

2025

User Manual MLRangeLite



JVS

Megalink AS

v25.30



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1 Introduction

This document gives a simple guide to setting up and using MLRangeLite.

Quick summary of MLRangeLite:

- Targets are connected directly to a server computer running MLRangeLite software.
- The system is controlled using a web browser, either on the server computer (preferred way) or on another computer or tablet connected to the network.
- Tablets, smartphones and computers are used as monitors.

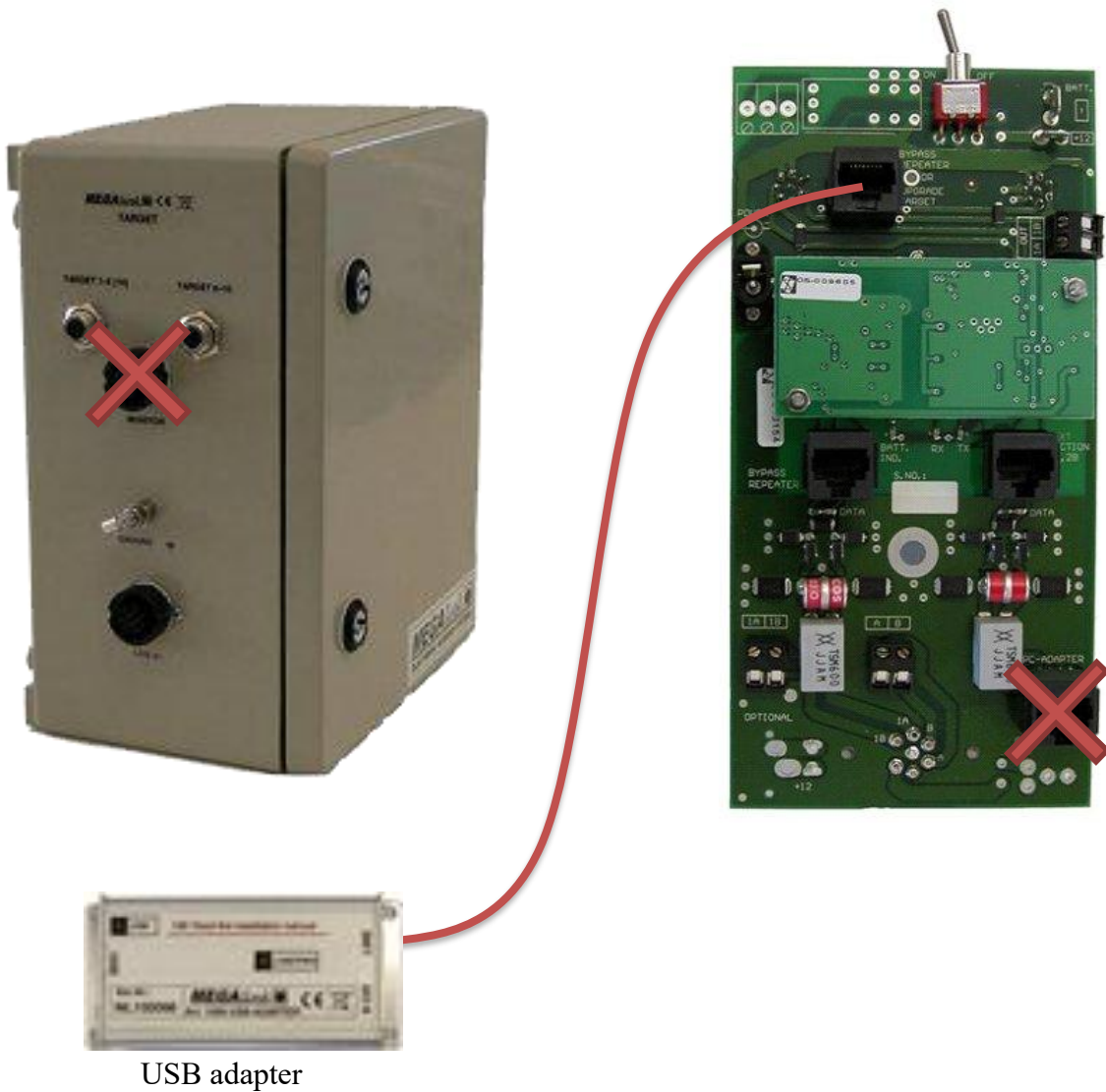
The latest version of Google Chrome should be installed on the computer running MLRangeLite software. www.google.com/chrome

MLRangeLite requires Windows 11, 64-bit computers.

2 Setup

2.1 MLRangeLite hardware

- Connect the USB adapter to the server computer in one end, and to the “Upgrade Target” port of the interface box in the other end. The picture below shows one type of interface box.
- For det interface box in the picture below targets are connected using the two metal connectors marked target 1-5, 6-10.



USB adapter

2.2 MLRangeLite software

2.2.1 Range setup

After starting MLRangeLite, enter the user interface by typing the URL “http://localhost/range” in your WEB browser, or by clicking the MLRangeLite link in the startup application.

Go to settings using the symbol in top right corner. If a USB adapter is connected, you can select it from the list under “Select USB Adapter for segment 1”, and similarly Select USB Adapter for segment 2” if two USB adapters are being used. Then input the range of target IDs in first and last target, e.g. 1-10 when using ten targets having ID’s from 1 to 10.

