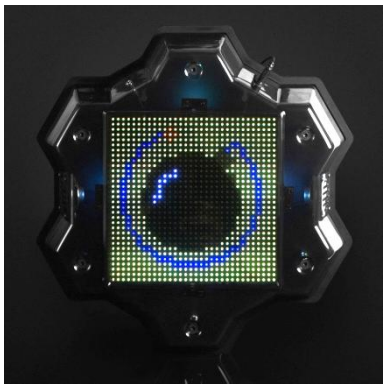


Radiation

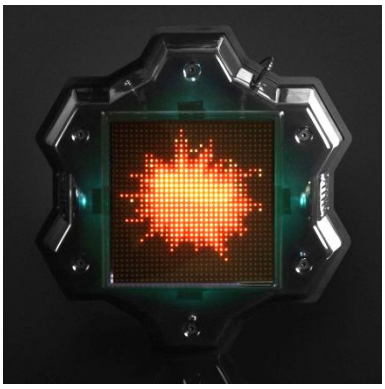
Respawn



Arsenal



Bomb

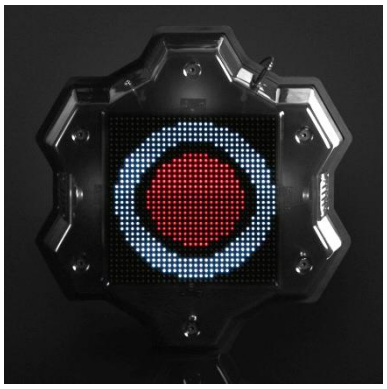


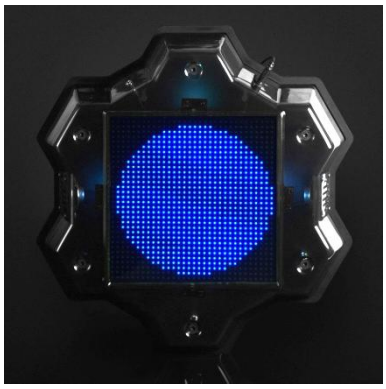
Detonation of the bomb

Multistation screens in Various Modes

The multistation can also operate in the "Domination Box" mode. But the device's functionality as such takes into account the specifics of the indoor laser tag.

In order to prevent players from gathering near the Multistation operating in the "Domination box" mode, you can set the "Radiation" parameter in the program (the supply period and the damage are also set in the program).

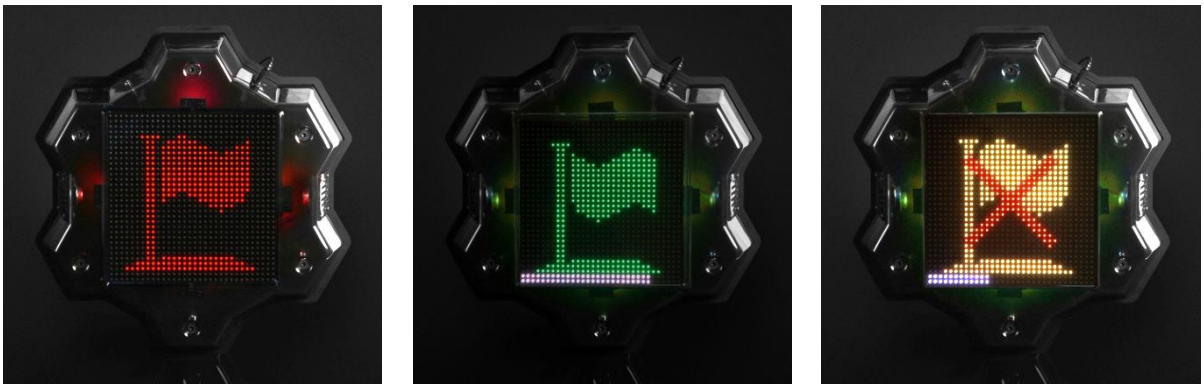




Multistation screens in the "Domination Box" mode

The mode "Base" has been added in the list of modes for additional devices comparatively recently. Its main difference is the respawn and radiation lesion of selectively players of teams of different colors. It is also possible to destroy (deactivate) the opponent's base.

Players have the opportunity to destroy the base of opponents. For this, one need to shoot the number of times set in the scenario setting into the device. In this case, the white bar at the bottom of the screen will graphically display the degree of destruction. After the strip reaches the right edge, an explosion animation is displayed on the screen and the crossed-out flag appears. From this moment, the Base is inactive.



Multistation screens in "Base" mode

The “Base” mode can be used in any scenario with a limited number of health units and ammunition.

When using the "Bomb" mode, the players are divided into two teams - miners, who set the bomb, and sappers, which should neutralize it. The winner is the team that completed its mission.

The device is controlled from the "Arena" computer program via Wi-Fi channel.

