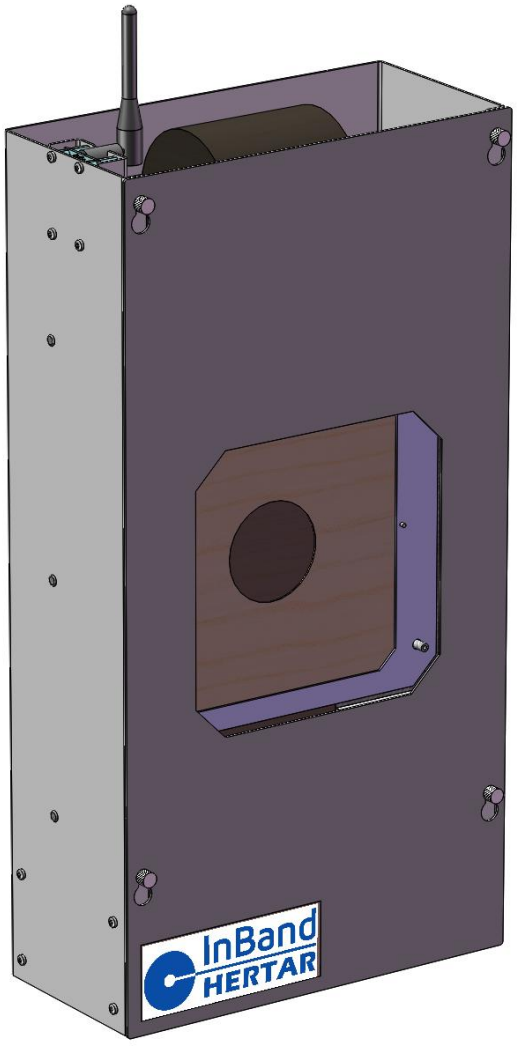
Inband AIR

Electronic Scoring Target

- User Manual



Sales: line.teppdalen@inband-hertar.com

Inband products and accessories link: Shooting Range Equipment store

InBand HERTAR OY
Keskiruskonkatu 8 B1b 33720 Tampere

Table of Contents:

1. How to set up an InBand Air 3
1.1. Package Contents 3
1.2. Mounting InBand Air 4
1.3. Assembling of the target masks and the control sheet 5
2. Download the Software and Establish Connection 7
2.1. Connecting with USB cable 7
2.2. Connecting with Bluetooth® 7
2.3. Connecting with Ethernet + WIFI connection 9
2.3.1. Inband Scoring v5 9
2.3.2. Inband Scoring v4 10
3. Inband Scoring 12
3.1. Launching InBand Scoring software for the first time 12
3.2. Inband Scoring Settings 15
3.2.1. Shooter Settings 15
3.2.2. Connection Settings (for Remote Control) 15
3.2.3. Hardware Settings 15
3.2.4. Detection Thresholds 16
3.3. Practice Mode 16
3.4. Competition Mode 17
3.5. During Shooting 17
3.6. Once You Finish Shooting 18
3.7. Ammunition Testing 20
3.8. Logging 23

1. How to set up an InBand Air

1.1. Package Contents

The basic delivery of InBand Air system contains:

1. electronic target
2. front door
3. power source
4. 15-meter USB cable (USB model only)
5. target frame
6. control sheet roll
7. target faces (5pcs air rifle, 5pcs air pistol) starter pack.

Optionally InBand Air may be delivered also with a Bluetooth® or Ethernet module.

If the InBand Air is delivered with the .22 small bore shooting option (InBand Air 22LR), it will contain also:

1. bold front door
2. a plastic target mask (small bore rifle)
3. an Ethernet or Bluetooth® module

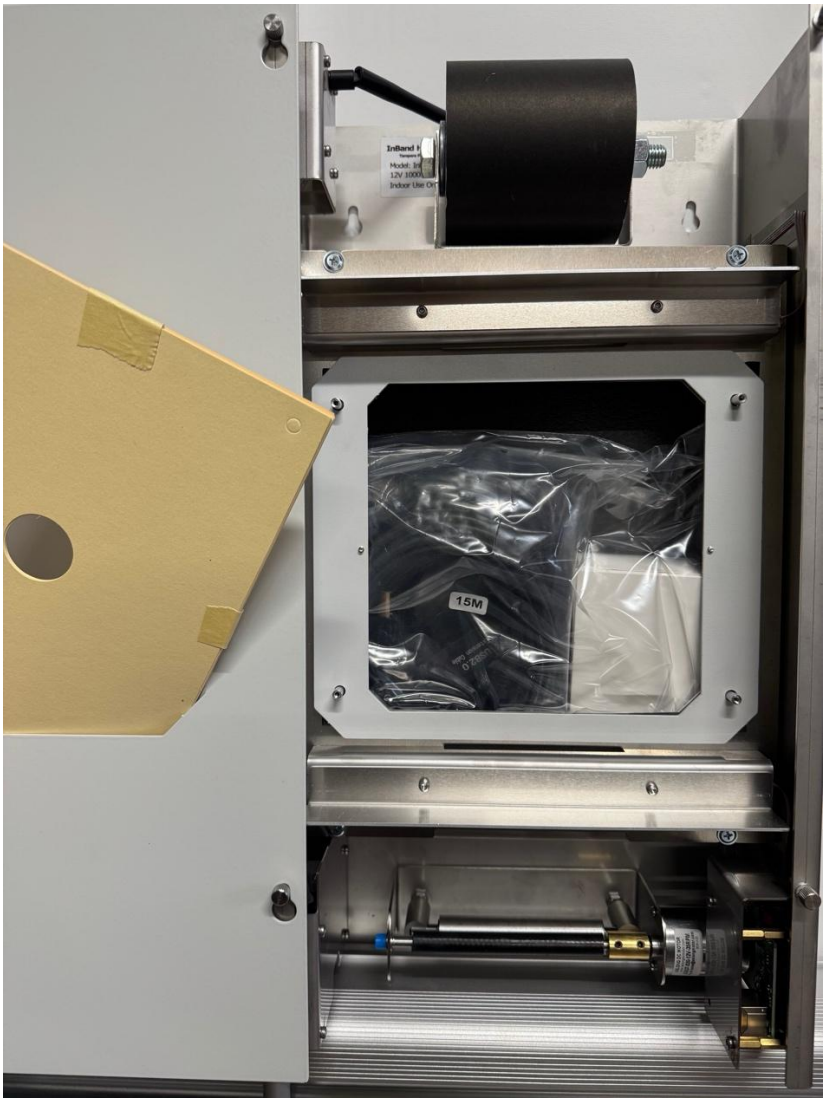


Figure 1. Composition of Inband Electronic Scoring Target.

1.2. Mounting InBand Air

An InBand Air is easy to mount on the fixed or a non-fixed wall in a shooting range. On the back side of the EST device there are two assembly holes for attaching screws. The holes are 200 mm apart. The mounting screw should be placed 160 cm above the firing point level (normally the same height also from the floor near target area) in order to have the target center at a height of 140 cm.

A bullet catcher is also needed to mount your InBand Air. The normal delivery does not include a bullet catcher. If you mount the InBand Air or InBand Air 22LR to an old shooting range with paper targets you can utilize old bullet catchers. Keep in mind that bullet shrapnel might damage the electronics.

Additionally, if it is not possible to mount the target (via bullet trap) on the wall, we have a very stable stand available that is designed in house for our Inband Air target.

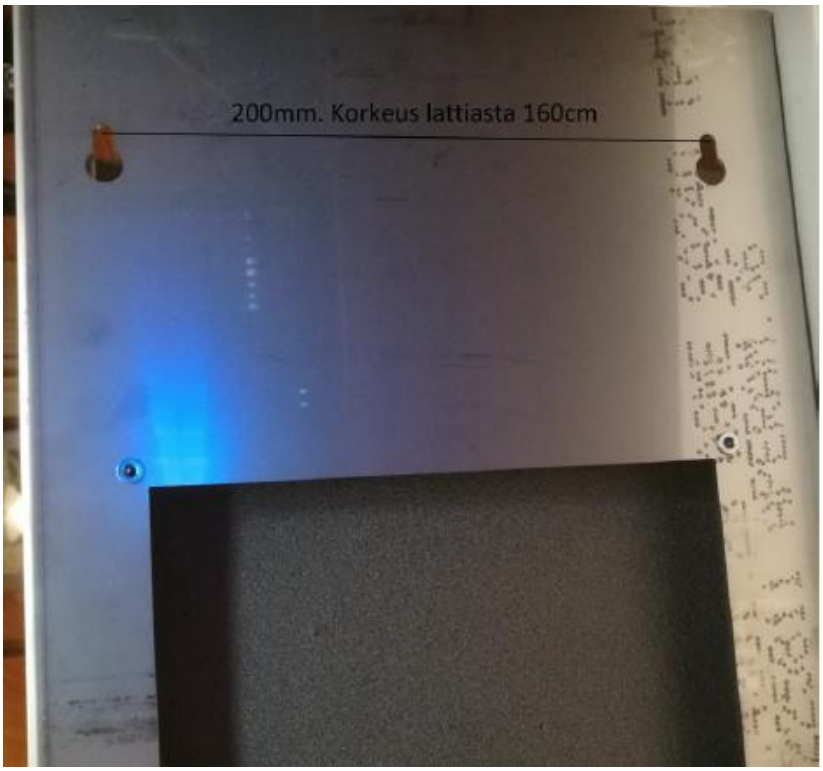


Figure 2. Mounting holes on the back of Inband Air.

