Match controller Control-MC

User manual

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Attention!
The following situations and problems are not covered by the standard warranty:

- any situations or problems if warranty stickers are damaged;
- mechanical damage to the equipment caused by the user;
- defects caused by the user opening the equipment housing and/or making any design changes;
- malfunction or incorrect operation caused by computer viruses and similar programs; unauthorized firmware modifications; or installation of any software not approved by the manufacturer;
- defects caused by poor performance and/or non-compliance with standards of all network parameters, including power, telecommunications and cable lines at the installation site.

1 Description and operation

1.1 Purpose of the product

A match controller is designed to monitor and record various parameters during a match. It can be used to track game time, including periods and stoppages, and game statistics such as goals and shots. The range of parameters varies by sport.
The match controller has various interfaces for integration into the arena's sports infrastructure and for transmitting game parameters to the scoreboard, broadcasters and the video refereeing system.
The match controller is an essential tool for ensuring accuracy and objectivity during a match.

1.2 Technical specifications

Table 1 – Control-MC specifications

Parameter	Value
Connection Interfaces	RS-232 / RS-422 / RS-485 – 3 pcs Smart I/O – 3 pcs Ethernet – 2 pcs USB Bluetooth (for the mouse and the keyboard)
Display	7" TFT, touch screen
Buttons	22 pcs with RGB backlight

Dimensions, mm	225x257x84
Battery Life, h	6,5

1.3 Equipment

The Control-MC delivery set is shown in table 2.

Table 2 –The Control-MC delivery set

Product name	Quantity
The Control-MC match controller	1 pcs
Match controller power cable	1 pcs
Bluetooth keyboard with charging cable	1 pcs
Electronic documentation	1 pcs

1.4 The design and operation of the product

The match controller has 22 control keys, a touchscreen and an external Bluetooth keyboard.
Each key is equipped with a LED indicator. The LED indicator changes depending on the operating mode, sport and key combination used.
The rear panel of the match controller contains interface ports, a power port and a power switch.

Figure 1 shows the appearance of the match controller, indicating the key groups.

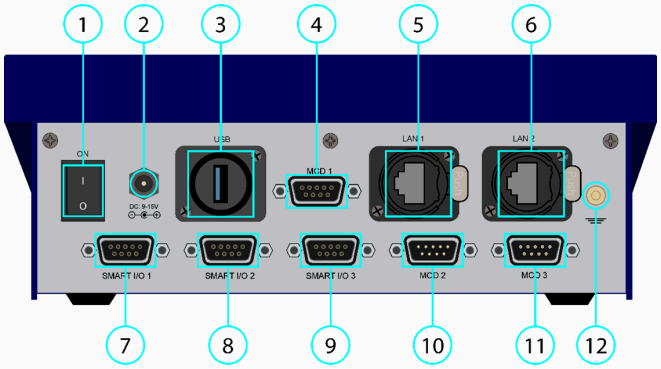
Figure 1 – The appearance of the match controller with functional zones indicated

1 – Home team game data control buttons;
2 – Action confirmation button;
3 – Action cancel button;
4 – Touch screen;
5 – Menu button;
6 – Settings button;
7 – Last timer cancel button;
8 – Start/Stop button;
9 – Away team game data control buttons.

Game data control keys such as "**+2**", "**+3**", "**H1**", "**H2**", "**G1**" and "**G2**" change their purpose and functionality depending on the sport. Their current purpose will be displayed on the on-screen buttons while the game screen is displayed.

Figure 2 shows the rear panel of the match controller.

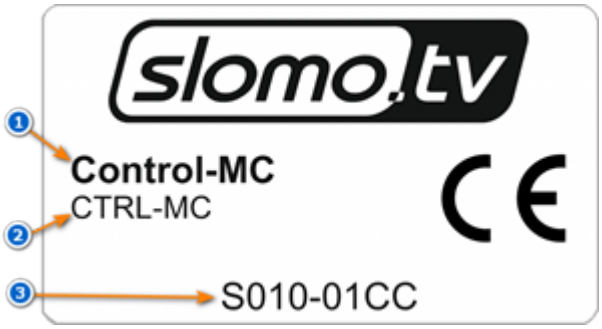
Figure 2 – The back panel of the match controller



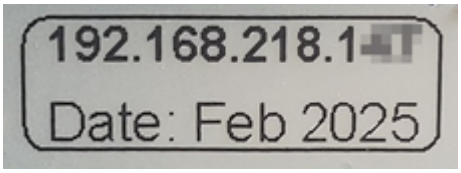
1 – Match controller On/Off button;
2 – Power supply connector;
3 – USB connector (Type A);
4, 10, 11 – Connectors for receiving information from the match controller via the RS422 interface (DB-9F (4), DB-9M (10, 11));
5 – LAN1 – Connector for connecting via the Ethernet interface (RJ-45);
6 – LAN2 – Connector for connecting via the Ethernet interface (RJ-45);
7, 8, 9 – Connectors for connecting external devices (DB-9F);
12 – Ground connection contact.

1.5 Marking

The match controller has markings on the underside of the case indicating the product name (1), model number (2) and serial number (3):



Also on the back of the match controller is a label indicating the IP address, month and year of manufacture:



1.6 Packaging

The match controller comes in a cardboard box.

2 Intended Use

2.1 Operating Limitations

Do not connect the match controller to a power supply voltage other than ~110/220 V 60/50 Hz.
Do not force the connectors into the ports. When connecting the connectors, ensure that:
– no foreign objects are obstructing the connection to the port;
– the connector being connected matches the port;
– the connector is correctly positioned relative to the port.

2.2 Preparation for Use

2.2.1 Safety Precautions When Preparing the Product

The following safety requirements and precautions must be observed:

- Do not connect or disconnect the power connectors while power is applied;
- Disconnect or connect interface cables while the power is off;
- Do not operate the match controller without grounding.

It is strictly prohibited to use the match controller outside of its standard position.

2.2.2 General Installation Instructions

The match controller must be placed on a level, horizontal, and stable surface.

2.3 Using the Product

2.3.1 Connecting the Match Controller

2.3.1.1 Receiving Data from the Match Controller via RS-422

To receive data from the match controller, use the MCD 1, MCD 2 and MCD 3 connectors with an RS-422 interface. A cable of appropriate length[1] and connectors[2] is used for connection.

2.3.1.2 Connecting to an Ethernet Network

To connect to an Ethernet network, use an Ethernet cable[3] of appropriate length[4] (figure 3):

1. No more than 100 m.
2. Cable length is determined by the installation location. The cable must be twisted pair, Cat.5 or higher. The connector on the match controller side is DB-9F (MCD 1) or DB-9M (MCD 2, MCD 3). The connector pinout diagram is provided in Annex A.
3. Twisted pair cable Cat.5 or higher, RJ-45 connectors. Not included in the delivery package.
4. No more than 100 m.