9. Equipment configuration

A number of training videos are posted on our company’s website that allow you to clearly understand how to properly use and maintain the equipment: https://lasertag.net/video-manuals/

It is better to begin configuration of the equipment for indoor laser tag, manufactured be the company, with the connection a router to the server.

The router comes fully configured and does not require additional settings. If, for some reason, the device settings are reset (for example, you pressed the Reset button by a mistake or made changes to the settings that led to the incorrect router work), you should configure it yourself.

The next step in setting up equipment for indoor laser tag is to install software.

The initial setup procedure for the equipment is as follows:

- Download the current version of the Arena program to the selected directory at the address**:** https://lasertag.net/support/ (Section "Indoor" / Program for managing and configuring kits and additional devices).
- Through any of the 4 LAN connectors, connect the router that is included in the delivery to the network card of the computer using the UTP cable, which is also included in the package.
- Install the antennas in an upright position.
- Turn on the router.
- In the Computer Toolbar, go to "LAN Connection Properties".
- Select the line “Internet Protocol Version 4” and click the “Properties” button.

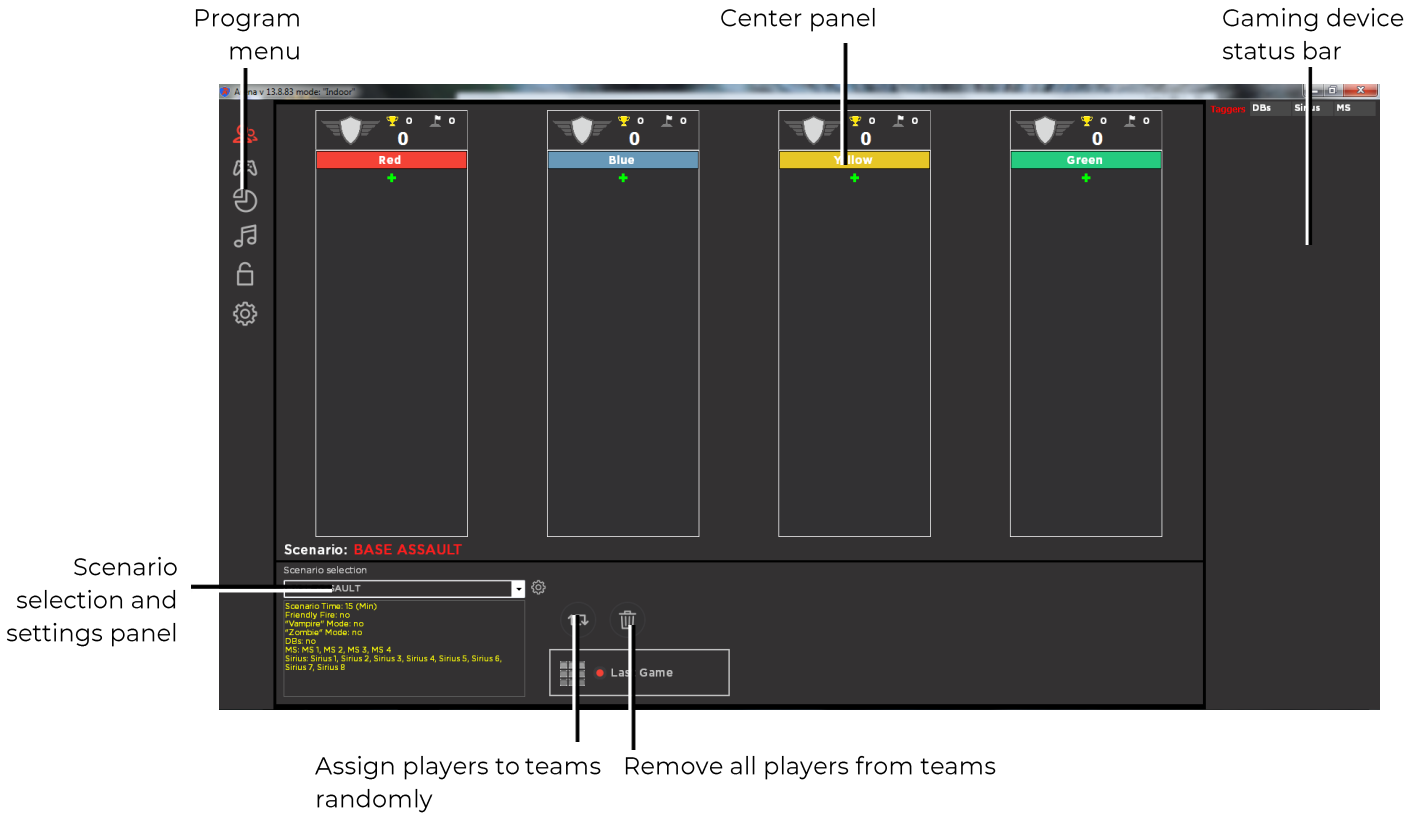
- In the "Properties: Internet Protocol Version 4 (TCP / IPv4)" window, set the parameters:
  IP-address: 192.168.0.101
  Subnet Mask must be determined automatically 255.255.255.0
  Default Gateway: 192.168.0.1
- Leave the remaining fields blank.
- Save settings.