1.3. Assembling of the target masks and the control sheet

The easiest way to get an InBand Air ready to shoot, is to follow next steps:

1. Hang an InBand Air to the mounting screws. Connect the USB and power source cables (Figure 3). Switch on the power and the LEDs will light up.

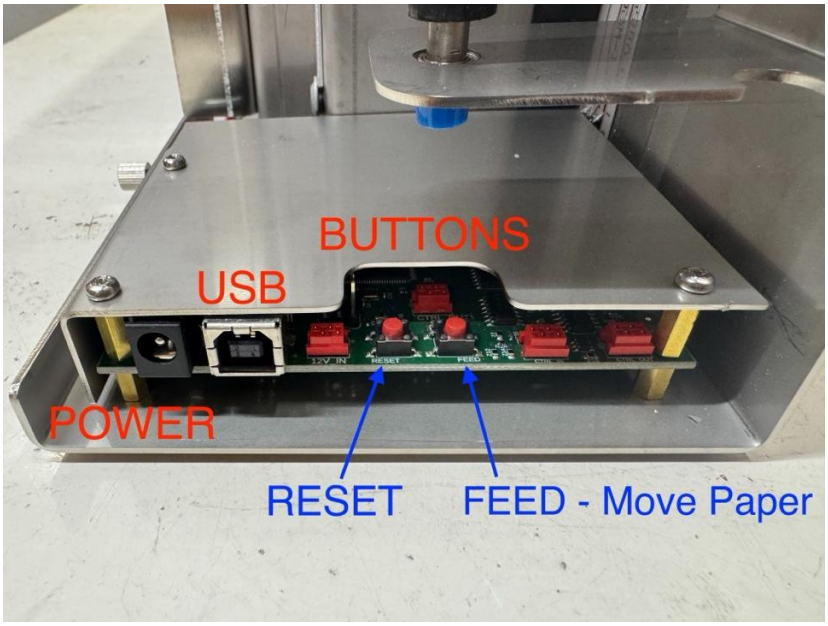


Figure 3. Main Board connection ports and buttons.

2. Put first an air pistol target as a base target card. That will help the control sheet to move easier. You do not need to change this normally between shooting sessions (Figure 4).

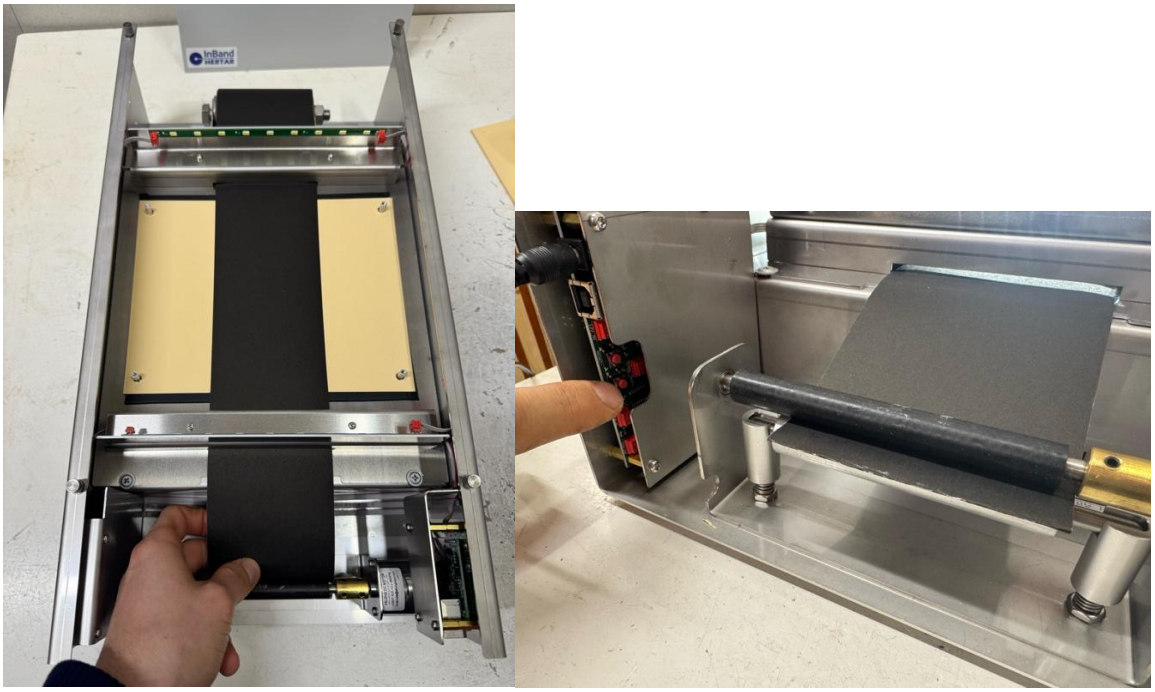


Figure 4. Installation of base paper mask and black paper roll.

3. Assemble the control sheet roll (loose strip to the front) onto the mount on the top of the EST device (Figure 4). Slide the control sheet trough upper and lower gaps until it reaches the motor. Then push the red motor driving button (Figure 3). Help the control sheet move forward with one hand when pushing the button. Tighten also the nut on the control sheet mount so that the control sheet will not roll too excessively.

4. Lay a valid target mask (rifle or pistol) and a metallic target fixing plate to the target base. The target fixing plate is a self-attaching to the EST frame by small magnets (Figure 5).

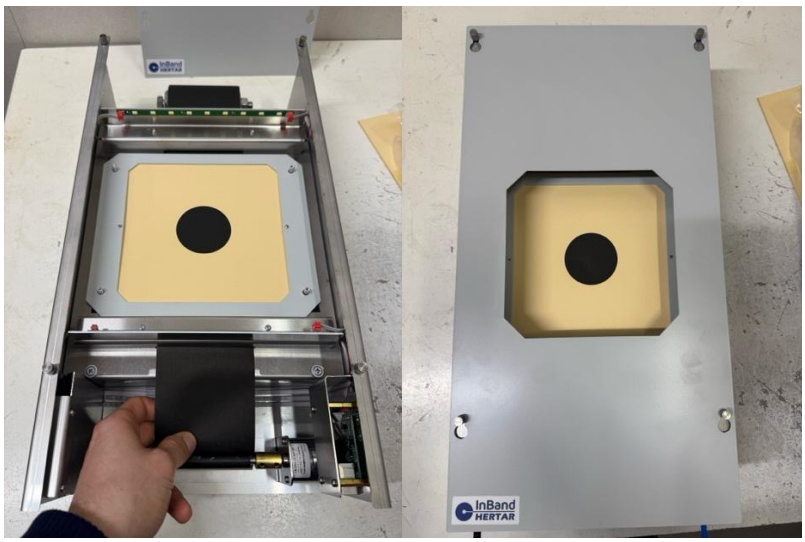


Figure 5. Target mask placement with metal frame (left) and front door installed (right).

5. Finally, hang a front door onto the thumbscrews in the front of the EST device (Figure 5) and tighten the screws with your fingers. The InBand Air is now ready for shooting.

2. Download the Software and Establish Connection

Inband Scoring Software is used to control the scoreboard and display shooting results.
The latest version of the software is available for download at our website. Visit https://www.inband.fi/downloads or https://downloads.inband.fi/ to download the latest software.

When downloading the package, please note that the security software installed on your system may issue warnings that need to be accepted.

2.1. Connecting with USB cable

When connecting to the target via a USB cable, it is required to also install the USB driver, which is also available on our website.

Once the driver is installed, connect the USB cable to the target (TODO IMAGE REF) as well as the computer, and you are ready to turn on Inband Scoring software.