Figure 3 – Cable for Connecting the Match Controller via Ethernet

The cable is connected to the LAN2 (6) connector on the rear panel of the match controller (figure 2).

2.3.1.3 Connecting External Devices

The Smart I/O connectors (7...9) on the rear panel of the match controller (figure 2) are used to connect external devices[1].
External devices can include external buttons, a smart puck, an additional keyboard, etc.

2.3.1.4 Connecting Power

The power cable included with the match controller is used to connect power to the match controller. The cable connects to connector 2 on the rear panel (figure 2) of the match controller and a 220V power outlet.

A 9 – 15V power supply is required to power the match controller.
A 12V 3A power supply is included in the delivery.

For safe operation, grounding must also be connected to pin 12.

2.3.2 Turning on the match controller

To turn on the match controller, move the switch on the rear panel (item 1 in figure 2) to the "I" position. Wait for the download to complete.

1. For more detailed information on connecting external devices, please contact slomo.tv technical support.

Figure 4 – Sports selection screen

ВЫБОР ВИДА СПОРТА

ХОККЕЙ

ХОККЕЙ 3×3

БАСКЕТБОЛ

ВОЛЛЕЙБОЛ

← Страница 1 из 2 →

10:48:22

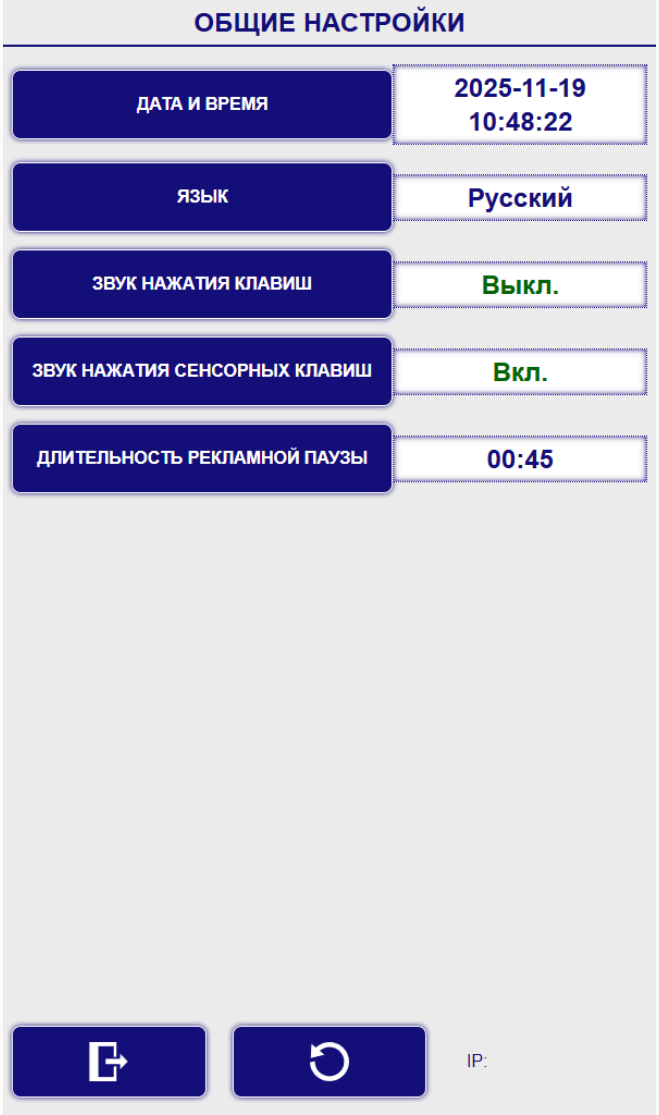
After loading, a start screen with a list of sports will be displayed. ↑

Sport availability depends on the purchased license.

2.3.3 General match controller settings

Pressing the button on the main screen will open a window with general match controller settings. The following options are available for configuration:

Figure 5 – Match Controller General Settings Window



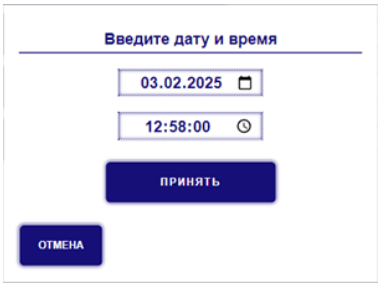
1) Date and Time – used to set the current date and time.
2) Language – used to switch the interface language. Pressing the "**Language**" button switches the match controller interface language. Russian and English are available.
3) Keypress Sound – enables/disables the sound for button presses on the match controller.
4) Touch Keypress Sound – enables/disables the sound for on-screen control elements (buttons, input fields) presses.
5) Commercial Break Duration – used to set the duration of commercial breaks.

– reset all match controller settings.

– return to the main menu – sport selection screen. Similar to the **BS** button.

2.3.3.1 Entering date and time

When you click the "**Date to Time**" button, a date and time entry window will open.



Using an external Bluetooth keyboard, enter the desired values in the date field in the DD.MM.YYYY format, where:
– DD is the day,
– MM is the month,
– YYYY is the year.

In the time field, enter the time in the HH:MM:SS format, where:
– HH is the hour,
– MM is the minute,
– SS is the second.

When the power is turned on and the internet is connected (LAN2 connector), the match controller retrieves the time from the internet if it differs significantly from the time stored in the match controller's memory.
The time can also be retrieved from the internet manually – see the section "Retrieving the time from the internet ".

2.3.3.2 Retrieving the time from the internet

To get the time from the internet:

- Turn off the match controller,
- Connect the internet cable to the LAN2 port,
- Press and hold the **Menu + Settings + Timeout** buttons (to the left of the screen) and turn the power switch on the back panel to the "I" position,
- Wait for the match controller to turn on,
- Release the buttons once they turn green.

After the download is complete, the match controller will be set to the new time.

2.3.4 Choosing the sport

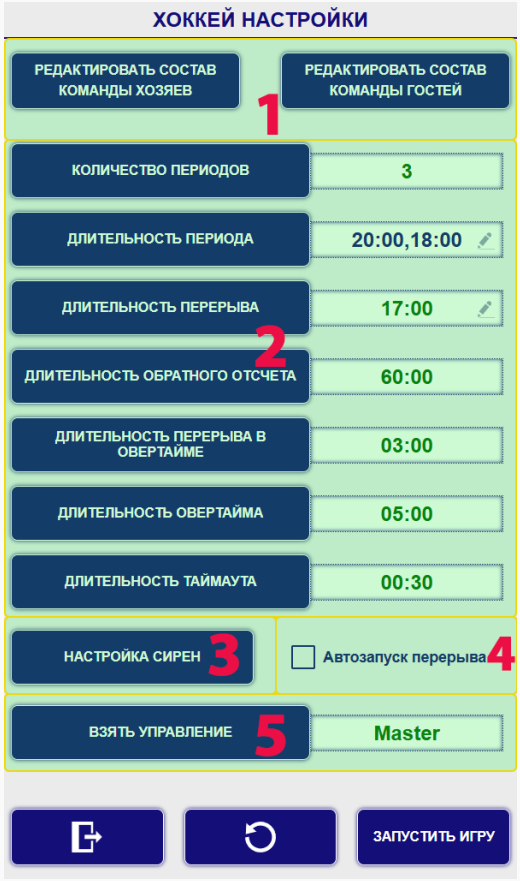
To start working with sport, select the desired sport on the main screen (figure 4).