After setting up the router, you must enable the kits.

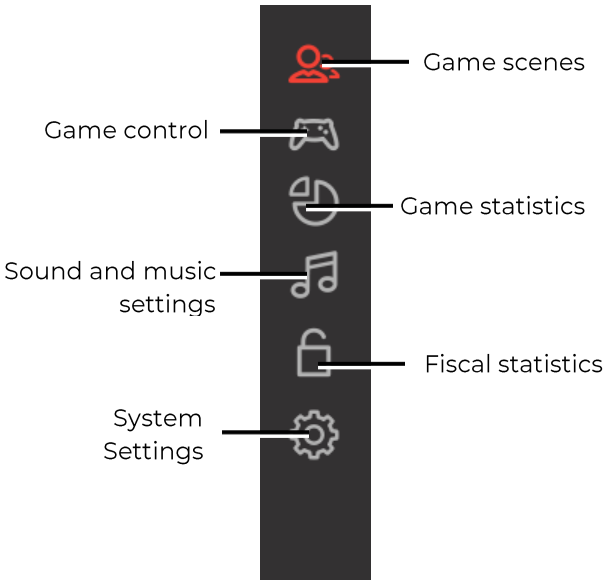
- Launch the ARENA program. It is supplied in a portable version and does not require installation on the computer's hard drive to run it - just copy all its components to the selected directory and run the ARENA.exe executable file.

In Win10, the program must be run from Administrator`s login!

After running the program, the main window is loaded:

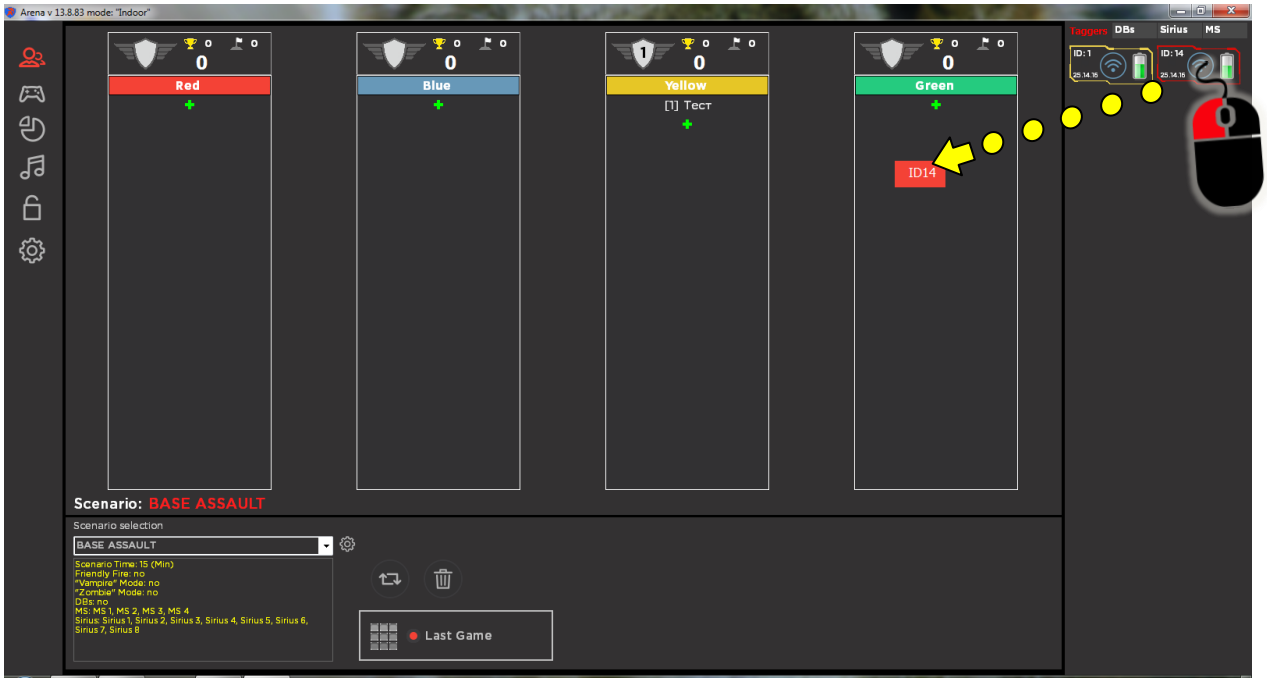


The start window of the Arena program



Program menu

- Assign players to teams. The easiest way is to drag the icon of the connected kit with the mouse into the column of selected team. In order to do this, you need to select a cell with the Kit ID in the Game Kit status bar, click the left mouse button on the status icon and move the icon to the correct column with the mouse button held. In this case, the blaster speaker will reproduce the system signal, and the color of the glow of the kit sensors will change to the selected one. In the same way, you can “transfer” kits between speakers or return them to the right panel.