2.2. Connecting with Bluetooth®

When InBand Air is used via Bluetooth®, a computer and a Bluetooth® must be paired before shooting activities.

Bluetooth® settings is easiest done in the Windows 10 operating system by writing “bluetooth” into the search box (Figure 6) and opening the result “Bluetooth and other devices settings”.

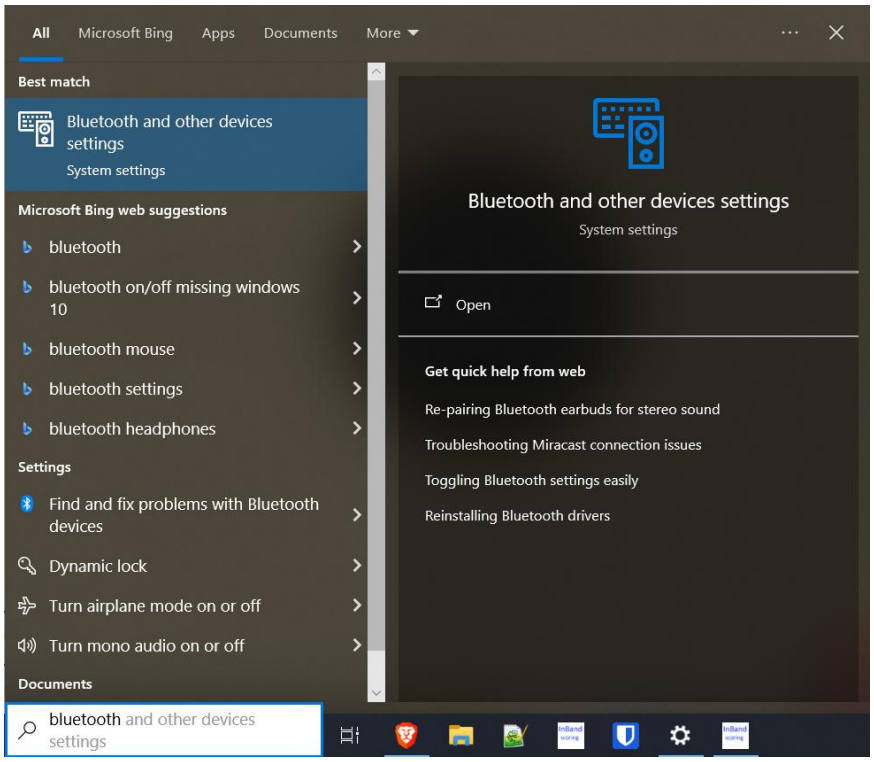


Figure 6. Opening the Bluetooth® settings on Windows 10 operating system.

In the Settings screen choose “Add Bluetooth or other device” and choose “Bluetooth” as your device type as seen on Figure 7.

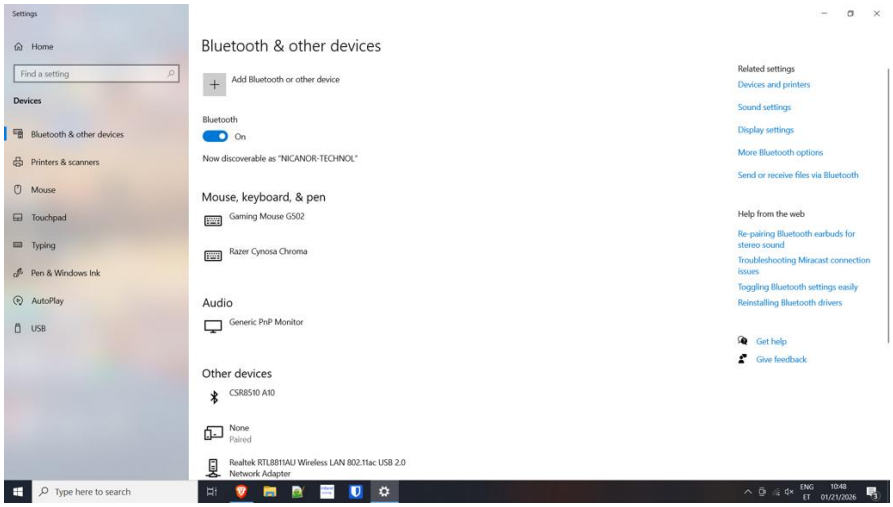


Figure 7. Bluetooth Settings.

After a moment of waiting, your target(s) will appear and the device names start with “IBH” followed by 10 numbers (eg. IBH2025053015). Choose the target which you want and the connection will be established. First time connection could take a minute or two, so be patient.

In case a pairing code is displayed, just choose “Pair” and the connection will be established.

Once the target is connected, you will see a confirmation (Figure 8) and you can proceed to the next step.

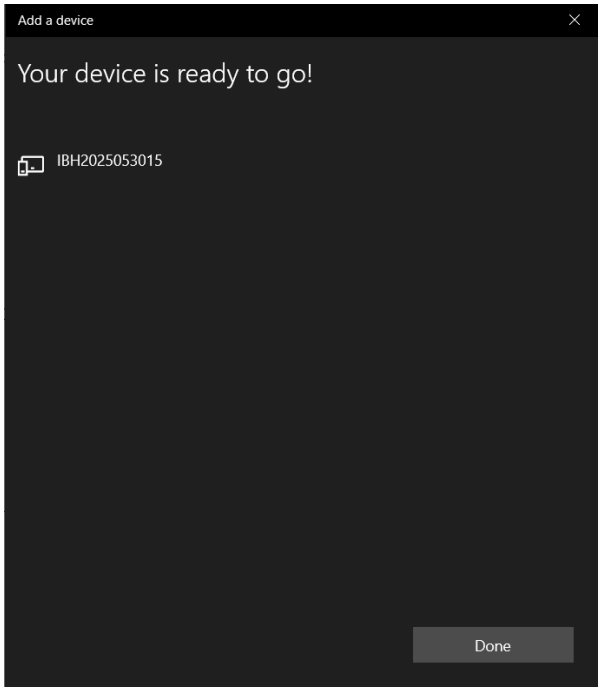


Figure 8. Inband target successfully connected.

Please note in Windows 11 there might be some connection issues. That can be fixed by changing the ‘’Bluetooth device searching’’ – option to Advanced.

2.3. Connecting with Ethernet + WIFI connection

In order to be able to connect to an Ethernet target, the computer must be connected to the same network with the target. While the target must be connected with an ethernet cable to the Ethernet port, but the computer can be connected either by WIFI or Ethernet cable.

Once the target and computer are setup in the same network, open Inband Scoring software.

2.3.1. Inband Scoring v5

Start the Inband Scoring software and the software will start a search for all the available targets on the right side of the screen as seen on Figure 9. Select a target you wish to use and click “Connect”. The software displays both the IP address as well as the MAC address of the target device along with the target type and the firmware version. In case you have multiple targets and are in doubt which one is the correct one, you can use the “Blink” button in order for the lights on the target to blink to help identify which lane the target is on.

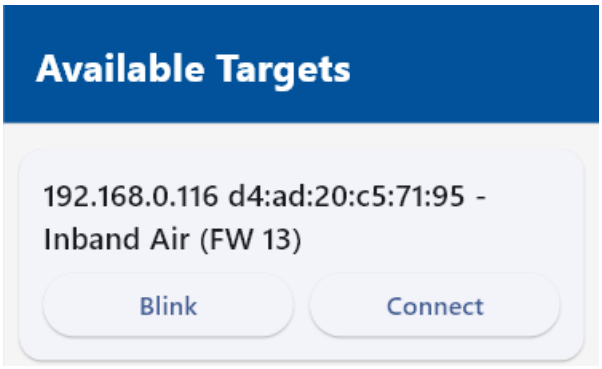


Figure 9. Connecting to an ethernet connection target.

In case you connect to the wrong target, there is also a “Disconnect target” button available on the top right menu.

In case of any connectivity issues, try the following troubleshooting steps:

a) Ping the target on the network via the targets IP address

b) Check and ensure Inband Scoring software allowed through the firewall on your computer

c) Are the computer and target in the same subnet?

d) Are broadcast messages allowed in the network?

2.3.2. Inband Scoring v4

In case you need to use our old software with Air -E WIFI model, the USR-VCOM software (USB stick) must be installed on the computer.

This software creates a virtual serial port connection for the computer ("COM Port"), that is, the Inband Scoring software does not even "know" that the connection goes over the Intranet network and not via a USB cable.

You can download the software online (for example USR-VCOM v3.7.2.529), or feel free to ask from us in case you are unable to locate it. Install and start the software.