Availability of sports depends on the purchased license.

1.9.5 Sport settings

After selecting a sport, a screen will open with settings for team data, players, and game parameters – figure 6.

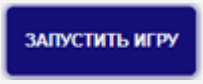
Figure 6 – Sports settings screen



Sports settings include:
1) Team and players data settings;
2) Game sections duration settings;
3) Sirens settings;
4) Auto-start break – enable/disable the automatic start of the break timer;
5) Control switching – primary/backup.

– loads default sport settings.

–returns to the main menu – sport selection screen. Similar to the **BS** button.

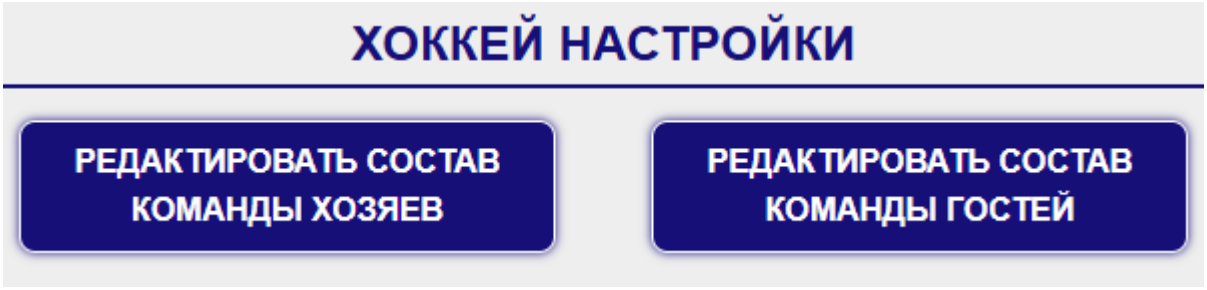


– launches the game with the default settings and goes to the game menu.

2.3.5.1 Editing the team name and composition

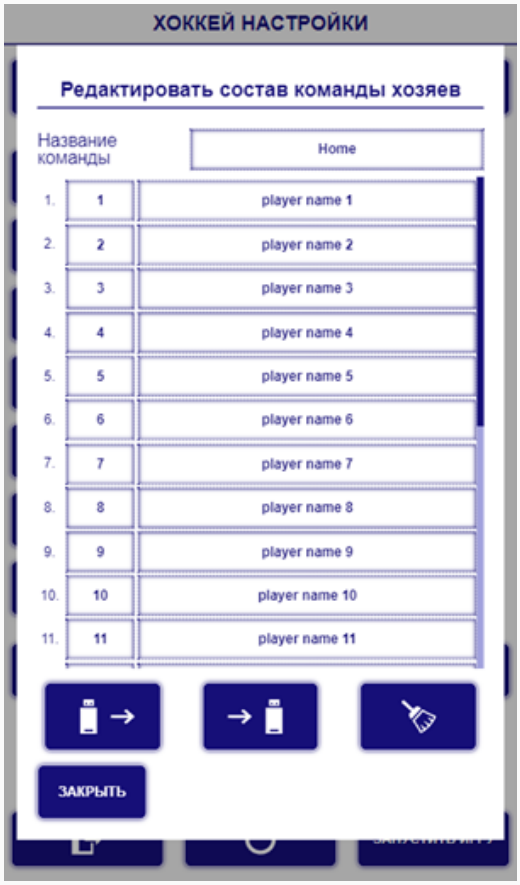
To edit a team's name and roster, use the following buttons:

- "Edit Home Team Roster",
- "Edit Away Team Roster".



Clicking the button will open the window shown in figure 7.

Figure 7 – Team composition and name editing window



Below the player list are buttons for the following operations:

– load team data from a USB drive.

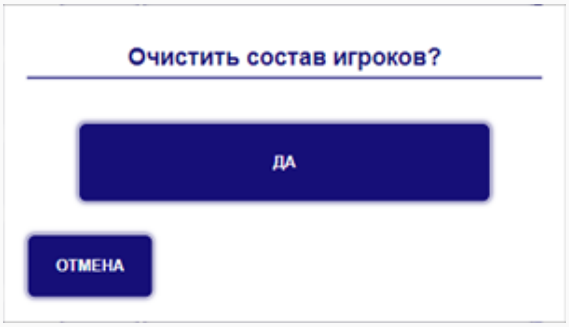
– save team data to a USB drive.

– clear the player list.

Team data can be edited either from the match controller screen using a wireless keyboard or using pre-prepared files loaded from a USB drive.
When editing from the match controller screen, select the field to be edited and enter the data into it using the wireless keyboard. The changes are applied immediately. Repeat the process for all required fields until the desired result is achieved.

To quickly clear all player fields, you can use the "**Clear**" ( ) button.

To confirm the operation, click "**Yes**" in the window that opens →



The match controller then uses the players' game numbers. An empty field in a player's number means that the player is not participating in the game and will not be displayed.

To load team data from a USB drive, you must first prepare the files on your computer. The match controller supports loading team data in ***.csv** (semicolon-separated value) format.

To create such a file, you can use any text editor or Microsoft Office Excel, then save the file in ***.csv** format. The file must have the following name:

- *home.csv* – for the home team;
- *guest.csv* – for the away team.

Example file for loading team data:

```
1  DIN;
2  Pavel Kudryavtsev;84;
3  Kirill Golubev;80;
4  Artyom Kudashov;23;
5  Anton Sizov; 36;
6  Kirill Adamchuk;30;
7  Igor Ozhiganov;32;
8  Egor Nikitin;95;
```

The first line[1] contains the team name, followed by the player's first and last name and number.
Each field is separated by a semicolon.

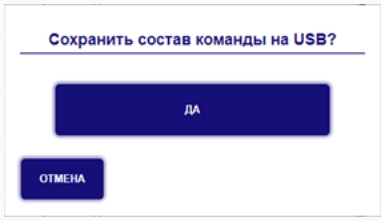
To load command data from a USB drive, use the button.

After clicking the button, a window will open in which you must click "**Yes**" to continue or "**Cancel**" to abort the operation and return to the previous window.

When entering command data from the match controller screen, you can save the entered data to a USB drive.

To save the command data to a USB drive, use the button.

To continue, click "**Yes**" or "**Cancel**" to abort the operation.