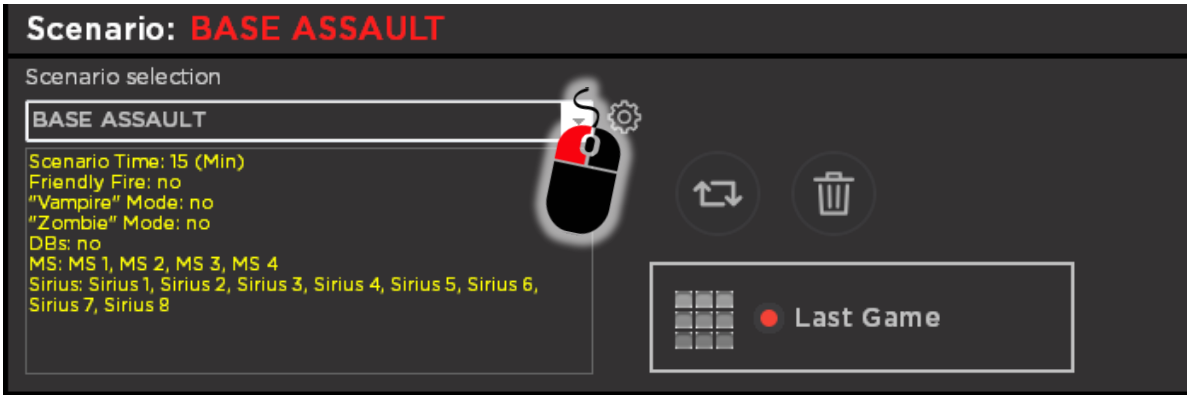


Assigning players to teams by drag and drop

In another way, click the left mouse button on the “+” sign in the column of the selected team. A list of currently active and unused kits in other teams appears. When you hover over the selected kit ID, left-click will add the player to the team. For other players in the selected columns, repeat the procedure.

You can assign players automatically. Just click on the icon , and the program will randomly assign the players to teams. If necessary, you can adjust the allocation.
Click the right mouse button on the kit ID to remove the player from the column. In the window that appears, select the inscription "Delete" and click the left mouse button.
In this window, you can use the button to delete all kits from the team columns at the same time.

- Select a game scenario. When you run the program, the name and short characteristics of one of the scenarios are displayed in the window on the bottom panel. To select another scenario, click the left mouse button on the triangle in the line with the name of the scenario.