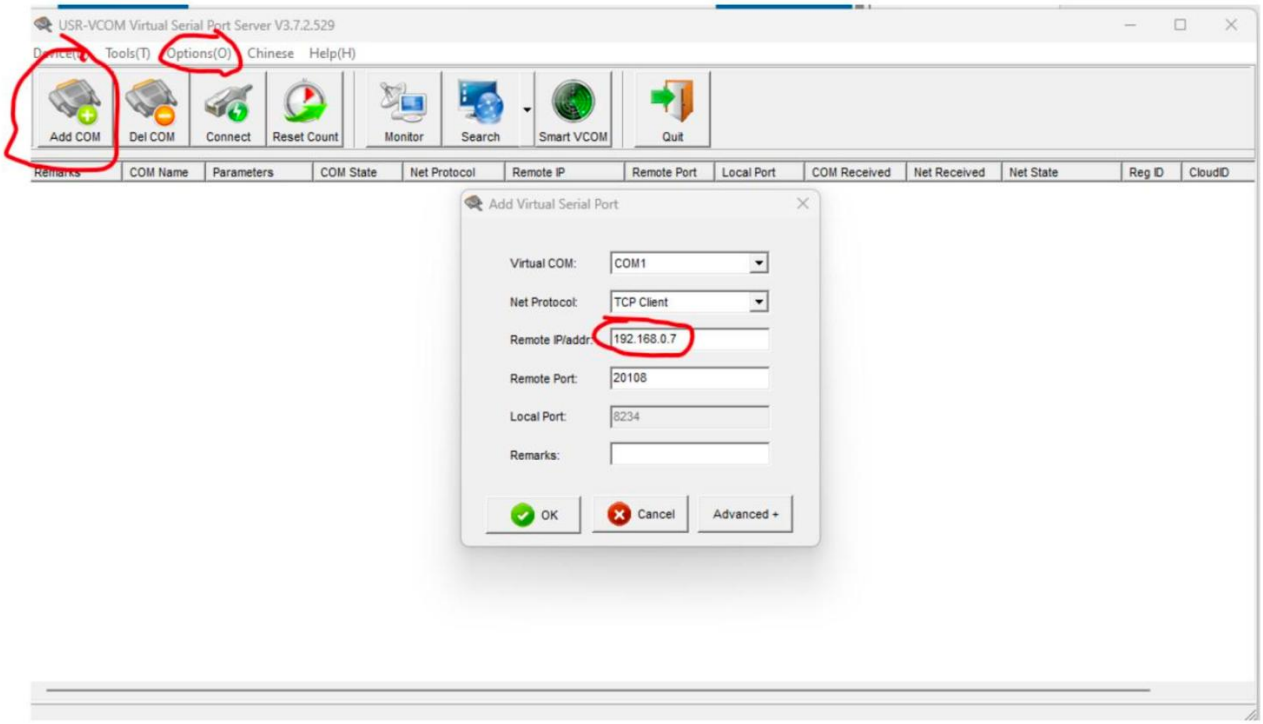


Figure 10. Adding a virtual serial port to the USR-VCOM program.

Adding a virtual serial port is a quick operation and is done from the "Add COM" button (Figure 10). The only setting that is practically required is setting the IP address of the tablet device. It consists of the number 192.168.0.XXX where XXX is replaced by the number written on the Inband Air. You can see the establishment of the connection in the "Net State" field of the status window, where the text "Connected" appears.

In the “Options” menu you can additionally configure the software with the following possibilities:

a) Autorun – start the program automatically when the computer is started
b) Run in Background – hide the program from the user menu

In order to use these, the software asks permissions to start a system service. Give the permission to use these options.

You can proceed with opening the Inband Scoring v4 software.

3. Inband Scoring

3.1. Launching InBand Scoring software for the first time

Before starting the InBand Scoring software, check that the target is connected to your computer via one of the connection methods outlined in Section 2 above.

When you start the software, you might see an additional security confirmation similar to the one on Figure 11. Click on the “More info” link and then the “Run anyway” button to start the program.

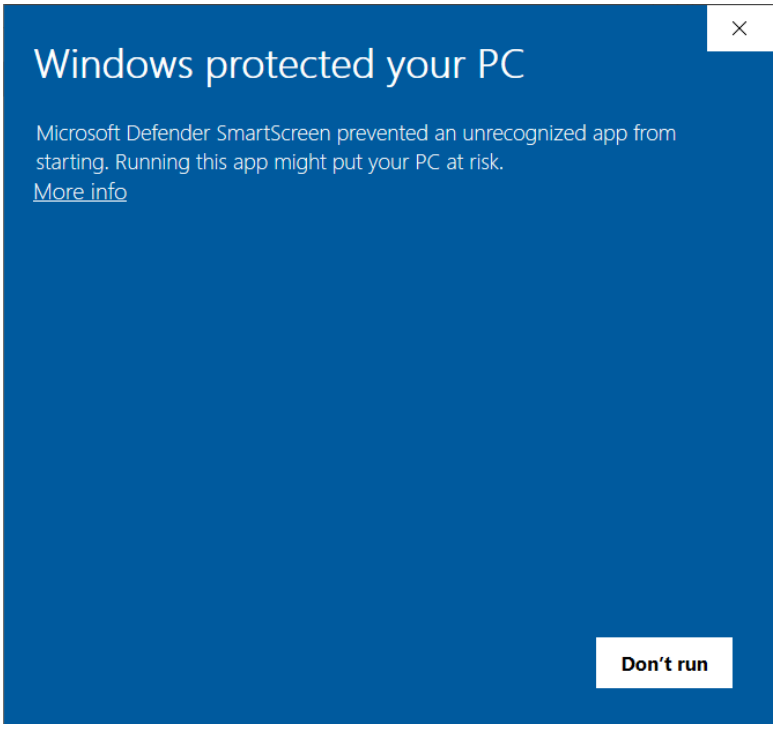


Figure 11. Windows security notice.

When you start an InBand Scoring program, the software is automatically searching an Inband target. On the first time this might take a while and is indicated by “Failed to connect to: COMX, continuing to search…” or similar text as shown on Figure 12. Next time the searching time is much shorter.

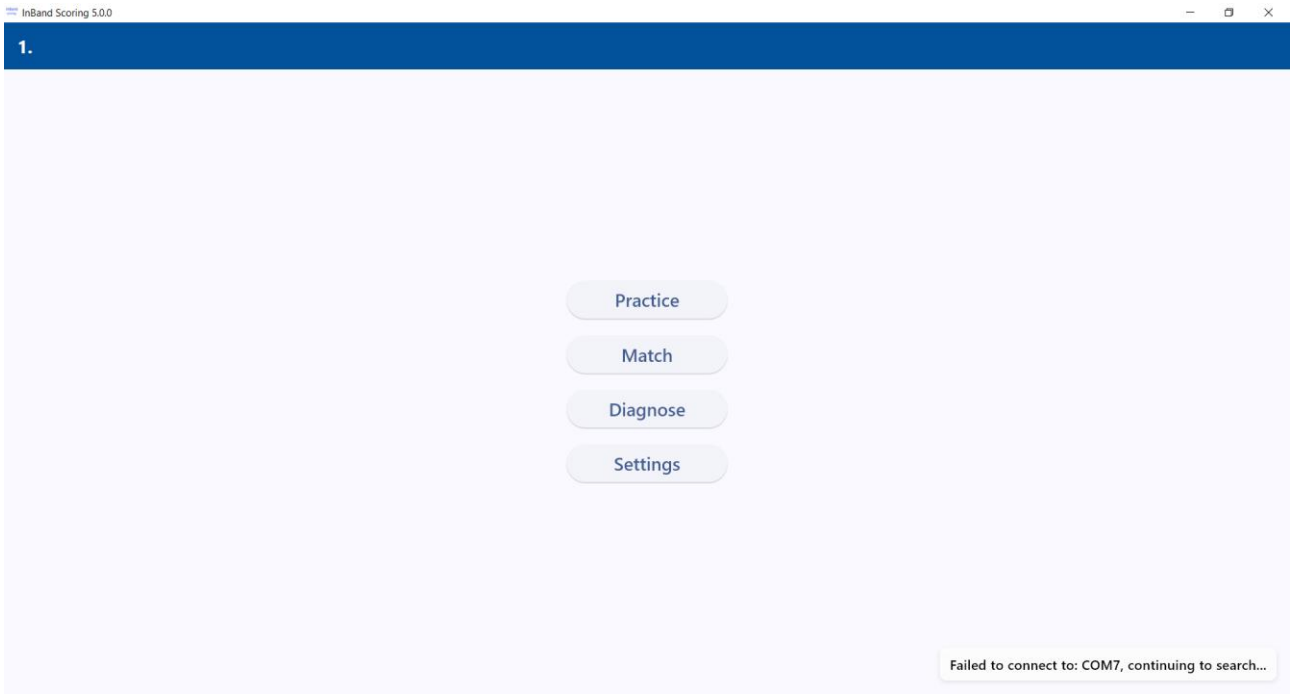


Figure 12. Inband Scoring - first time startup and search for target.