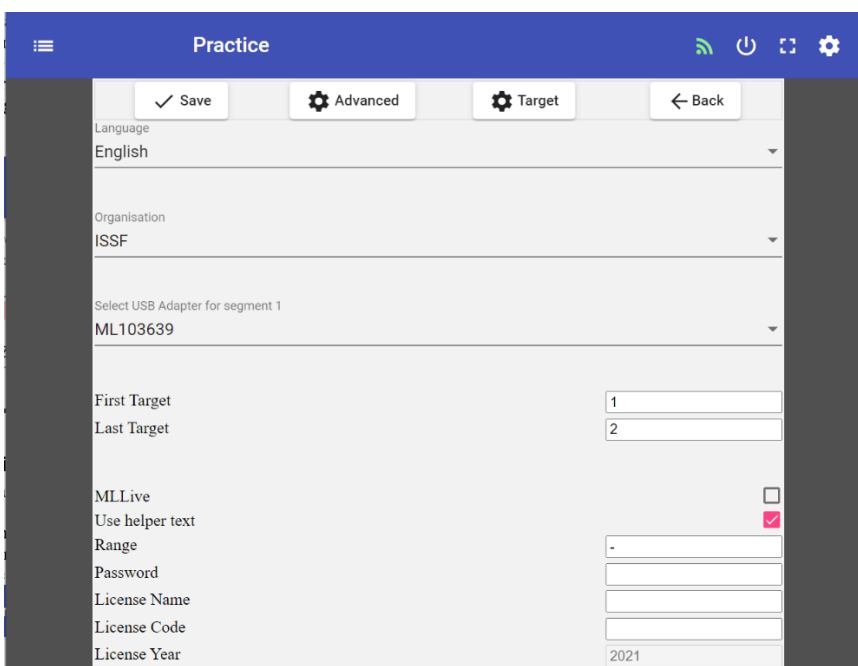
Fill in License Name and License Code using the correct upper/lower case letters, and make sure no extra “ “ spaces are present.

To use MLLiveArena select MLLive and make sure that your MLLiveArena program is running on the same computer or network. An automatic connection then occurs. If this fails, it is possible to set the IP address manually in the file “MLRange.ini “found in the MLRangeEngine folder as shown in the image below.

```

1  [CONFIG]
2  MLLiveArenaIP=192.168.128.2
3  MLResIP=127.0.0.1
4  [WEB]
5  HTTPS=0
6  HTTP=0
7  HTTP_PORT=80
8  HTTPS_PORT=443
9  [SIMULATE]
10 type=local
11 [DEBUG]
12 window=0
13
    
```

Range field is used to give a name on your range.
 Password is used to secure MLRangeLite from access across the network.
 Click save to apply the settings.

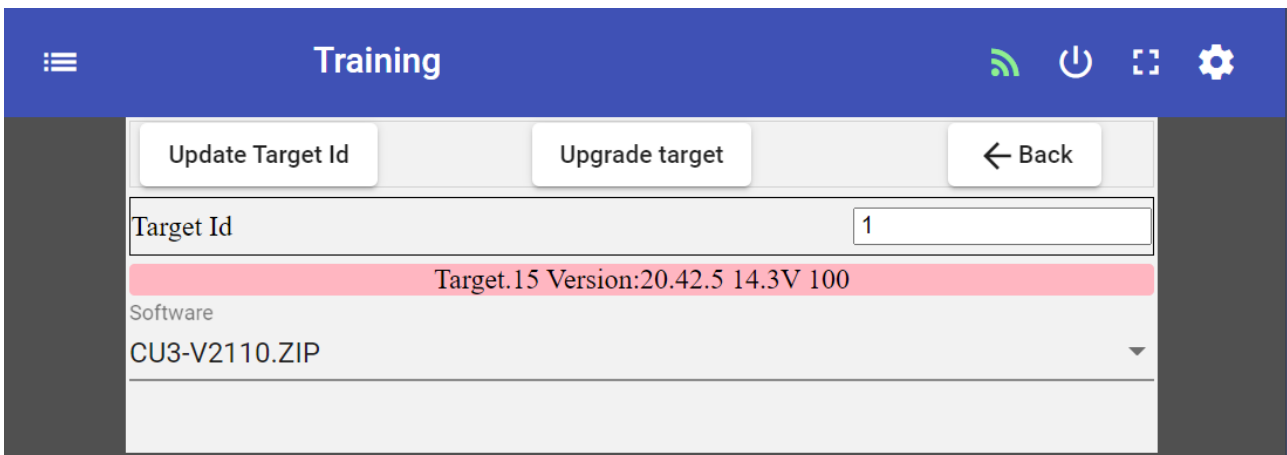


2.2.2 Advanced Settings

From the settings menu, click on the “Advanced” settings button and enter password “3”.

Here you can change the ID of a target by entering “Target Id”. Make sure only the target you want to change ID on is connected. It should be the only one visible in the list.

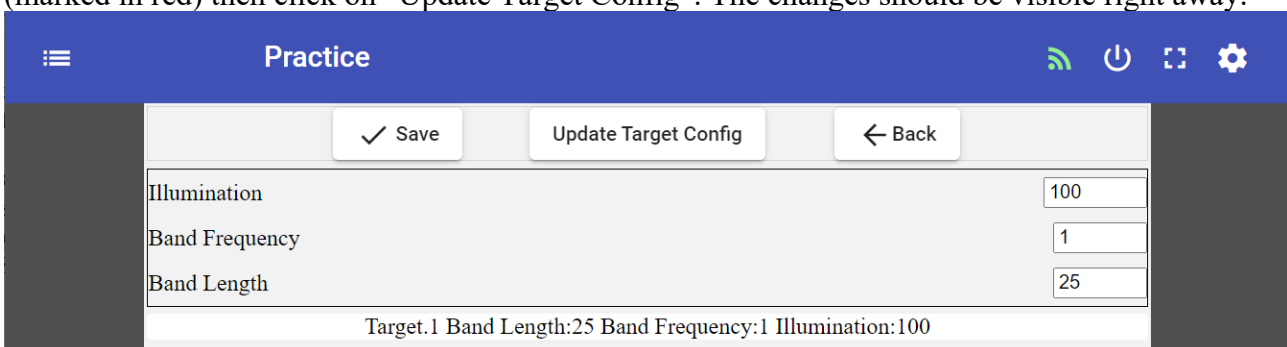
You can upgrade the target software by first clicking on a target so it changes color to red, selecting the software version from the drop down list, then clicking upgrade target. **NB:** You can only upgrade targets in one segment at a time, i.e. using only one USB adapter. Start up the MLRangeLite software having only one USB adapter connected, update the adapter settings under “settings” before going to the advanced menu. This is a subject to change in a future version of MLRangeLite.