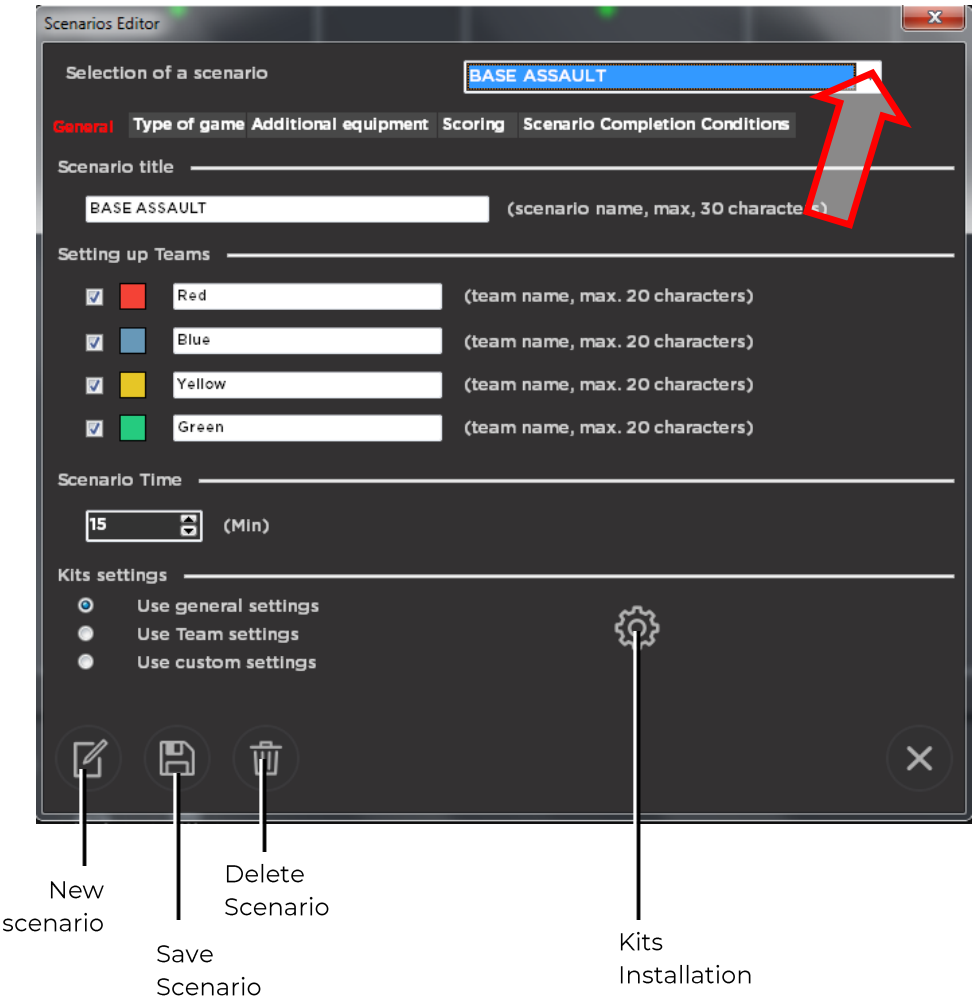
Scenario selection

From the drop-down list, if necessary scroll the slider, you can select a scenario.

Each of the built-in scenarios can be changed, and it is also possible to create your own custom scenarios. For this, the program has a scenario editor. To go into it, you need to click on the button to the right of the scenario name.

The editor allows you to change duration of the round, the type of game, the conditions for the early completion of the scenario, to set the general, team and individual settings of the sets, to select and configure the modes of additional devices, etc. Details on editing embedded and creating custom scenarios are described in the Operating Instruction, which can be downloaded at: https://lasertag.net/manuals/ (Arena laser tag manual)

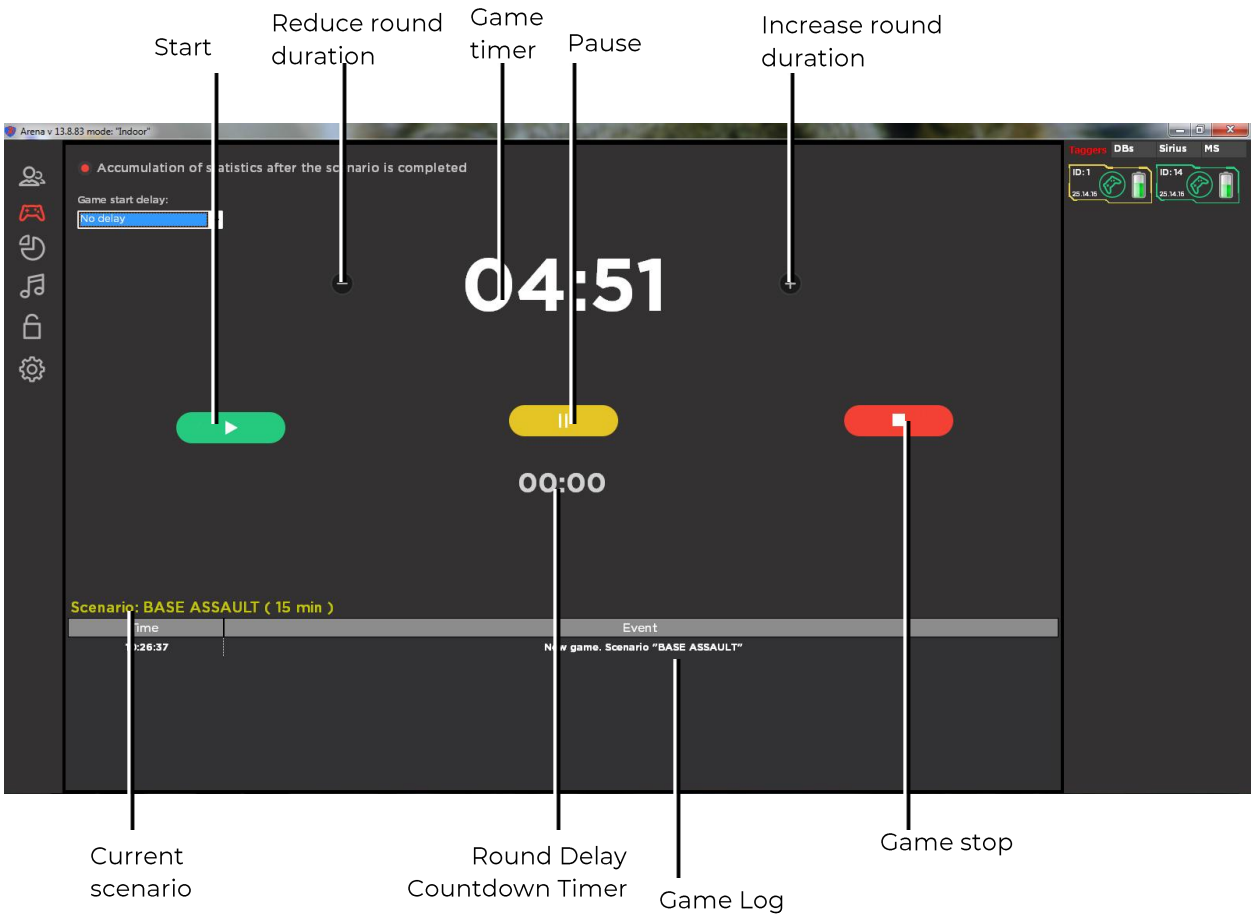
Changes to scenarios take effect only after you press the button “Apply” after editing any parameters, and after closing the opened windows you click the button “Save scenario” .