After the connection is established, you can see additional details on the top right like on Figure 14. It displays the following details:

a) Target model

b) Target firmware version

c) Target address (COM port or IP address)

d) Connection type (USB, BT, ETH)

Additionally, there are 2 buttons in the same area: “Disconnect target” and “blink target lights” as seen on Figure 13 and Figure 14.

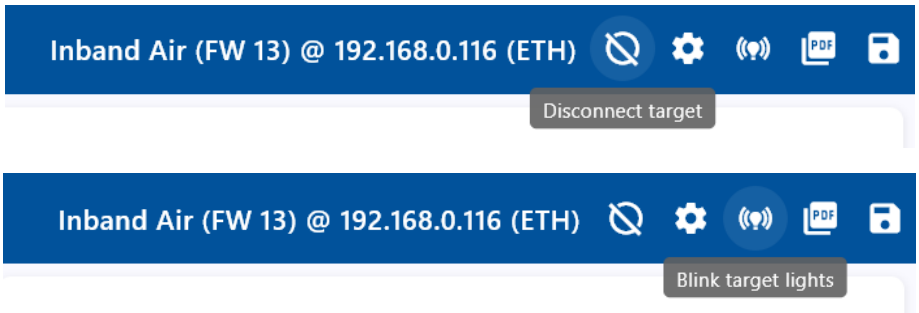


Figure 13. Disconnect target and Blink target light buttons.

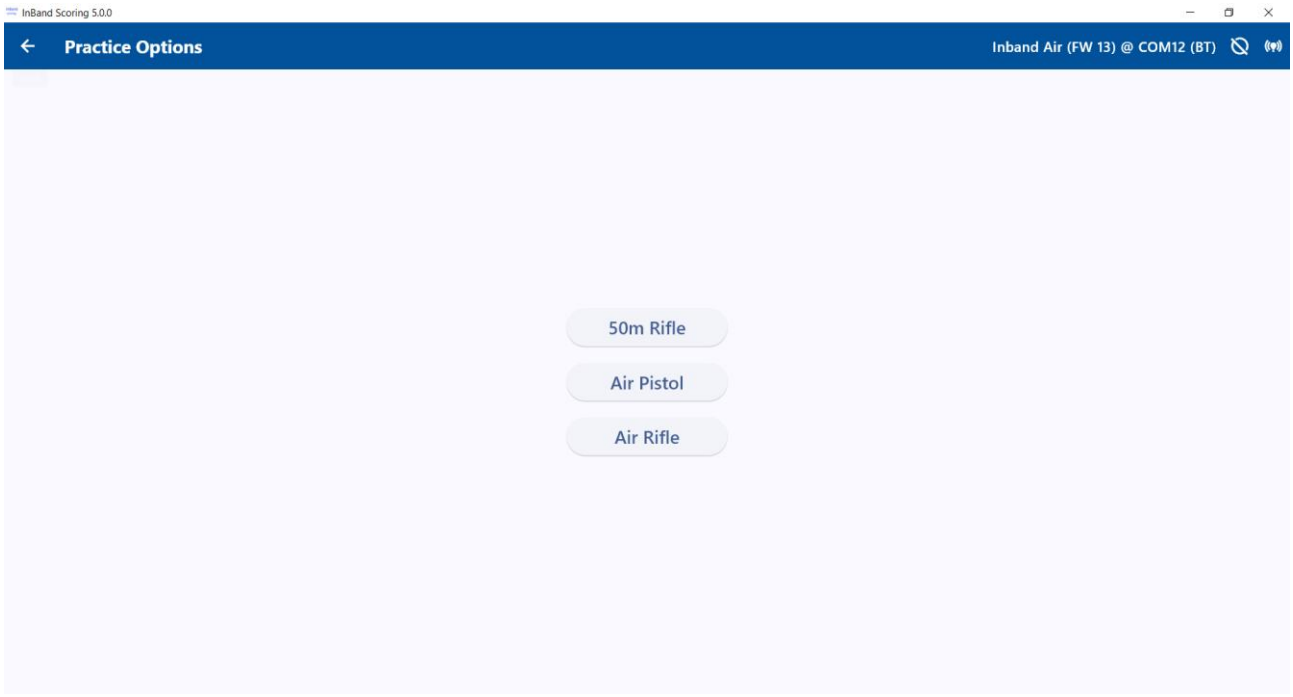


Figure 14. Inband Scoring - connected target details.

In case the computer is connected to a network, after Inband Scoring has started up – there might be an additional Security alert from your firewall (Figure 15). If you are using an -E WIFI (Ethernet) model target or wish to control the targets from a central computer, you must allow connections to reach Inband Scoring for your network. Please make sure you enable correct network type(s) – public and/or private. When unsure, add checkboxes in front of both and click the "Allow access" button.

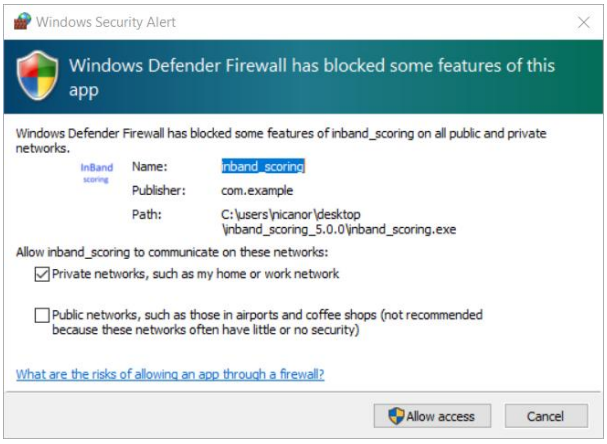


Figure 15. Sample of Windows firewall notice.

3.2. Inband Scoring Settings

InBand EST settings can be defined in the Settings box (Figure 16). These settings are saved automatically, and the software will recall them later.

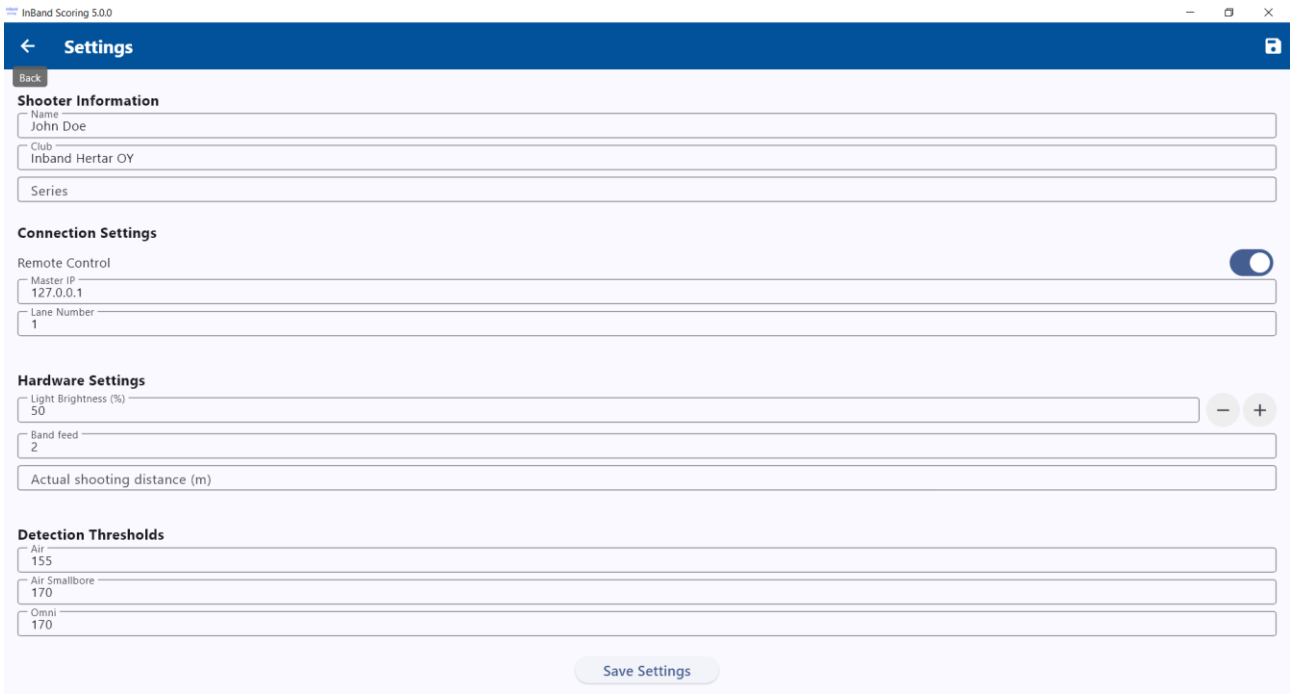


Figure 16. Inband Scoring Settings.