2.2.3 Target Settings

From the settings menu, click on the “Target” settings button to enter target settings.

Here you can adjust the settings for target illumination, band frequency and band length. Check that all the settings are correct, then select the targets by clicking on the targets you want to update (marked in red) then click on “Update Target Config”. The changes should be visible right away.



2.2.4 Conversion from personal target (MLShoot) to MLRangeLite

If targets previously used with MLShoot software are to be used with MLRangeLite, it is important to change the target IDs to correspond with the new MLRangeLite shooting range. When using MLShoot all targets have an ID of “1”. But in a MLRangeLite setup, IDs are typically in the range 1-10. Read chapter “2.2.2 Advanced setup” on how to change target ID.

3 Usage MLRangeLite

3.1 Main window

The main window consists of four parts: top menu (blue field), left menu (opened by clicking the three lines on the left side of the top menu), right menu and the targets info window(center).

Left menu:

Click on the name of an event and click ok to activate or delete (double click) the event.

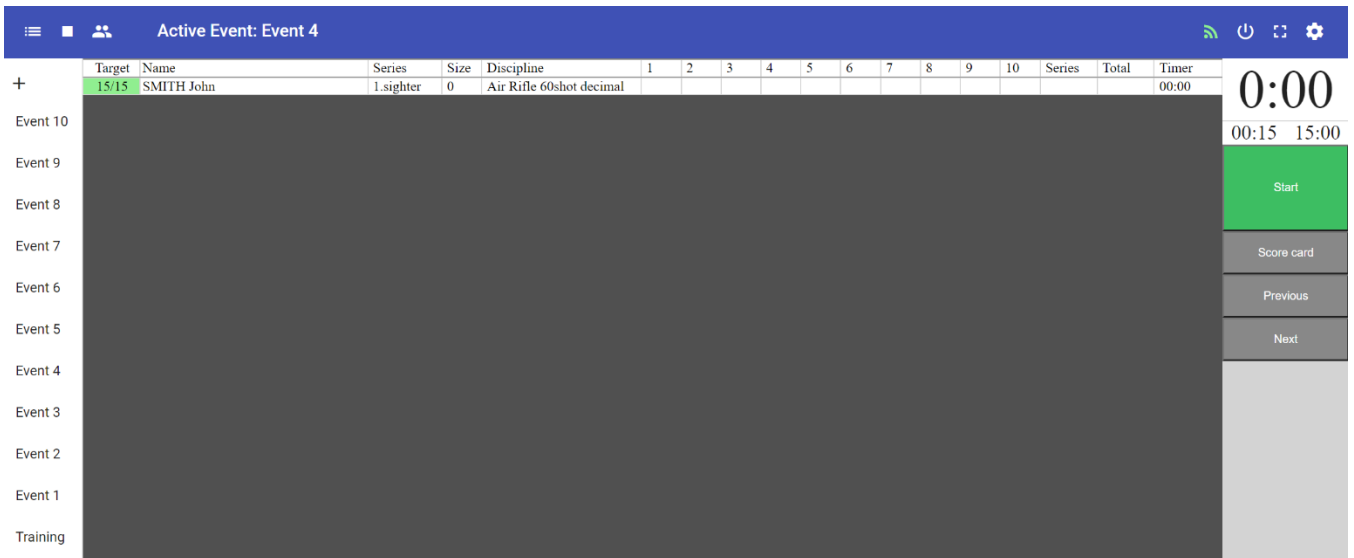
Right menu buttons:

Button “Score card” takes you to the shot edit menu,

Buttons “Previous” and “Next” changes the active series in event mode and changes which series you look at in practice mode.

Button “Start” starts/stops a timer on all lanes.

In the targets window you can click on the timer of a specific target to only start that timer. Right click on the header “Target”, or on a specific target to enter a menu for printing out scores, deactivating and unlocking targets.

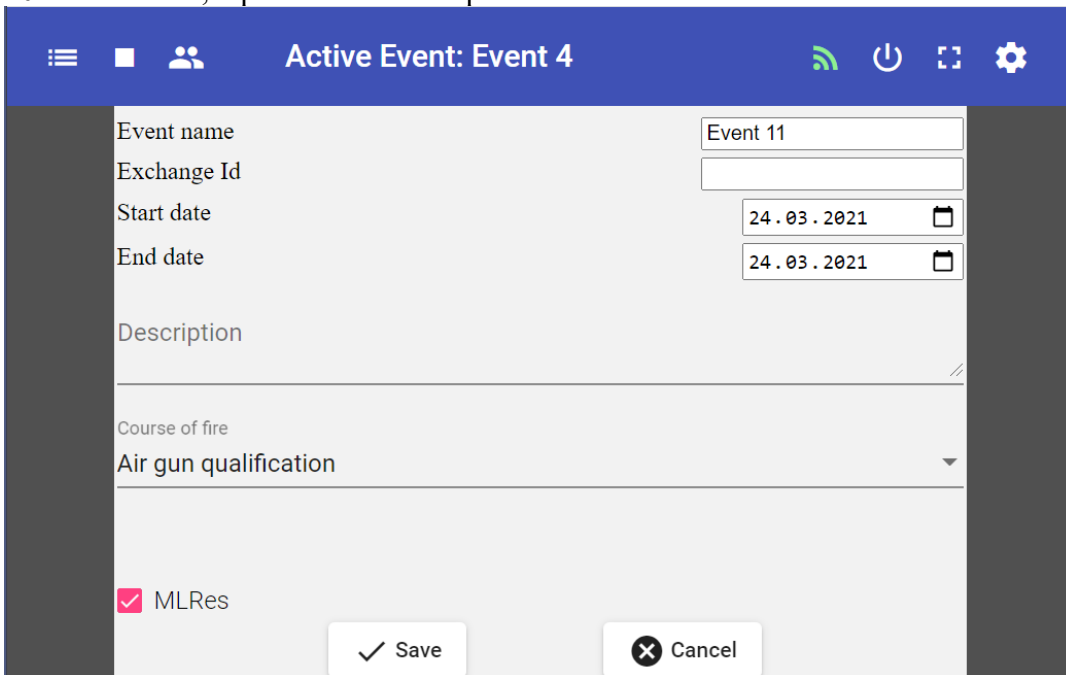


3.2 Practice

To select practice mode either select the square symbol on the left side of the top menu or select “Practice” from the left menu.