Scenario Editor Window

After forming teams, selecting a scenario, setting up game kits and additional devices, you can start the game.

The window "Game Control" opens after clicking on the icon .



"Game Control" program Mode

There is an opportunity in program, to delay the automatic start. To do this, you need to select a numerical value (from 5 seconds to 3 minutes) from the drop-down list "Delay the start of the game".

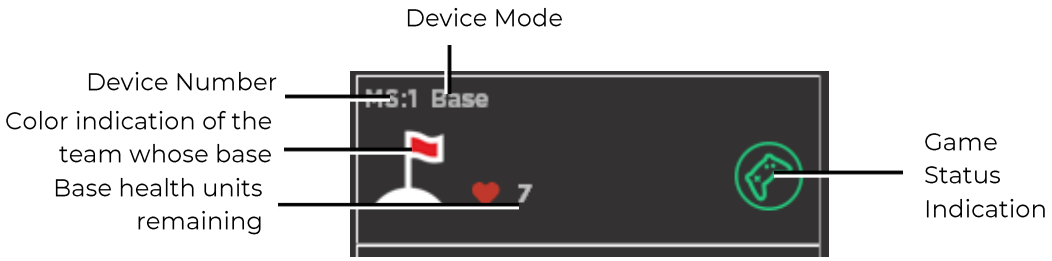
In the center of the window "Game Control" there is the timer of the game round. After starting the game with the button ▶ and the end of the delay time (if it was set), the game kits play the “Go-go-go!!!” sound command and the timer starts the countdown of the game round.

The Gaming device status bar (right) informs about participation in the game and the mode of game kits and additional devices in the corresponding tabs (“Tagers”, “DBs”, “SIRIUS”, “Multistation”). An image of the game joystick appears in the cell of the game kit If the kit is removed during the game round, the icon will be discolored: . When paused, the kit icon looks like this: .

In the cells of additional devices, information is also displayed on the operating modes, the progress of capture, the remainder of the units of health, which commands are affected, etc.

An example of displaying the work of the Domination Box

An example of the SIRIUS station work display



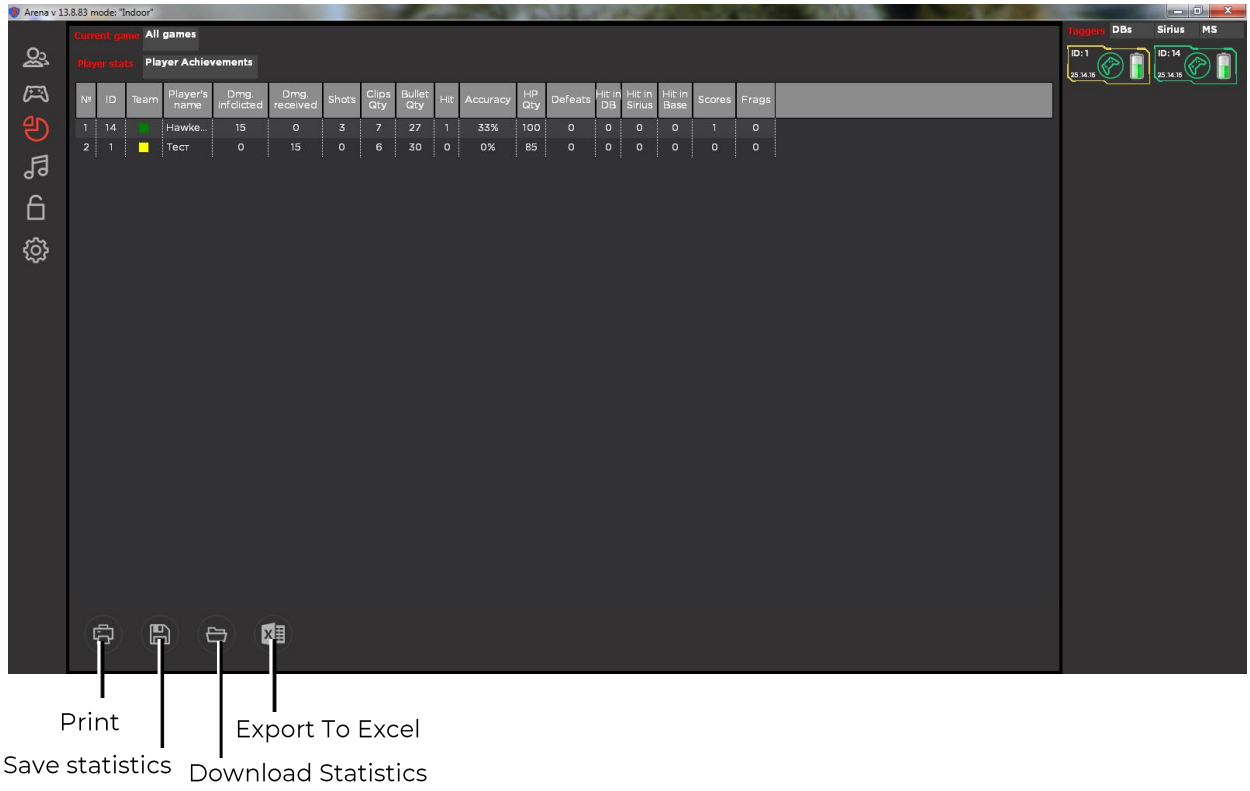
An example of displaying the work of a Multistation