3.2.1. Shooter Settings

Name: Shooter Name

Club: Shooter Club

Series: Event Type (with shot count)

3.2.2. Connection Settings (for Remote Control)

Master IP: When using with external control software, this is the IP address of the main computer

Lane Number: Firing point number

Allow remote control: If this function is on, it is possible to control a target remotely. This should only be enabled during competitions or when you choose to control the computer and target from a central computer. It is possible to enable/disable the remote control using the toggle on the right side of the screen.

3.2.3. Hardware Settings

Light Brightness (%): The lighting level of the target device can be adjusted between 0 and 100. You can type in the value or use the plus and minus icons on the right side.

Band feed: The movement of the black paper after every shot. The step size can be adjusted between 1 and 9. By default, number 1 moves the verification tape about 1 centimeter, which is usually sufficient for training purposes. If the targets accuracy is fully utilized, the steps of the black paper should be long enough to avoid shooting into the same hole. In practice, the accuracy difference is less than 1 millimeter if the bullet hits the old hole. Factory value is 2.

Actual shooting distance (m): The actual shooting distance can be specified. Enter the actual distance value in meters. For example, if shooting 50m rifle on a 25m, you would enter 25m. When shooting the event at the designated distance, leave this blank. By default, this value is blank, meaning the default distance for the event is used.

NOTE: Every time you change the shooting distance, this value must be changed (or removed, if going back to the correct distance for the event).

3.2.4. Detection Thresholds

This sets the detection threshold for the microphones used to detect shots. The factory value is 155. A higher value here makes the target slightly less accurate but more resistant to external loud noises. Outdoors, a typical value is around 160-170, while shooting on small indoor ranges, the value can be increased up to 210.

There are several options – one for each of our target types – and a value can be specified for each target type individually.

After making changes to any settings, please use the Save Settings icon on the top right or bottom middle, otherwise the changes will not take effect.

3.3. Practice Mode

When the InBand target is connected to the computer, you can start training. You can open “Practice” mode on the main screen. In the Practice Settings window, select the target type and you can start shooting.

Practice mode allows for unlimited shots and the sighters can be started at any point in time. The printout is available to be printed at any time, but please keep in mind the sighting shots are not included on the printout.

When InBand Scoring opens the target graphic, you can start shooting. The target graphic is always cleared after ten shots. The shot count is displayed on the scorecard during the shooting session.

The display can be zoomed in or out by pressing the +/- buttons. The shooter can save their score as a paper copy by using the Save PDF button. The report is in PDF format. The default file name is generated, but it is possible to write your own preferred file name.

The **Sighters ON** function activates the targets sighting mode, indicated by a black diagonal line in the upper left corner.

The **Sighters OFF** function activates the targets match mode.

When you are finished with your practice, you can press the QUIT button. You can also stop the practice by pressing the X in the upper-right corner of the window

3.4. Competition Mode

When you would like to shoot an event/match, you can click on “Match” button in the main menu and you are presented different types of available matches for your target model as seen on Figure 17

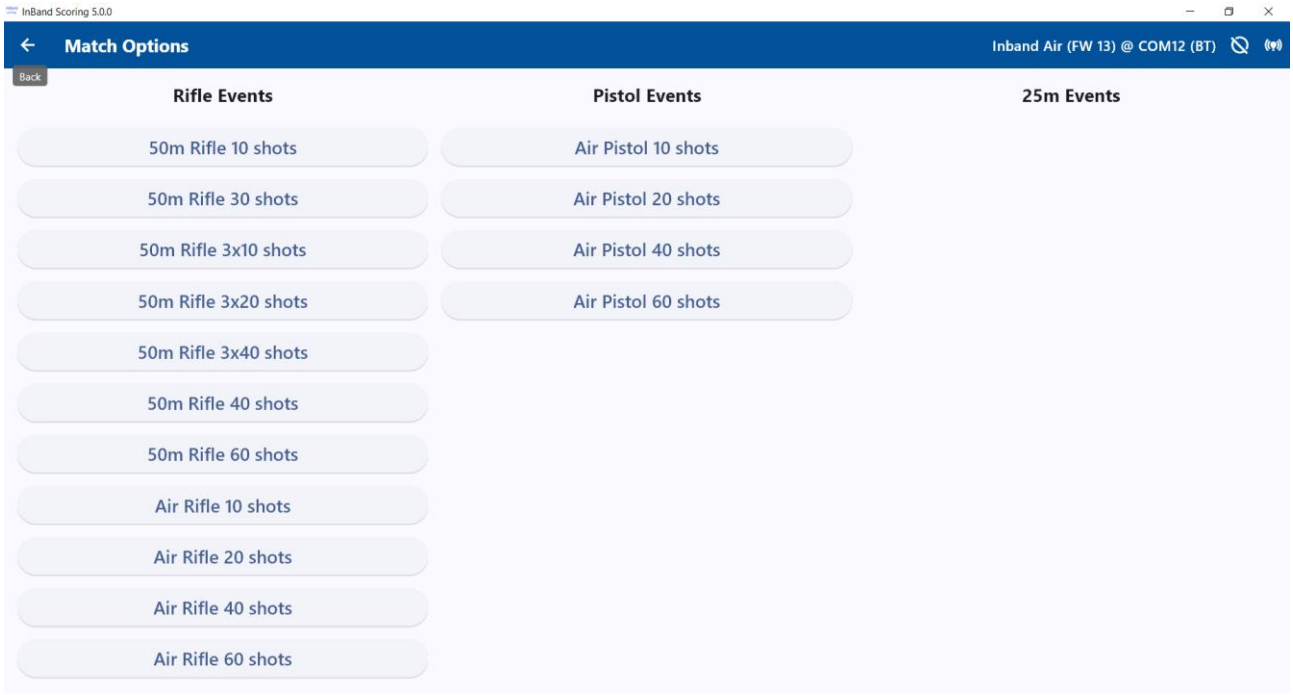


Figure 17. Inband Scoring Match Options.

The match mode allows you to go through a standard ISSF match format with the allocated time for both the sighters and the match, for the selected number of shots.

3.5. During Shooting

It is possible the target sometimes loses the connection to the computer. If this happens, we will have to wait for the connection to re-establish or we might even need to check and adjust our cables.

If the connection is re-established, Inband Scoring will also automatically reconnect to the target and bring over any shots that were taken while the connection was lost. There is a limit of up to 10 shots that can be brought over, so we always recommend troubleshooting connection issues as soon as possible before proceeding with your shooting session.

It is also possible that sometimes the shots are not registered. It depends on the room acoustics, but it is possible the target on your lane is hearing the sounds on neighboring targets or some other sounds in the room. These are displays as question marks and not included in the total score.

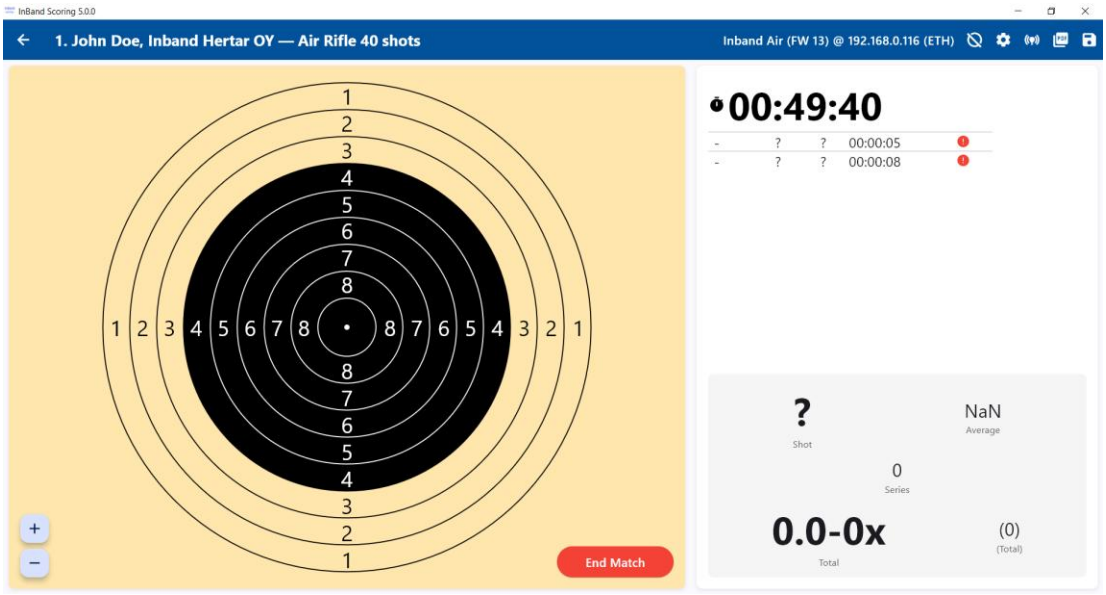


Figure 18. Insufficient sound or accuracy detected for shots.