3.3 New Event

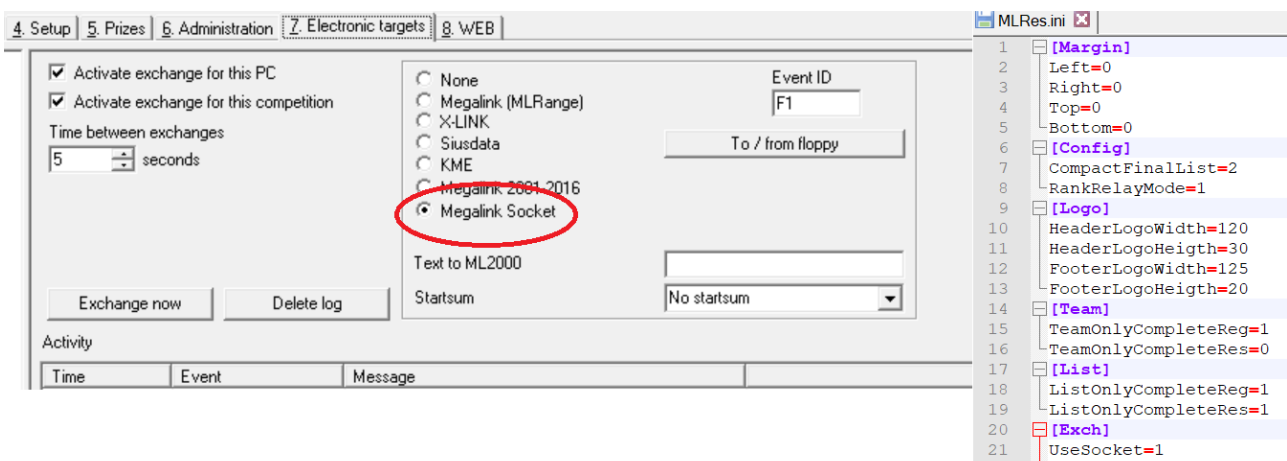
Click on the “+” symbol on the list of events on the left side of the main window. Select course of fire and click save. MLRes: Select course of fire, then discipline before clicking save. For ISSF 10m rifle finals, alphanumeric and spare lanes should be selected.



3.3.1 MLRes

If you are using MLRes select the MLRes box and enter the Event ID used in MLRes. In order to use MLRes, “Megalink socket” must be activated in MLRes by editing the MLRes.ini file found in the office folder. Add the following text as shown below: “[Exch] UseSocket=1“. Then you should be able to select Megalink Socket under “7.Electronic Targets”.

If MLRangeLite fails to connect to MLRes you may have to set the IP address manually as shown under chapter 2.2.1 for MLLive.



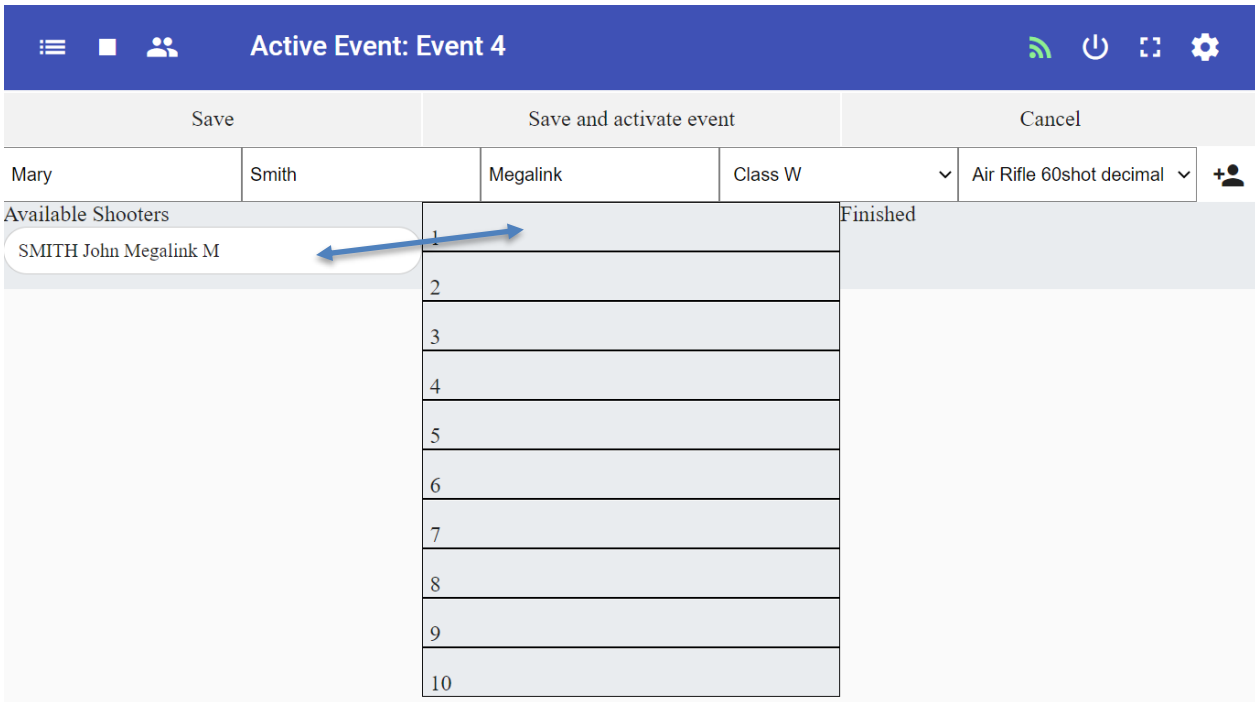
3.3.1.1 MLRes ISSF Final

For ISSF finals it is important to register shooters as shown in the example below, using alphanumeric lanes (A-H) for the eight shooters, club and class.