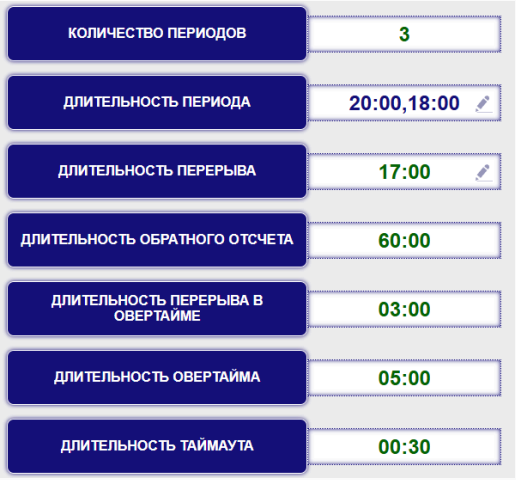
Enter the team name and player information for each team.
In addition to editing team and player information, you can also edit game parameters, such as the number of periods and the duration of game segments.

---

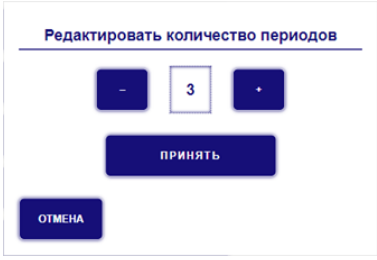
1. The line numbers are provided for example purposes only and are not part of the file.

2.3.5.2 Editing game parameters

Game parameters can be set before the game starts or edited afterward. However, we recommend, whenever possible, setting all necessary parameters at once.
Parameters such as the number of game periods and the duration of game segments can be edited.



To set the number of periods, use the button of the same name. In the window that opens, enter the desired number of game periods if it differs from the preset. Use the "**+**" and "**-**" buttons to enter the number:



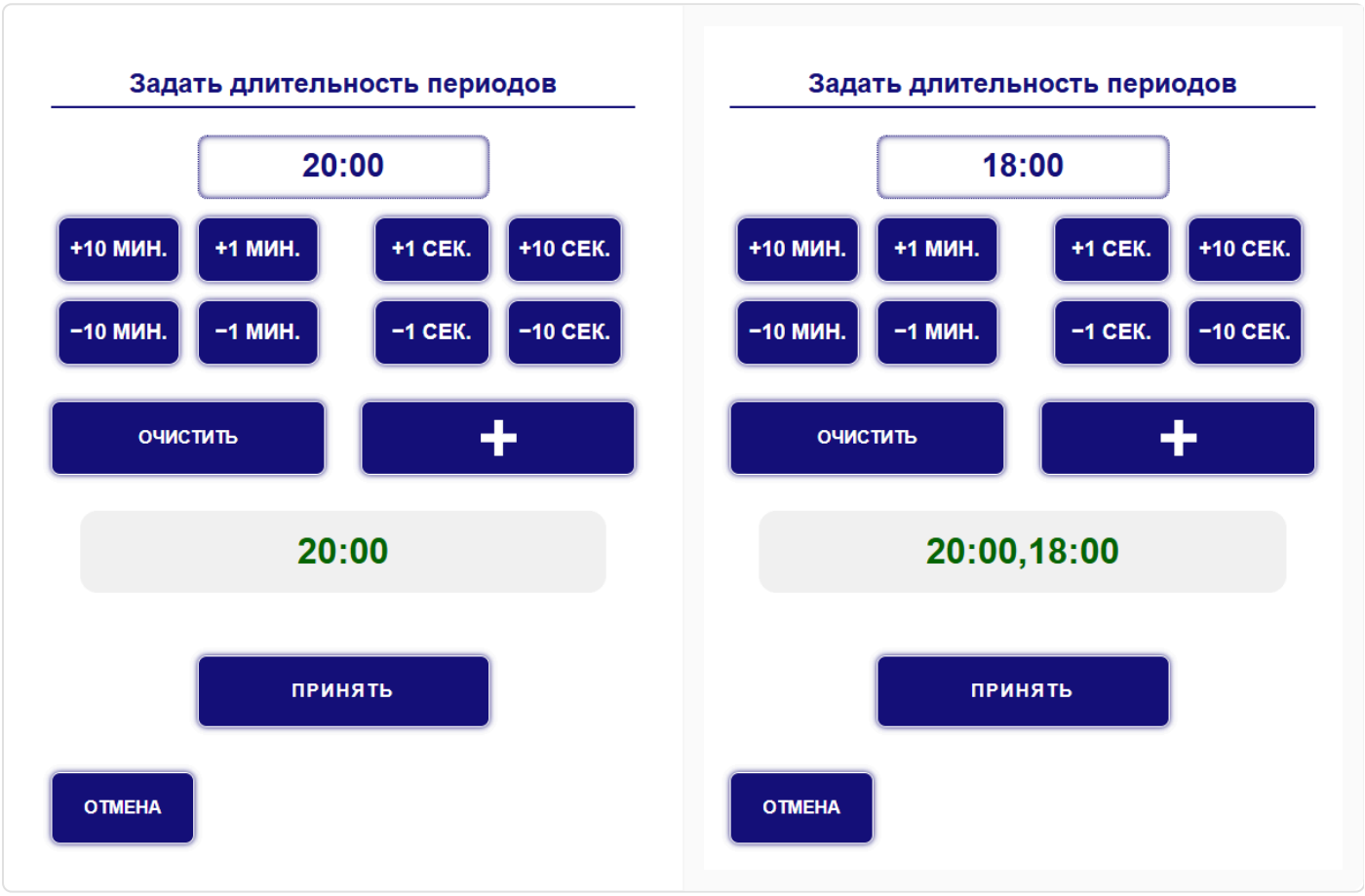
To confirm your selection, click "**Accept**". To cancel and return to the previous window, click "**Cancel**".

The durations of game sections can then be adjusted. The following sections are available for editing:

- Period duration,
- Break duration,
- Countdown duration – the time before the start of the game,
- Break duration before overtime,
- Overtime duration,
- Timeout duration.

Multiple values can be specified for the "*Period Duration*" and "*Break Duration*" parameters.
If multiple values are specified for a parameter, each value will be assigned to the corresponding period/break: i.e., the first value is the duration of the first period/break, the second value is the duration of the second period/break and so on.
If the number of specified values is less than the number of periods/breaks, the last specified value will be assigned to all remaining periods/breaks.
If the number of specified values exceeds the number of periods/breaks, the "excess" values will not be used.

To edit each parameter, use the button of the same name; when pressed, the time entry window opens:



Use the buttons below the time window to increase or decrease the duration.

The button clears the value field below.