The game log located in the lower part of the central panel informs about everything that happens in the game (start of the game, disconnection of kits, DB capture, end of the game, etc.).

The program also allows you to send quick commands to each kit during the game: “Pause”, “Unpause”, “Add to game” (choose team color), “Remove from game”, “Kill player in game”, “Respawn the player in the game ”, “Leisure with radiation ”, “Apply Medkit ”, “Double lives ”. To do this, you need to click the right button of the mouse on the icon of the selected kit and select the required quick command in the list that appears.

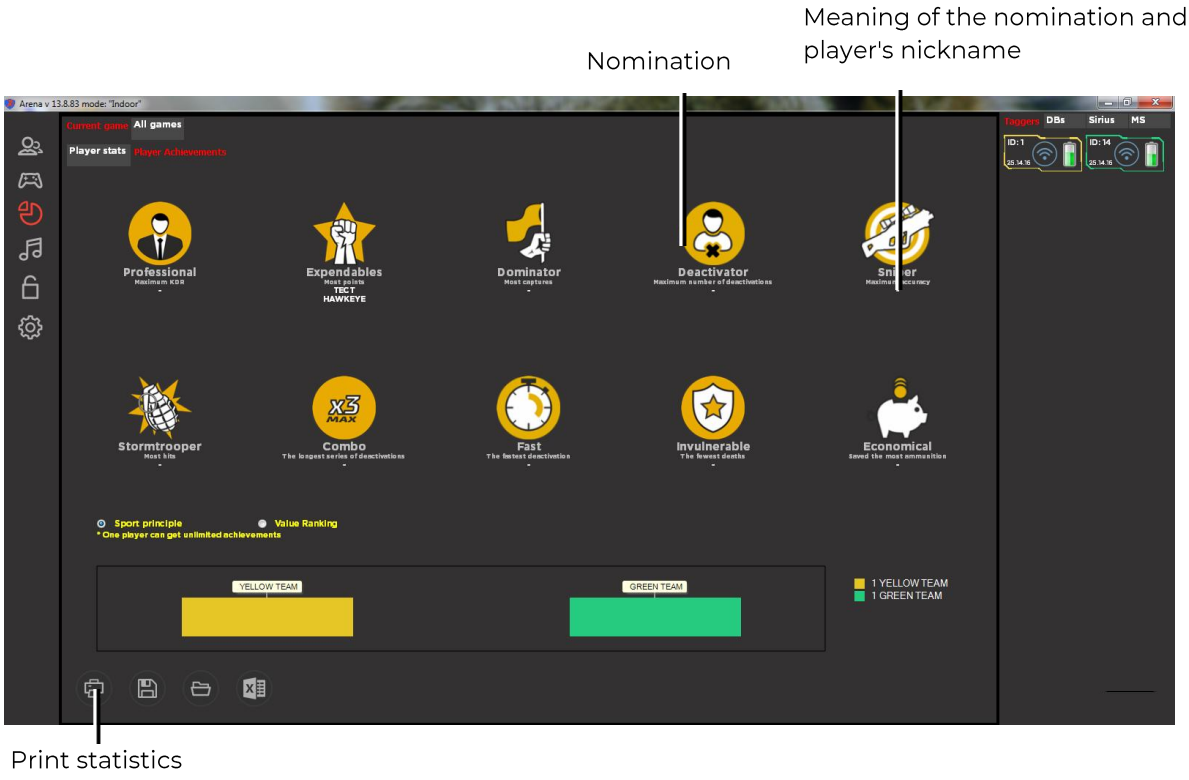
A round finishes automatically in two cases: when one of the conditions specified in the scenario is fulfilled (for example, one team remains, the opponent team’s base is captured, the specified number of points is scored) or when the game timer has worked.