Lane	S.Nr	NSF ID	First Name	Family name	Club	Class
A	12	0	Bravo	B	ALB	M
B	3	0	Charlie	C	AFG	M
C	5	0	Delta	D	AND	M
D	7	0	Echo	E	ANG	M
E	6	0	Foxtrot	F	ANT	M
F	8	0	Golf	G	ARG	M
G	9	0	Hotel	H	ARM	M
H	10	0	India	I	ARU	M
I	0					
J	0					

3.4 Manage Shooters

Click the “Person icon” on the top menu. When MLRes is used for the active event, this symbol is green. Fill in name, club, class and pick a discipline from the list, then click the add shooter button to add a shooter to the “Available Shooters” list. You can then drag drop the shooter into a target in the middle. The shooter placed on a target will be the active shooter on that target after clicking save. Click “save and activate event” to save and activate a new event.

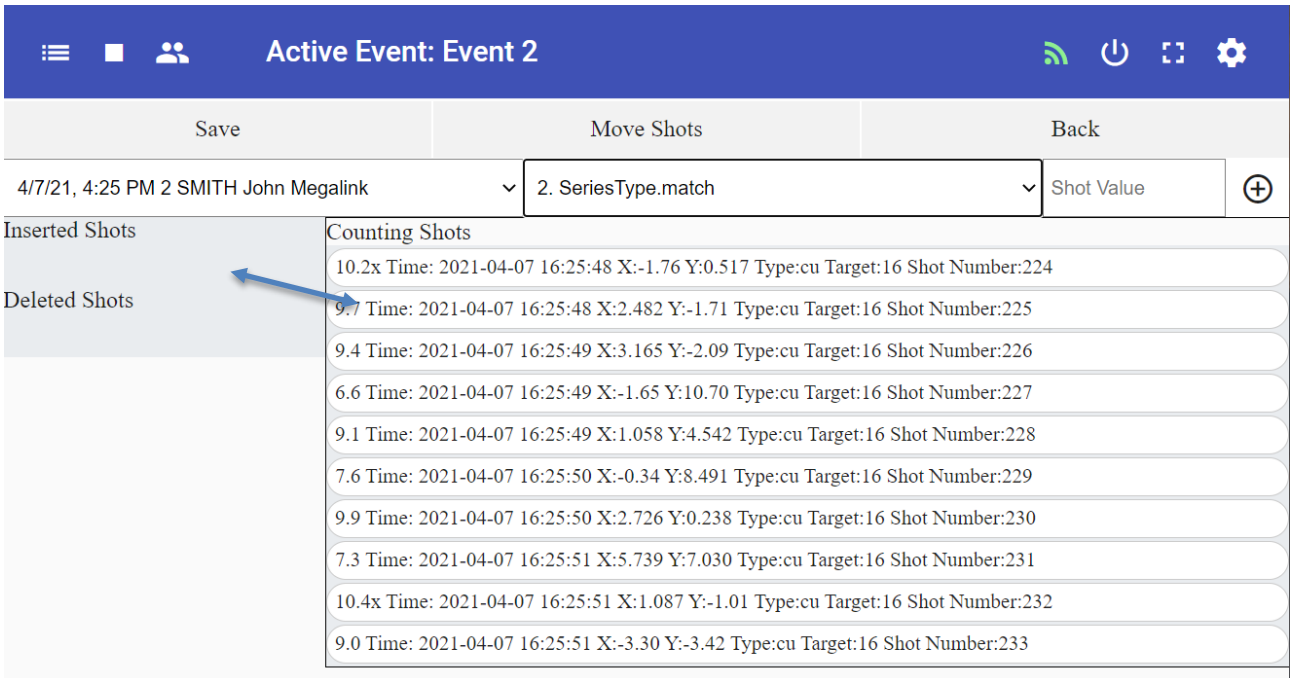



3.4.1 Manage Shooters MLRes

When using MLRes shooters are automatically moved into the targets. Two new buttons are available to switch between relays. Shooters of the selected relay are automatically moved to their target. Click save to activate. Shooters can be dragged onto a free target of a different relay. When creating a new MLRes event, click save and activate event. If MLRes exchange is active and connected to MLRangeLite, shooters should now be visible after a short while. If no shooters are visible, try using the button for manual exchange in MLRes (Exchange now). Look at the table below the button in MLRes to confirm activity.

3.5 Edit shots

In this menu it is possible to remove and add shots to a series, as well as changing the shot order. Select the shooter from the list. Then the series. Press the add shot button to add a new shot to the list. Shots can be drag dropped to the desired list and shot order.