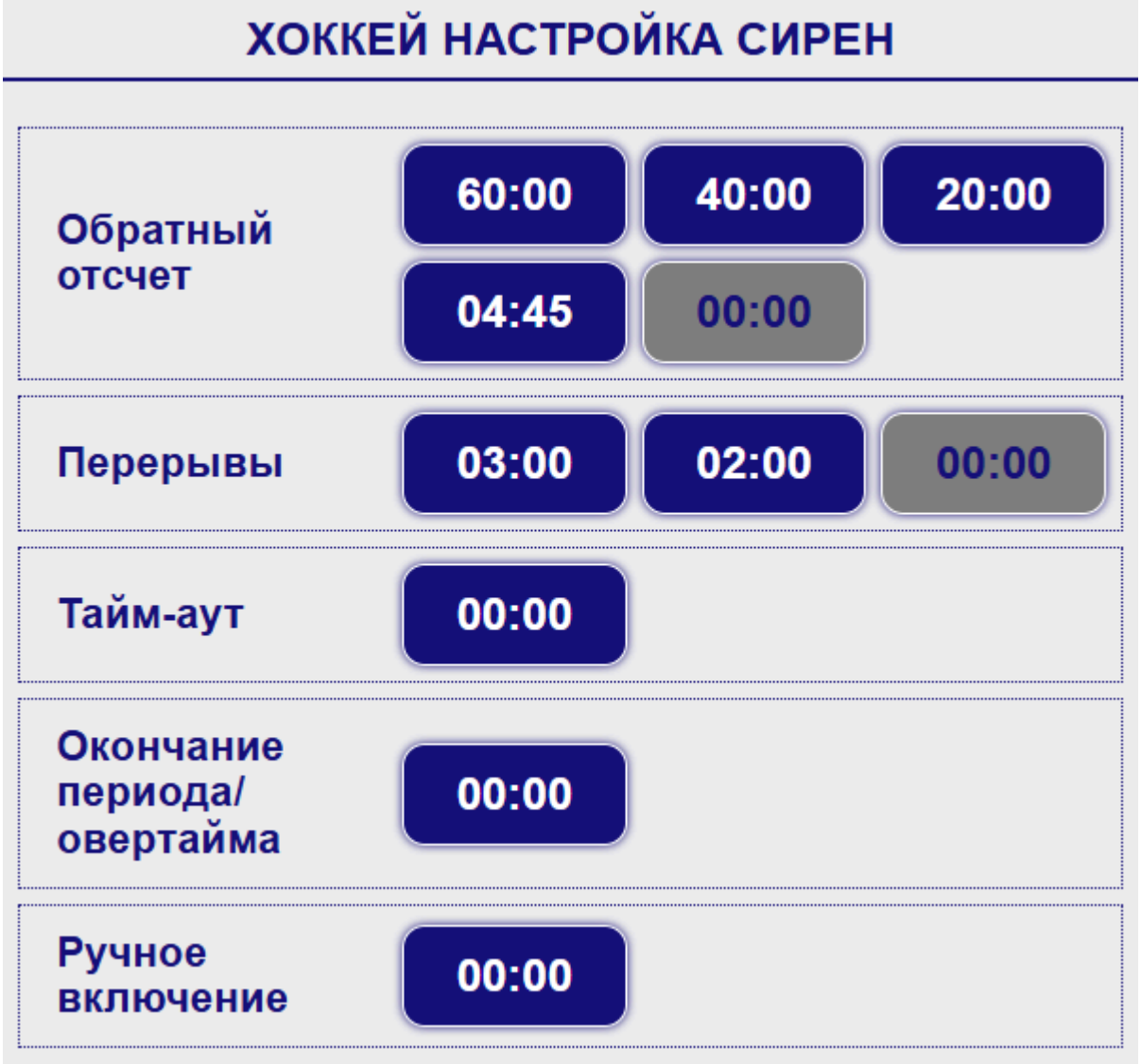
The button adds the new duration value to the field below.

To confirm your selection, click "**Accept**".

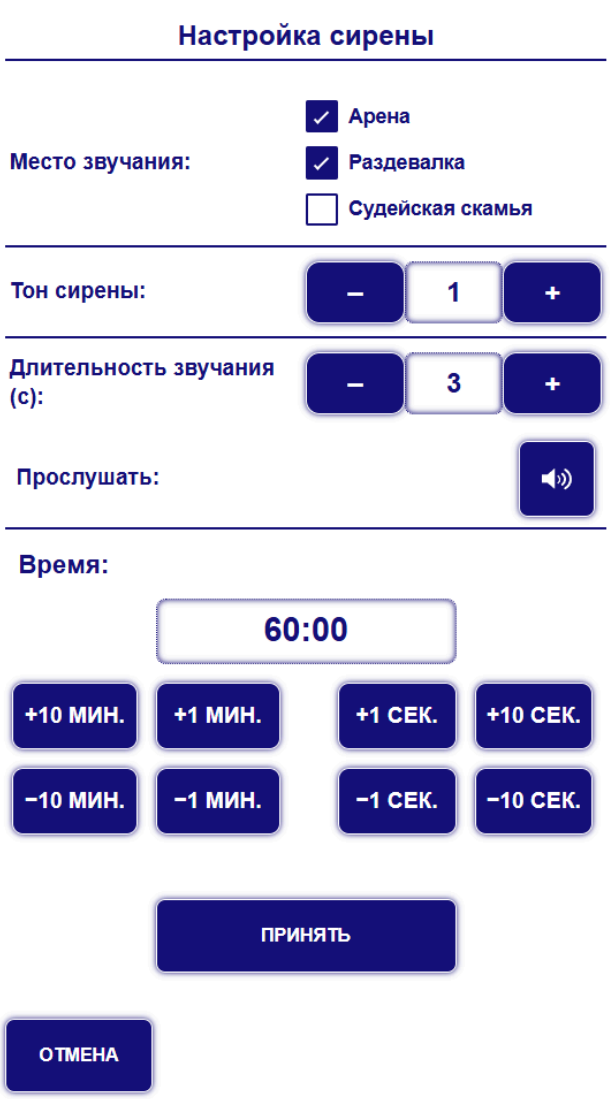
To cancel and return to the previous window, click "**Cancel**".
Repeat this operation for each stage of the game whose time you want to adjust.
You can also edit the siren timing in the arena and locker rooms in the "*Settings*" menu.

2.3.5.3 Editing the siren activation time

The match controller allows you to customize the siren's position, sound, and timing.
To edit sirens, use the "**Siren Settings**" button. Clicking this button will open a window for selecting the siren to configure.



After selecting the desired siren for configuration, the following window will open:



Sound Location:
☐ Arena;
☐ Dressing Room;
☐ Referee's bench

You can select one or more sound locations.

Siren Tone – select a siren tone from preset files;

Sound Duration (sec) – adjust the siren sound duration (in seconds).

"**Listen**" button ( ) – play the selected siren tone in the selected sound locations.

The "*Time*" field is used to set the time the siren will sound.
Use the "**+10 min.**", "**-10 min.**", "**+1 min.**", "**-1 min.**", "**+1 sec.**", "**-1 sec.**", "**+10 sec.**", "**-10 sec.**" buttons to set the desired time.