It is sometimes necessary to change settings during an active session. You can do so by clicking "Settings" on the top right, as seen on *Figure 19*. Please remember to hit the "Save Settings" button before returning to the shooting session.

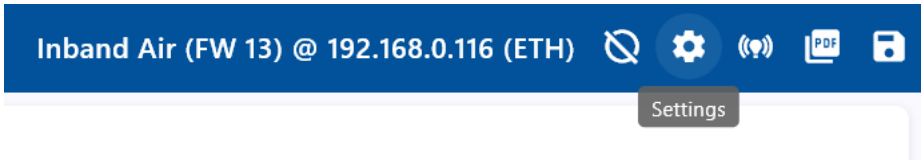


Figure 19. Accessing Settings menu while in an active shooting session.

3.6. Once You Finish Shooting

The **Save PDF report** function creates a PDF print file (Figure 21) of the whole shooting session, which you can save or print.

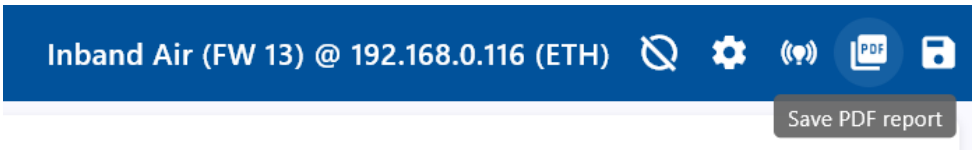
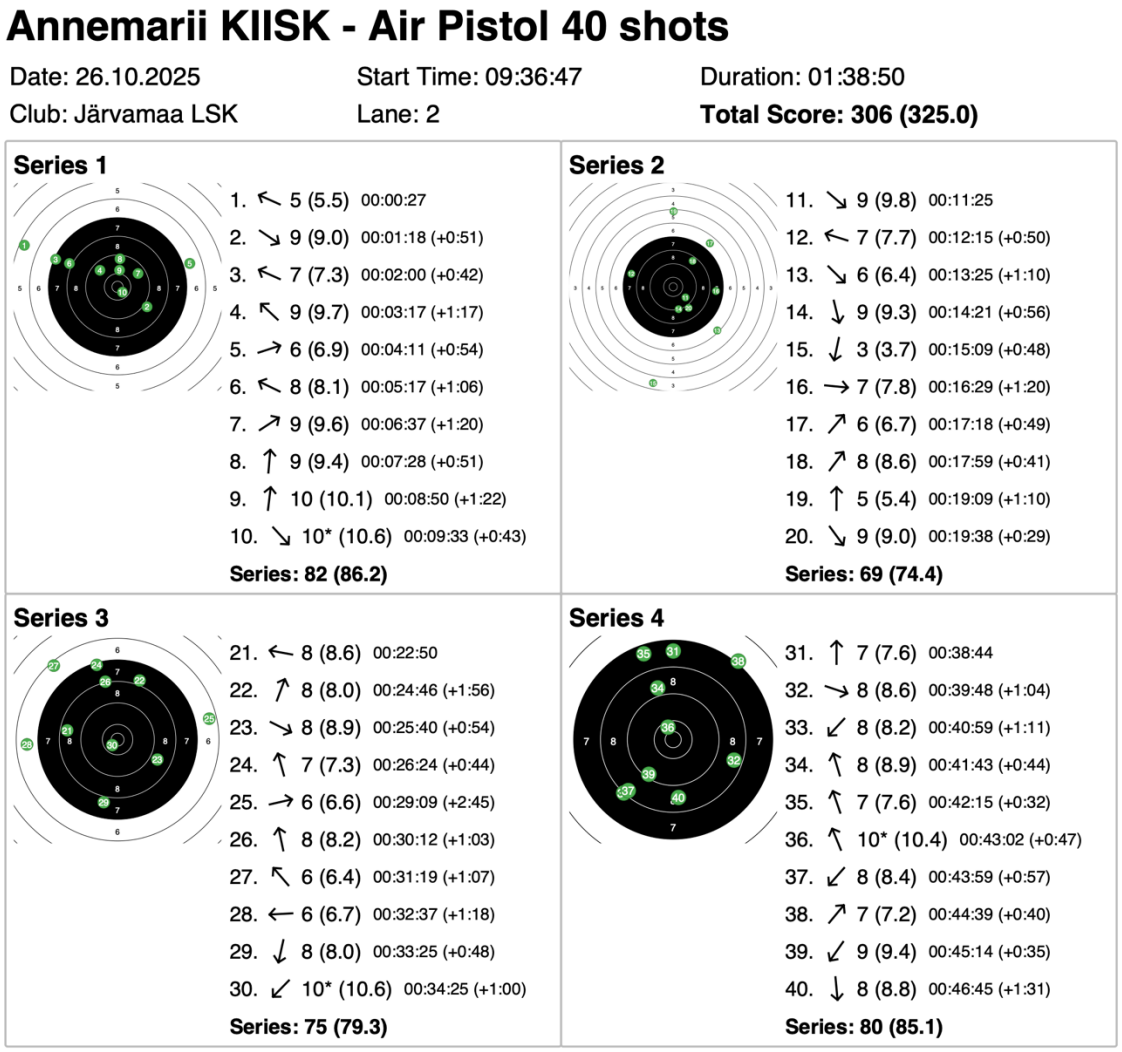


Figure 20. Save PDF report.



Annemarii KIISK - Air Pistol 40 shots

Date: 26.10.2025 Start Time: 09:36:47 Duration: 01:38:50

Club: Järvamaa LSK Lane: 2 **Total Score: 306 (325.0)**

Series 1

1. ↖ 5 (5.5) 00:00:27
2. ↘ 9 (9.0) 00:01:18 (+0:51)
3. ↖ 7 (7.3) 00:02:00 (+0:42)
4. ↖ 9 (9.7) 00:03:17 (+1:17)
5. → 6 (6.9) 00:04:11 (+0:54)
6. ↖ 8 (8.1) 00:05:17 (+1:06)
7. ↗ 9 (9.6) 00:06:37 (+1:20)
8. ↑ 9 (9.4) 00:07:28 (+0:51)
9. ↑ 10 (10.1) 00:08:50 (+1:22)
10. ↘ 10* (10.6) 00:09:33 (+0:43)

Series: 82 (86.2)

Series 2

11. ↘ 9 (9.8) 00:11:25
12. ↖ 7 (7.7) 00:12:15 (+0:50)
13. ↘ 6 (6.4) 00:13:25 (+1:10)
14. ↓ 9 (9.3) 00:14:21 (+0:56)
15. ↓ 3 (3.7) 00:15:09 (+0:48)
16. → 7 (7.8) 00:16:29 (+1:20)
17. ↗ 6 (6.7) 00:17:18 (+0:49)
18. ↗ 8 (8.6) 00:17:59 (+0:41)
19. ↑ 5 (5.4) 00:19:09 (+1:10)
20. ↘ 9 (9.0) 00:19:38 (+0:29)

Series: 69 (74.4)

Series 3

21. ← 8 (8.6) 00:22:50
22. ↗ 8 (8.0) 00:24:46 (+1:56)
23. ↘ 8 (8.9) 00:25:40 (+0:54)
24. ↑ 7 (7.3) 00:26:24 (+0:44)
25. → 6 (6.6) 00:29:09 (+2:45)
26. ↑ 8 (8.2) 00:30:12 (+1:03)
27. ↖ 6 (6.4) 00:31:19 (+1:07)
28. ← 6 (6.7) 00:32:37 (+1:18)
29. ↓ 8 (8.0) 00:33:25 (+0:48)
30. ↙ 10* (10.6) 00:34:25 (+1:00)

Series: 75 (79.3)

Series 4

31. ↑ 7 (7.6) 00:38:44
32. ↘ 8 (8.6) 00:39:48 (+1:04)
33. ↙ 8 (8.2) 00:40:59 (+1:11)
34. ↑ 8 (8.9) 00:41:43 (+0:44)
35. ↑ 7 (7.6) 00:42:15 (+0:32)
36. ↑ 10* (10.4) 00:43:02 (+0:47)
37. ↙ 8 (8.4) 00:43:59 (+0:57)
38. ↗ 7 (7.2) 00:44:39 (+0:40)
39. ↙ 9 (9.4) 00:45:14 (+0:35)
40. ↓ 8 (8.8) 00:46:45 (+1:31)

Series: 80 (85.1)

https://www.inband.fi Target: Inband Air (FW 13) @ COM6 (USB)

Figure 21. PDF report sample.