Active Event: Event 2		
Save	Move Shots	Back
4/7/21, 4:25 PM 2 SMITH John Megalink	2. SeriesType.match	Shot Value 
Inserted Shots	Counting Shots	
Deleted Shots	10.2x Time: 2021-04-07 16:25:48 X:-1.76 Y:0.517 Type:cu Target:16 Shot Number:224 9.7 Time: 2021-04-07 16:25:48 X:2.482 Y:-1.71 Type:cu Target:16 Shot Number:225 9.4 Time: 2021-04-07 16:25:49 X:3.165 Y:-2.09 Type:cu Target:16 Shot Number:226 6.6 Time: 2021-04-07 16:25:49 X:-1.65 Y:10.70 Type:cu Target:16 Shot Number:227 9.1 Time: 2021-04-07 16:25:49 X:1.058 Y:4.542 Type:cu Target:16 Shot Number:228 7.6 Time: 2021-04-07 16:25:50 X:-0.34 Y:8.491 Type:cu Target:16 Shot Number:229 9.9 Time: 2021-04-07 16:25:50 X:2.726 Y:0.238 Type:cu Target:16 Shot Number:230 7.3 Time: 2021-04-07 16:25:51 X:5.739 Y:7.030 Type:cu Target:16 Shot Number:231 10.4x Time: 2021-04-07 16:25:51 X:1.087 Y:-1.01 Type:cu Target:16 Shot Number:232 9.0 Time: 2021-04-07 16:25:51 X:-3.30 Y:-3.42 Type:cu Target:16 Shot Number:233	

3.6 Move shots between series

It is possible to move a shot from one series to another. This may be necessary for example if the chief range officer has forgotten to place a shooter on the correct target before the shooting starts. Select the shooter from the list. Then the series. Same for both sides. Then you can drag a shot to the desired series. Enter window using the “Move Shots” button in the edit shots window.

Active Event: Event 13	
Save	Back
3/24/21, 5:05 PM 2 SMITH Mary Megalink	3/24/21, 5:05 PM 1 SMITH John Megalink
2. SeriesType.match	2. SeriesType.match
Counting Shots	Counting Shots
0.0 Time: 2021-03-24 17:06:43 X:17.23 Y:30.45 Type:simulate Target:2	3.6 Time: 2021-03-24 17:06:35 X:-7.87 Y:16.68 Type:simulate Target:1
0.0 Time: 2021-03-24 17:06:43 X:-5.10 Y:-64.5 Type:simulate Target:2	0.0 Time: 2021-03-24 17:06:36 X:-52.9 Y:-5.64 Type:simulate Target:1
9.1 Time: 2021-03-24 17:06:44 X:4.023 Y:2.423 Type:simulate Target:2	9.9 Time: 2021-03-24 17:06:36 X:1.421 Y:2.194 Type:simulate Target:1
8.0 Time: 2021-03-24 17:06:44 X:-7.08 Y:-2.11 Type:simulate Target:2	0.0 Time: 2021-03-24 17:06:36 X:78.08 Y:-16.2 Type:simulate Target:1
0.0 Time: 2021-03-24 17:06:44 X:-64.7 Y:-14.1 Type:simulate Target:2	0.0 Time: 2021-03-24 17:06:37 X:-78.0 Y:48.28 Type:simulate Target:1
0.0 Time: 2021-03-24 17:06:45 X:16.70 Y:-30.1 Type:simulate Target:2	5.3 Time: 2021-03-24 17:06:38 X:-14.2 Y:-0.29 Type:simulate Target:1
5.7 Time: 2021-03-24 17:06:45 X:-0.07 Y:13.13 Type:simulate Target:2	4.9 Time: 2021-03-24 17:06:39 X:13.09 Y:7.552 Type:simulate Target:1
1.2 Time: 2021-03-24 17:06:46 X:21.87 Y:-10.9 Type:simulate Target:2	1.9 Time: 2021-03-24 17:06:39 X:0.363 Y:-22.5 Type:simulate Target:1
0.0 Time: 2021-03-24 17:06:46 X:-21.7 Y:-20.5 Type:simulate Target:2	3.4 Time: 2021-03-24 17:06:40 X:-4.38 Y:18.44 Type:simulate Target:1
9.6 Time: 2021-03-24 17:06:46 X:-2.74 Y:-1.92 Type:simulate Target:2	0.0 Time: 2021-03-24 17:06:40 X:-7.92 Y:-63.0 Type:simulate Target:1

4 Usage MLRangeLite Client / Monitor

To enter the start window connect to the same network as the server computer and enter the URLs specified in the next sections. Using the latest version of chrome browser your can create a QR code by right clicking in the window and selecting “generate QR code for this window. This can be printed out and used on the shooting range for simple connection to either the general start window, a specific start window (start window for specified target), or directly into a specific target monitor.

4.1 Start window training mode

4.1.1 General start window

Use URL: “<IP address for server computer>/client/start” for example “192.168.2.10/client/start”. By clicking on a target you can select pistol or rifle, then decimal or integer. If it is red, someone has already selected it. It is possible to take over a target that is occupied, see section “Takeover”.

Enter your name and select target

1

2

4.1.2 Specific start window

Use URL: “<IP address for server computer>/client/start/1” for example “192.168.2.10/client/start/1”

Here we specify that this start window is only for target nr 1. By clicking new you can select pistol or rifle, then decimal or integer. It is also possible to select an old score card by selecting continue. If it is red, someone has already selected it. It is possible to take over a target that is occupied, see section “Takeover”.

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Pistol</td> <td style="padding: 2px;">▶</td> <td style="padding: 2px;">Integer</td> </tr> <tr> <td style="padding: 2px;">Rifle</td> <td style="padding: 2px;">▶</td> <td style="padding: 2px;">Decimal</td> </tr> </table>	Pistol	▶	Integer	Rifle	▶	Decimal	<p style="font-size: 24px; margin: 0;">John Smith</p>
Pistol	▶	Integer					
Rifle	▶	Decimal					
<p style="font-size: 24px; margin: 0;">New</p>							
<p style="font-size: 24px; margin: 0;">Continue</p>							

4.2 Start window event mode

Use URL: “<IP address for server computer>/client/start” for example “192.168.2.10/client/start”. Click on a target to select it. If it is red, someone has already selected it.