The window “Game statistics” is opened by clicking on the button , and allows you to view the statistics of players during the game and after it finishes. There are two tabs “Current game” and “All games” in the window. The second tab will differ from the first in content if the option "Accumulate statistics after the end of the scenario" is enabled in the "Game Control" window. Each of the tabs has two sub-tabs: “Players statistics” and “Summary statistics”. The tab “Player statistics” allows you to control during the game and get statistics after it according to the following parameters: damage dealt and received, number of shots and hits made, accuracy (ratio of number of shots to number of hits), number of defeats, DBs captures, hits in SIRIUS and Base, the number of points scored and the number of frags.



"Player Statistics" tab when selecting "Curent Game"

Icons, names and meaning of 10 comic nominations that players receive after the end of the round are displayed in the field of nominations. The nomination algorithm is designed so that the maximum number of players is covered. Ranks are assigned based on the final table of indicators. There are two options for the distribution of nominations: the sports principle, this is when one player can get an unlimited number of nominations, and ranking by value. In this case, the player who received the highest-rated nomination (counting from left to right in the window) no longer takes part in the distribution, even if he is suitable for other nominations in terms of indicators.



The tab "Summary statistics" when choosing "Current game"

10. Warranty obligations

Dear customer! Thank You for choosing Lasertag.net!

The warranty obligations of the supplier will be upheld providing the customers compliance to the rules of transportation, storage and operation during the warranty period.

After receiving your purchase, be sure to check the warranty card; it will be necessary for your warranty service. The serial number and model name of the product that You purchased must be identical to that which is noted on the warranty card. No changes or corrections to the card are allowed. In order to avoid any misunderstandings keep all the documents (warranty card, invoice, Contract, etc.) that were attached to the product.

Please carefully read the Operating Instructions, which you can download at https://lasertag.net/manuals/ (Arena laser tag manual), or by scanning the QR code, before using the product and before contacting the Technical Support Service of the company.

The guarantee period of the product is 24 months from the moment the user receives the equipment.

The guarantee does not cover certain parts (power button, reset button, remote control buttons, trigger, microswitch, charger connectors, output LEDs, audio cables, network and USB).

The guarantee for embedded batteries and third-party supplied equipment is determined by the manufacturer.

The guarantee does not cover the products with defects caused by:

1. non-compliance with transportation, storage and operating rules;

2. incorrect configuration and connection of the equipment;
3. damages caused by improper using, handling or application;
4. mechanical damage caused by a hit, falling, high pressure, animal activity etc.;
5. excessive pollution, ingestion of foreign objects and liquids, exposure aggressive to the materials of the equipment materials;
6. force majeure (natural disasters and emergencies);
7. repairs made by unauthorized persons;
8. making design or circuit changes and software changes unauthorized by the manufacturer;
9. redirection of power, telecommunications and cable networks;
10. natural depreciation and amortization of the product (abrasion of the device case, scratches, etc.).

Transportation services for warranty repairs are paid as follows: the customer pays transport costs when sending a product to a service center, the supplier pays the costs when sending from the service center to the customer. The method of sending a product by the customer must be agreed with the supplier.

In case of non-warranty repair the customer is entitled to the service repair, but the cost of work, supplies and transportation costs shall be paid at his/her own expense. The product is accepted for repair fully equipped, including a warranty card. The complete set of a product is specified in the passport.

The product must be sent complete, with all the components, including a warranty card. The complete set of a product is specified in the passport.

When performing non-warranty repairs, the service center gives a guarantee of 14 days for those components that have been repaired.

The manufacturer reserves the right to make design changes that improve the products quality while maintaining the basic operational characteristics.

The company undertakes to provide support (including updates) of the laser-tag software throughout the entire warranty period of its operation. If the customer, during the warranty period, has a program failure or a significant malfunction of the equipment is detected due to software faults, the repair work will be carried out as soon as possible depending on the complexity of the identified problem.

The actual versions of the equipment`s microcontrollers and the software versions should correspondent to each other.

Due to the peculiarities of the internal structure and chemical composition of lithium-ion batteries, as well as to avoid problems associated with the aging of the chemical composition of cells, such as spontaneous combustion, loss of capacity, etc., we recommend replacing the batteries in the equipment after 2 years of use.

The software guarantee does not cover mistakes caused by:

1. non-compliance with the device requirements for the devices on which the program is installed;
2. failure or incorrect operation of the device on which the program is installed;

3. failure of an operating system installed on computer or mobile equipment and by the action of third-party software products, including computer viruses;
4. as a result of the independent intervention of the User in the device of the software product;
5. incorrect operation of the software in accordance with the instructions.

The manufacturer reserves the right to make design changes that improve the quality of the product, while maintaining the basic performance characteristics.