There is additional **Save grouping report** button. This function can be used to test the accuracy of the target device. First, shoot a 5-shot test group across the entire target (without the sighting mask). Then print the PDF image. Finally, place the bullet-holed target paper over the printed paper. If the target is accurate, you will see the hits through the printed holes in the paper. This is how the factory test is done before you receive the InBand electronic target.

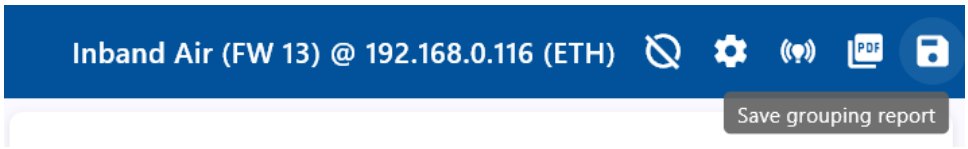


Figure 22. Save grouping report.

3.7. Ammunition Testing

As of Inband Scoring v5.0.0 the newest software does not yet have an ammunition testing mode. It will be added at a later version.

However, our previous v4.9x of Inband Scoring allows for ammunition testing. The software can be still downloaded from our website on the links provided in Section 2 on page 7.

Once you open the software, please select “Ammunition Test” after the computer connects to the target.

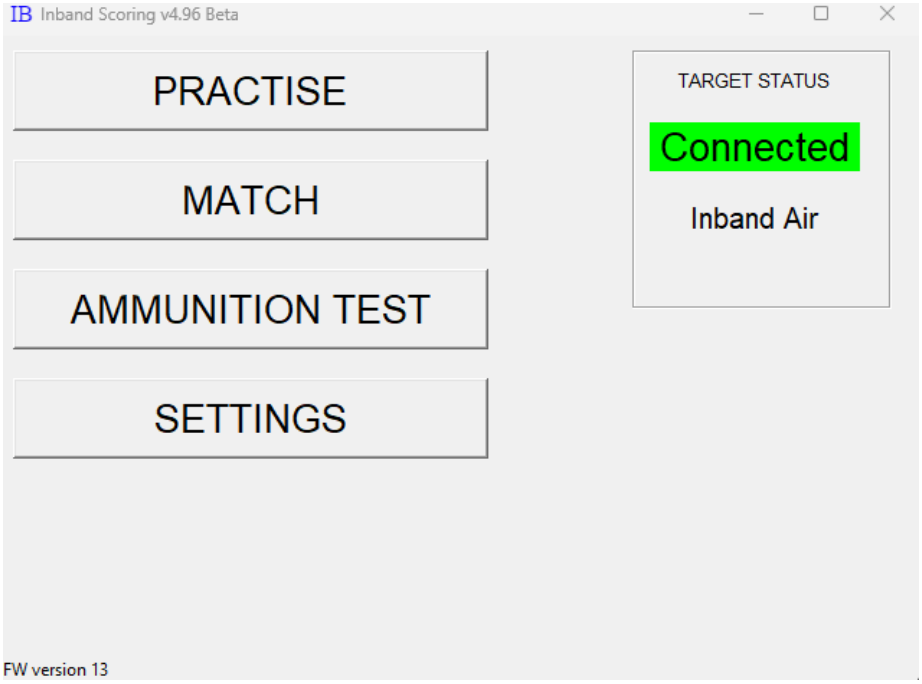


Figure 23. Use Inband Scoring v4.9x for Ammunition Tests.

The ammunition testing supports testing both Air guns and 22LR rifles. Shoot your preferred number of shots and then you can create a grouping report. It centers the shots for you, allows entering comments (such as weapon serial number, average speed, lot number) and save the report. Sample reports can be seen on Figure 24 (air rifle) and Figure 25 (smallbore rifle).

AMMUNITION TEST REPORT Date: 4-Oct-2025
airrifle

Comment:

Vmin 169 Vmax 172 Vavg 171

Group size: 7.64mm (edge to edge)
Avg dist: 0.84mm (95% confidence:+/- 0.17)
Avg score: 10.61 (95% confidence:+/- 0.07)

Series 1:	10.6	10.5	10.6	10.9	10.6	10.7	10.3	10.8	10.8	10.3	**106.1**
Series 2:	10.7	10.8	10.5	10.7	10.6	10.3	10.7	10.7	10.5	10.7	**106.2**

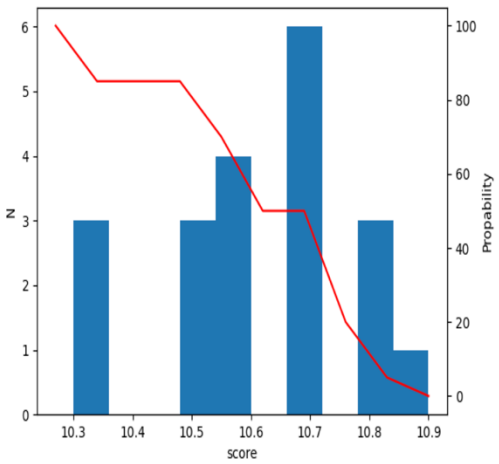


Figure 24. Grouping report for an air rifle with 20 shots.

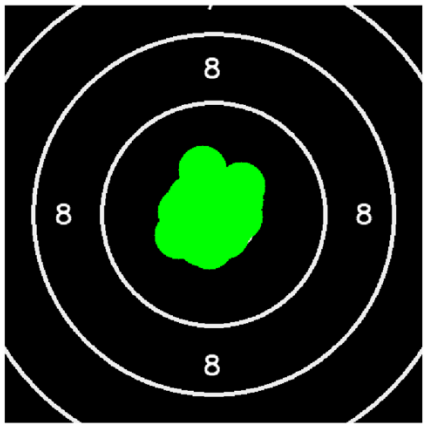
AMMUNITION TEST REPORT Date: 21-Aug-2022
50m_rifle

Comment:

Midas+ 24554/704211

Group size: 14.51mm (edge to edge)
Avg dist: 2.45mm (95% confidence:+/- 0.36)
Avg score: 10.64 (95% confidence:+/- 0.04)

Series 1:	10.4	10.7	10.8	10.5	10.7	10.8	10.7	10.8	10.7	10.7	**106.8**
Series 2:	10.7	10.5	10.8	10.4	10.6	10.7	10.8	10.4	10.5	10.5	**105.9**
Series 3:	10.7	10.6	10.5	10.6	10.7	10.6	10.7	10.9	10.7	10.6	**106.6**
Series 4:	10.8	10.8	10.7	10.5	10.6	10.7	10.7	10.5	10.3	10.9	**106.5**



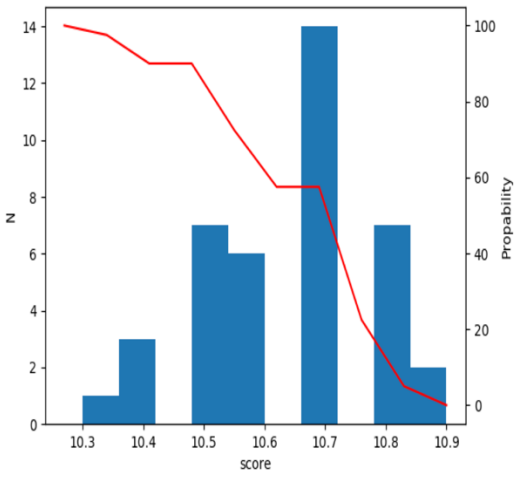


Figure 25. Groping report for a smallbore rifle with 40 shots.

3.8. Logging

Inband Scoring saves detailed log files of everything that is happening with the communication between the target and the computer. These log files are stored in your computers Documents folder in the Inband-Hertar subfolder.

In case you need to reach out to us with any questions or issues regarding the target and software, please provide us the log files from your shooting session so we could identify any potential issues.