Select Target/Shooter
1 SMITH John
2 SMITH Mary

4.3 Monitor training

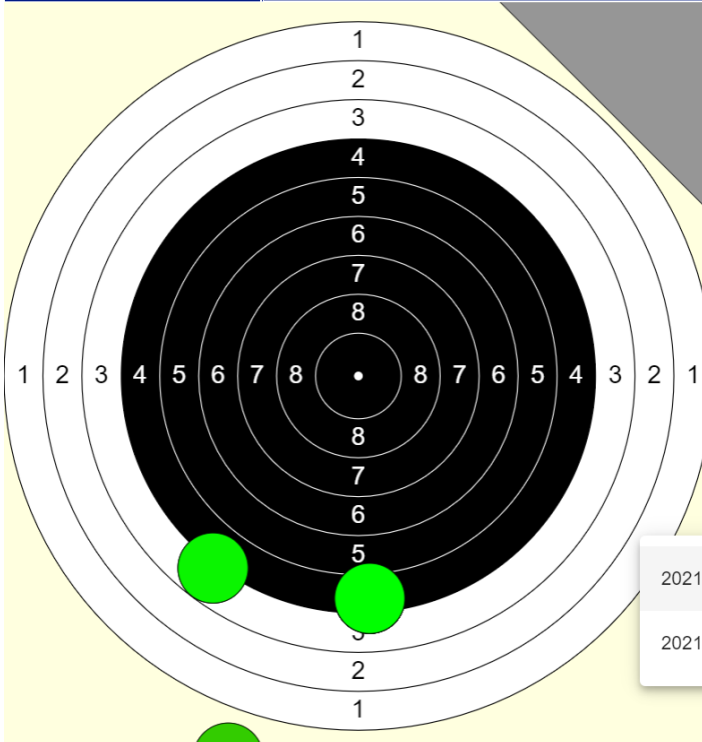
Use URL: “<IP address for server computer>/client/lane/<target number>” for example “192.168.2.10/client/lane/15” to enter a monitor directly without going though the start window. The latest card will then be selected.

To change series, either use one of the buttons or swipe left/right with your fingers. You can zoom though predefined levels using the zoom button or use two fingers to zoom. From the menu button you can print out your scorecard using the default printer on the server computer selecting “Print scorecard”, “Select old scorecard”, go back to the start windows selecting “New shooter”, or make a new score card copying the existing active card by selecting. “New card”. Double click the window to enable full screen.

15

Mary Smith

ISSF Air Rifle 60shot integer



1.Series sighter			
1.	5.2	↓	6. 0.0 ↓
2.	0.0	↓	7. 0.0 →
3.	0.0	↓	
4.	0.0	↓	
5.	4.8	↙	
Shot 7:			4.7 ↑
0.0			07.0 →
Total			0.0

2021-03-24 22:57:34 - Mary Smith
 2021-03-24 22:56:45 - John Smith

Print scorecard
 Select old scorecard ▶
 New shooter
 New card

Zoom

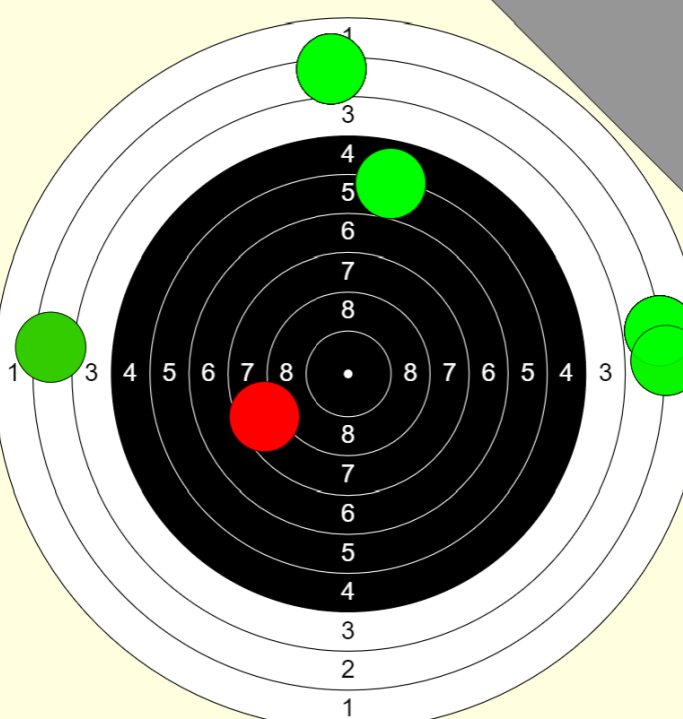
Previous Series

Next Series

Menu...

4.4 Monitor event mode

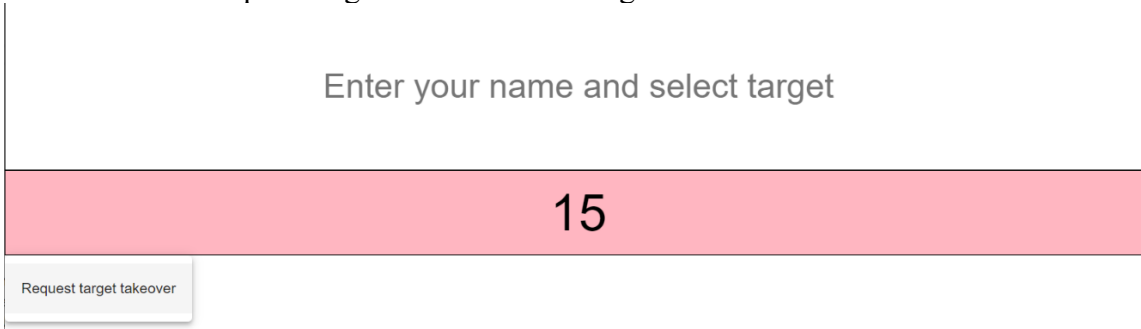
Use URL: “<IP address for server computer>/client/start” for example “192.168.2.10/client/lane/2” to enter a monitor directly without going through the start window. If the chief range officer has moved a shooter to this target the monitor will be displayed. If no shooter is active on this target, you will be returned to the start window. You can zoom through predefined levels using the zoom button or use two fingers to zoom. Double click the window to enable full screen.