Clicking "**Accept**" confirms the settings you've entered.
Clicking "**Cancel**" will not save the settings.

To turn off the siren, you need to uncheck **all** the *Sound Locations* and press the "**Accept**" button.

2.3.5.4 Control transfer

When using multiple match controllers in arena, they can be configured to operate in a backup system – one acting as the primary controller and the other as a backup (secondary) controller. The backup controller can be used to input player and team data, and all game data from the primary controller can be transmitted to it.
To switch from the primary to the backup controller, use the "**Take Control**" button. All game data will be sent and controlled from this controller.

2.3.6 Launching the game

After setting up the sport parameters, to enter game mode, press the "**Start Game**" button (bottom right of the screen) or the "**Start | Stop**" key (bottom right).
After pressing the "**Start Game**" button, the game window will open – figure 8.

The clock on the match controller screen changes depending on the game's status and the current game segment:

Clock	Meaning
38 II 46	The clock has been stopped.
38 II 46	The clock has been started during the break.
38 ↓ 46	The clock has been started during the game.
46 ↓ 0	The clock has been started during the game – the last minute of the game.

During the game, the clock displays the time in MM:SS format and in the last minute in SS:D format, where:

- MM stands for minutes,
- SS stands for seconds,
- D stands for tenths of a second.

Figure 8 – Sports window

To start the countdown, press the "**Start | Stop**" button.
When the countdown is running, the "**Start | Stop**" button glows green; when stopped, it glows red.

2.3.7 Recording game events

The match controller allows you to track game events such as:

- Score;
- Penalties/Fouls (depending on the sport);
- Number of shots.

The "**Start | Stop**" key is used to start/stop the game clock.
The "**Timeout**" buttons and keys are used to start a timeout. Starting a timeout stops the game clock. To resume the game clock after a timeout, press the "**Start | Stop**" key. To interrupt the timeout, press the "**Start | Stop**" key.

2.3.7.1 Change of score

To change the score, use the "**+1**" / "**-1**" buttons/keys:
– left – for the home team,
– right – for the away team.

Pressing the "**+1**" / "**-1**" buttons on the left/right side of the screen changes the score for the team only (without selecting a player's number).
Pressing the "**+1**" / "**-1**" buttons will open a window for selecting the player to assign the score to – either a player or a team.
After selecting a player or team to assign the score to, the window will close. The score will be incremented by 1.
Pressing the "**Cancel**" button will close the window, leaving the score unchanged.

2.3.7.2 Awarding penalties/fouls

To assign penalties/fees/fouls, use the "**PNLTY|FOUL**" keys on the side of the screen or the "**Penalty**" button on the screen. The buttons on the right are for the away team, and the buttons on the left are for the home team. After pressing, a window for selecting a player or team number will open (figure 9). If the desired number is not available, you can enter it in the input field below the "**Team**" button and press the "**+**" button. The player with the entered number will be added to the team and can be selected to assign the penalty time. After selecting a player's number, a penalty selection window will open (figure 10).

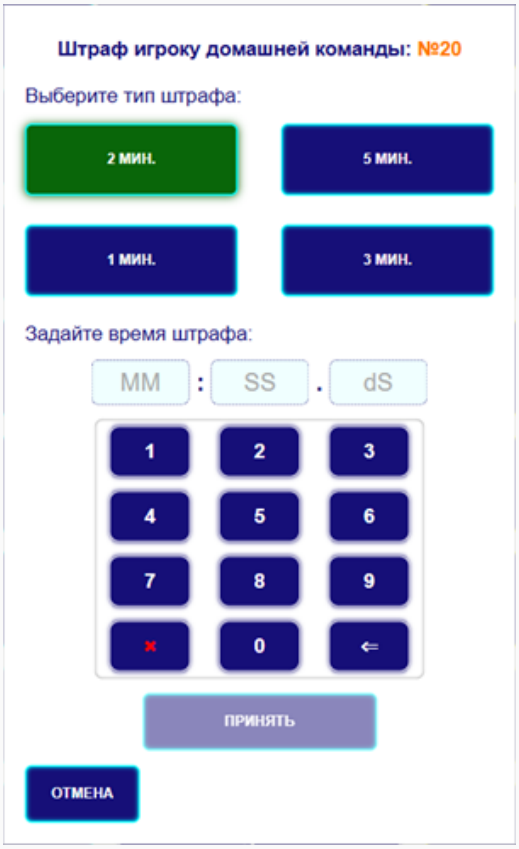
Figure 9 – Selecting a player to assign a penalty

Figure 10 – Selecting a penalty for a player

To set the penalty time, click the buttons with the corresponding time. If you enter an incorrect value, click the "**Clear**" button. You can then select the penalty time again. The set time is displayed below the time buttons. To confirm your penalty selection, click the "**Accept**" button. Clicking the "**Cancel**" button will return you to the game screen without saving your penalty settings.

To set a custom penalty time, click the "**Custom Penalty Time**" button (figure 10).

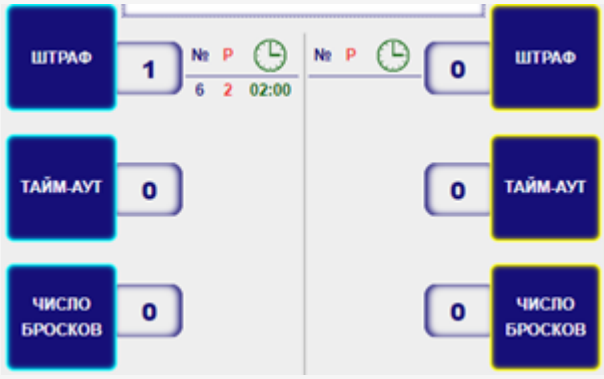
Figure 11 – Entering a custom penalty time



In the window that opens:
– Select the penalty type;
– Enter the time using the on-screen or external Bluetooth keyboard.

To confirm your entry, click "**Accept**".

Clicking "**Cancel**" will not save your entry and close the window. All assigned penalties are displayed in the center of the screen:



For each player, the penalty is displayed as **# P T**, where:

- **#** is the player's number,
- **P** is the type of penalty being counted,
- **T** is the player's total penalty countdown.

After the penalty countdown ends, its display will stop.

2.3.7.3 Counting the number of throws

To keep track of the number of throws, you can use the "**Number of Throws**" buttons on the screen or the "**H1**" / "**G1**" keys on the side of the screen. Each press increases the value by one.

2.3.7.4 Starting a timeout

Figure 12 – The home team's timeout has been started.

To start a timeout, use the "**Timeout**" button or the "**TIME OUT**" keys on the side of the screen.

Starting a timeout stops the game clock. To resume the game clock after a timeout, press the "**Start | Stop**" key.

The timeout can be interrupted by pressing the "**Start | Stop**" key.

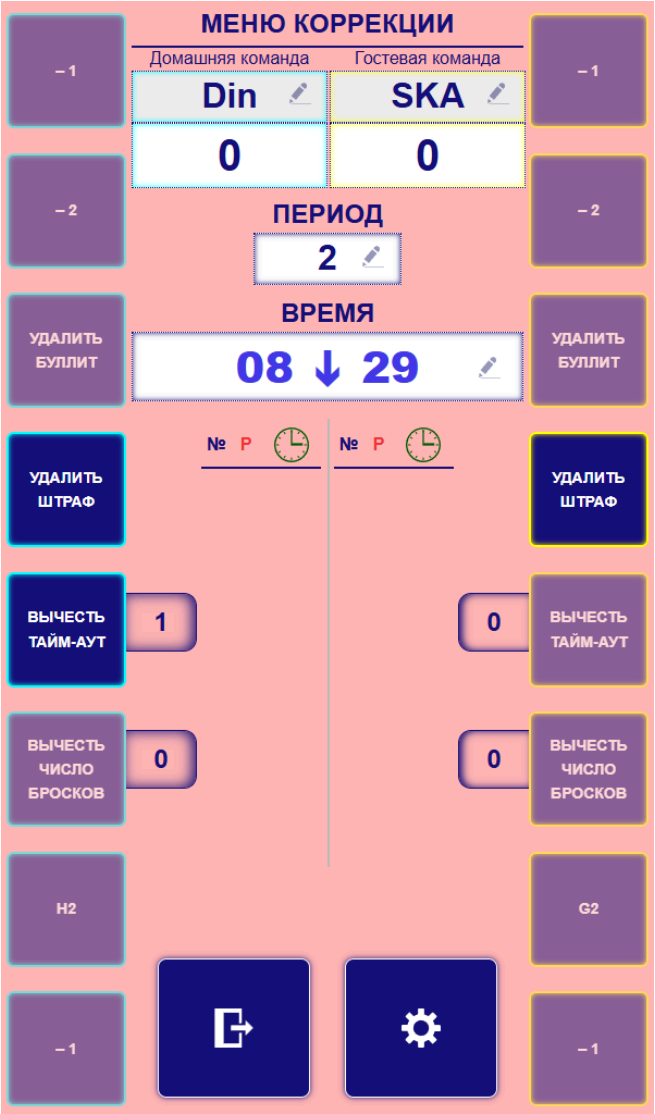
The timeout duration is displayed to the left of the period number for the home team and to the right of the period number for the away team.

2.3.7.5 Hockey – Bullitt

When overtime ends with a tied score, the match controller switches to the penalty display and recording mode – the “**Bullitt +**” and “**Bullitt –**” buttons become active, and the penalty information display area displays the completed penalty shots.

2.3.8 The correction menu

To correct erroneously entered values, use the correction menu. To access the correction menu, press the button at the bottom of the screen or the "**Menu**" key below the screen.



In the correction menu, you can:
– edit team names and lineups;
– change the period;
– change the time;
– decrease the score;
– cancel a penalty;
– decrease the number of elapsed timeouts;
– decrease the number of shots.

The score decrease buttons become available when the score is greater than 0.

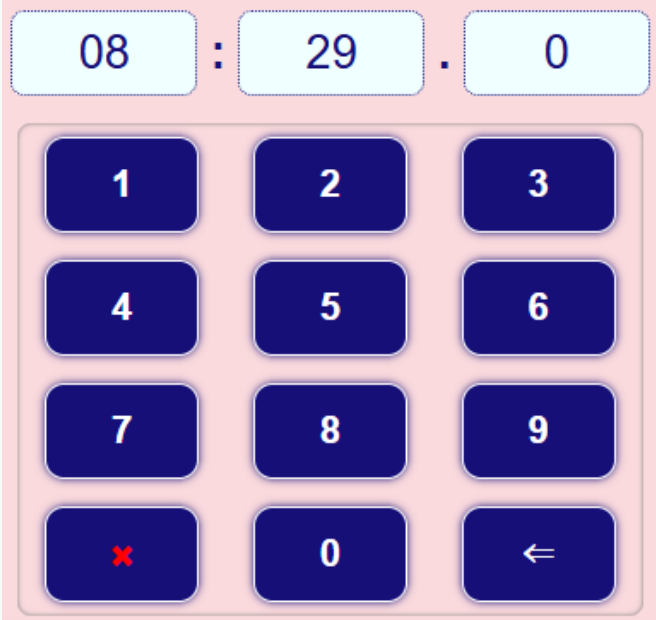
You can also access the sport settings menu from the correction menu – use the button or key below the screen if you need to change any of the sport settings.
To return to the game menu, use the **Exit** button ( ) or the **BS** key.

2.3.8.1 Editing time, period number, game part

To edit the game time, period number, or game part number, you can use the menu that opens when you click on the time in the correction window:

To change the period number, use the following area:

To change the time, use the following area:



To change the game section, use the following buttons:
– Game,
– Break,
– Countdown,
– Overtime.

To apply the entered settings click "**Accept**". To return to the correction menu without saving click "**Cancel**".

2.3.8.2 Editing team composition

Team composition editing window opens by clicking the edit button ( ) to the right of the team name.

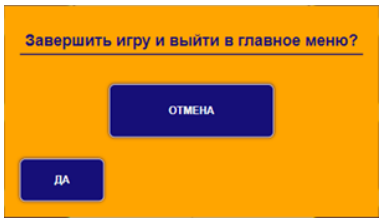
In the window that opens, you can edit:
– team name,
– players names,
– players numbers.

2.3.9 Turning on the siren

To manually turn on the siren, use the button on the sports screen.

2.3.10 Exiting the game

To exit the game, use the button on the sports screen – it's active when the game time is paused. Clicking it will open a confirmation window:



If you press "**Cancel**" by mistake, you can return to the game.
To continue, press "**Yes**". This will exit you to the main menu – "*Sport Selection*" – without saving your game settings.

2.3.11 Turning off the device

To turn off the match controller, press the "**Power Off**" ( ) button on the sport selection screen. Wait until the match controller screen is completely off, and then slide the power switch on the back panel to the "O" position.

With the switch in the "I" position, the "**+1**" key to the right of the screen will glow pale green, indicating that the match controller is not completely off.

3 Maintenance

3.1 General Instructions

To ensure trouble-free operation of the product, the following is required:

- knowledge of the device by maintenance personnel;
- careful handling of the equipment;
- timely and high-quality performance of scheduled maintenance;
- systematic monitoring of the device's technical parameters.

3.2 Safety Precautions

Maintenance may only be performed by personnel who have completed on-the-job training, are trained in safe work practices and are thoroughly familiar with the design and operation of the product, as well as the safety rules and precautions for performing the work.

3.3 Product Maintenance Procedure

All types of maintenance (M) are performed by service personnel at the operating site. The list of tasks required for M is provided in table 3.