2	SMITH Mary ISSF Air Rifle 60shot decimal	Disconnected
	1.Series sighter	
	1. 0.0 ←	6. 6.0 ↑
	2. 2.9 →	7. 0.0 →
	3. 3.1 ↑	8. 2.8 →
	4. 0.0 ↓	9. 3.3 ←
	5. 0.0 ↑	10. 8.5 ←
	Shot 10:	
	8.5	
	2.7 ↓ 5.4 ← 153.8m/s	
	Total	
Zoom		

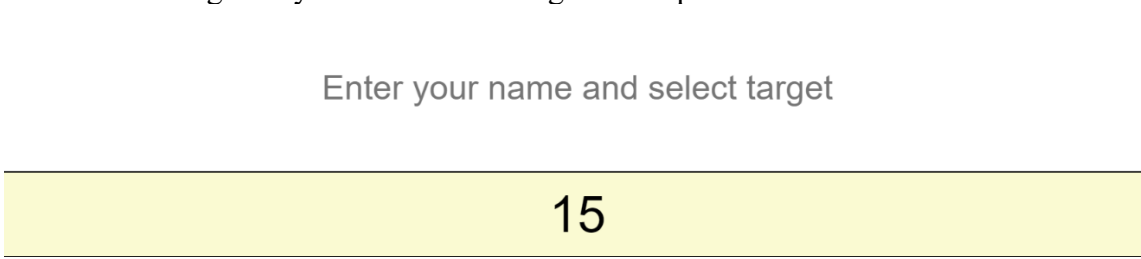
4.5 Target Takeover

A brief overview of the takeover sequence:

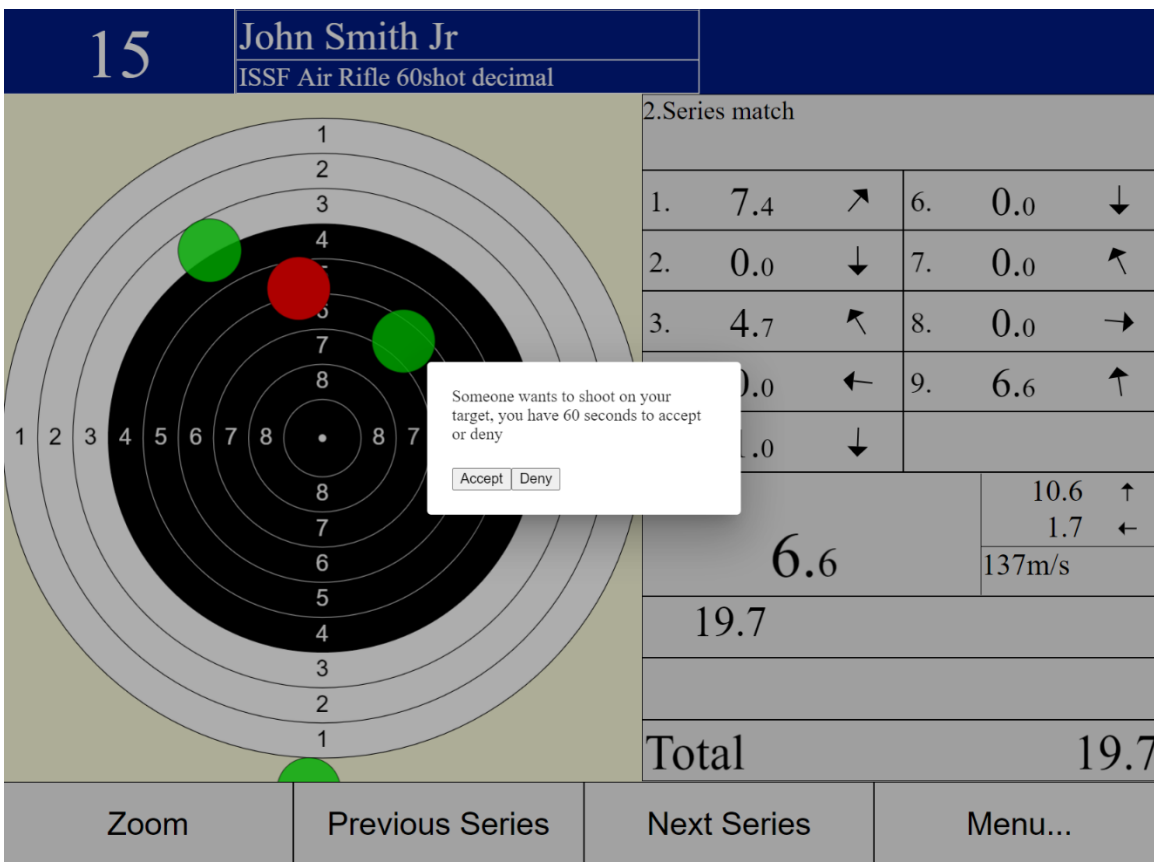
1. User select “Request target takeover” on a target in red.




2. Color is changed to yellow while waiting for a response.



3. Monitor has got 60 seconds to deny the request. After 60 seconds it is automatically accepted. This is only possible after the shooter has been inactive for a while, so while shooting actively there will be no nagging.



15	John Smith Jr ISSF Air Rifle 60shot decimal			
		2.Series match		
		1. 7.4 ↗	6. 0.0 ↓	
		2. 0.0 ↓	7. 0.0 ↖	
		3. 4.7 ↖	8. 0.0 →	
		4. 0.0 ←	9. 6.6 ↑	
		5. 0.0 ↓		
		6.6	10.6 ↑ 1.7 ←	
		19.7	137m/s	
		Total		19.7
		Zoom	Previous Series	Next Series
		Menu...		

4. If takeover has been granted the color changes to green and the user can continue as normal. When selecting discipline or an old card the active shooter will be returned to the start window.

Enter your name and select target

15

4.6 Removal of takeover lock

In normal situations, the target lock will be removed whenever a shooter exits the monitor window or disconnects from the server. If this does not happen, it is possible to remove the lock by right clicking on the target in the target window and selecting “unlock selected target”, or “deactivate selected target” which both unlocks and deactivates.