Table 3 – List of works during maintenance

Maintenance Facility Name	Frequency and Content	Tools and Materials Required for the Work
Match Controller Display	As needed: Clean the display from dust – wipe the display with a soft monitor cleaning cloth (microfiber cloth).	Monitor cleaning cloth or microfiber cloth
Match Controller Keys	As needed: Clean the space between the keys from accumulated dust and lint using a soft brush.	Soft brush

4. Routine Product Repair

4.1 General Instructions

Routine product repair includes replacing faulty components and parts included in the product's delivery kit, as well as troubleshooting software issues.
No structural changes to the equipment assembly are permitted during repair and restoration work!
Repairs to faulty components and parts are performed by slomo.tv specialists.

4.2 Actions in case of mechanical damage to the match controller

During operation, the match controller may suffer two types of mechanical damage:

- Repairable on-site – in accordance with Section 4.3 "Troubleshooting" of this Manual;
- Non-repairable on-site, i.e., requiring specialized repair by the manufacturer.

In case of mechanical damage that cannot be repaired on-site, you must:

- Turn off the match controller in accordance with Section 2.3.11 of this Manual;
- Report the damage to the match controller to slomo.tv technical support at support@slomo.tv;
- Send the damaged match controller to slomo.tv for repair.

4.3 Troubleshooting

Typical faults and methods for their elimination are given in table 4.

Table 4 – List of typical malfunctions

Description of the consequences of malfunctions and damage	Possible causes	Instructions for troubleshooting failures and damage
1	2	3
1. The match controller does not turn on	The power cable is not connected or the connection is lost.	Check the connection of the power cable to the match controller and a 220V outlet.
	The power supply unit on the match controller's power cable is faulty	Replace the power supply unit with a new one with similar specifications.
	The power switch on the back of the match controller is faulty	Set the switch on the back of the match controller to the "O" position, unplug the match controller, and contact slomo.tv technical support.
	The match controller's power supply board is faulty.	
2. The match controller display does not turn on	Mechanical damage to the match controller display	Set the switch on the back of the match controller to the "O" position, unplug the match controller, and contact slomo.tv technical support
	Mechanical damage to the match controller – faulty internal display connection contacts.	
3. The match controller does not transmit data to external devices	Static electricity has affected the match controller	Turn off the match controller (Section 2.3.11 of this Manual) and then turn it on again (Section 2.3.2 of this Manual).
	The external device connection cable is faulty	Check the cable for integrity and replace it with a new one if necessary.
	The data format of the match controller and external device is incompatible.	Contact slomo.tv technical support.

4. Pressing a match controller button does not produce the expected action	The button is faulty.	Contact slomo.tv technical support.

5. Storage

The warehouse must be suitable for receiving, unpacking and pre-conditioning the product after it has been stored during the cold season.
Packaging to be opened must be inspected. During this inspection, the integrity of the packaging and locking mechanisms (if any) must be checked.
The packaging opening must be done manually. The use of a crowbar or axe is prohibited. Upon opening the packaging, the condition of the device within it must be checked and after removing the device from the packaging, its completeness must be checked against the delivery note. If the product is delivered in reusable cases, these must be maintained in good condition.
Acid and alkaline batteries, acids, alkalis and other similar materials must not be stored in the same room with the product. The storage room must not be exposed to vapors of acids, alkalis, gasoline or other corrosive or flammable substances.
These storage rules are intended for storage of the device at the customer's site. The product should be stored indoors at an ambient temperature of 0 to 45°C. Under these conditions, continuous storage should not exceed one year.
Remove the batteries from the product during storage. Store the batteries in their packaging in a cool, dry place with a full charge. At temperatures between 0 and 30°C, recharge the batteries every six months. At temperatures between 30 and 45°C, recharge the batteries every three months.
Storage areas must be dry, ventilated and protected from gases and chemical vapors that can corrode metals.

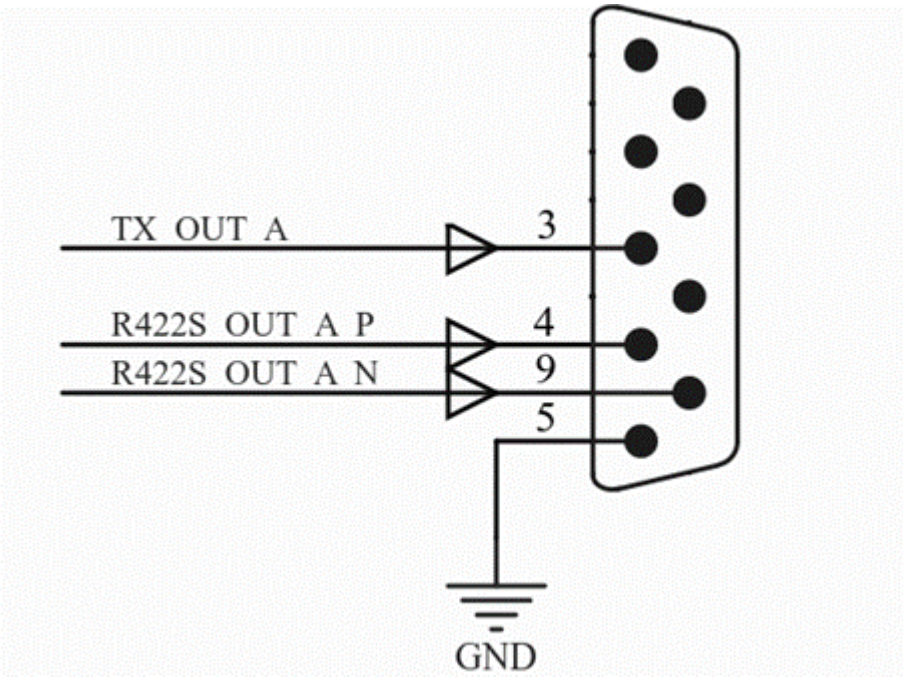
6. Transportation

6.1 The product and its components must be transported in the manufacturer's (supplier's) packaging.
6.2 The shipping container must be positioned and secured to ensure stability and prevent movement during transportation.
6.3 During transportation, protection from direct exposure to precipitation and direct sunlight, as well as impacts and severe mechanical damage, must be ensured.

Annex A

Pinout diagram of MCD 1, MCD 2, MCD 3 connectors

Use twisted pair cable Cat.5 or higher, no longer than 100 m.



DB-9F (MCD 1) / DB-9M (MCD 2, MCD 3)	
3	TX
4	RS422 (P)
5	GND
9	RS422 (N)

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slomo.tv sports replay and multi-channel recording systems are constantly evolving, which may result in discrepancies between the documentation and the implemented functionality.
To ensure we can send you an updated version of the Documentation, please notify slomo.tv technical support of any discrepancies, incompleteness or other inconsistencies in this Manual by email at support@slomo.tv.