InBand Air

Electronic Scoring Target Manual

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1 How to Implement an InBand Air

1.1 Composition of InBand Air

The basic delivery of InBand Air system contains

1. an electronic target
2. a front plate
3. a power sources
4. a target lighting device (LED)
5. a 15 metre USB cable
6. a target frame
7. a control sheet roll
8. target faces (air rifle, air pistol or hunting figures).

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

If the InBand Air is delivered with the .22 small bore shooting option (InBand 50), it will contain also

1. a bold front plate
2. a rubber control sheet roll
3. an extra black aiming card
4. a plastic target face (small bore rifle)
5. a wireless a Bluetooth® module.

Picture 1. Composition of InBand electronics scoring target

1.2 Mounting an InBand Air

An InBand Air is easy to mount on the fixed or 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 centre 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 50 to an old shooting range with paper targets you can utilize old bullet catchers.
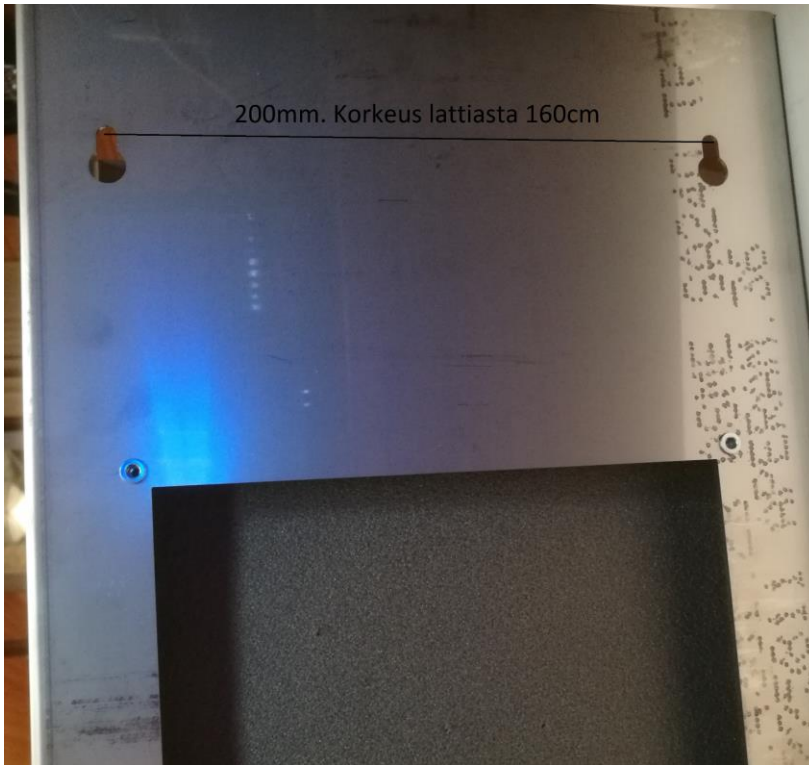
*Picture 2. Mounting an InBand Air to the wall*

1.3 Assembling the target face 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 (picture 3). Switch on the power and the illumination LED device turns dimly on.

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 (picture 4.)

3. Assemble the control sheet roll (loose strip to the front) onto the rack on the top of the EST device (picture 4). Slide the control sheet trough upper and lower gaps until it reaches capstan. Then push the red capstan driving button (picture 3). Help the control sheet move forward by one hand when pushing the button. This removes loose parts of the strip. Tighten also nuts of the control sheet rack that the control sheet will not roll too excessively.

4. Lay a valid target face (rifle, pistol or hunting rifle) 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.

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

Power port (12 v)

USB port

Target reset button

Control sheet driver
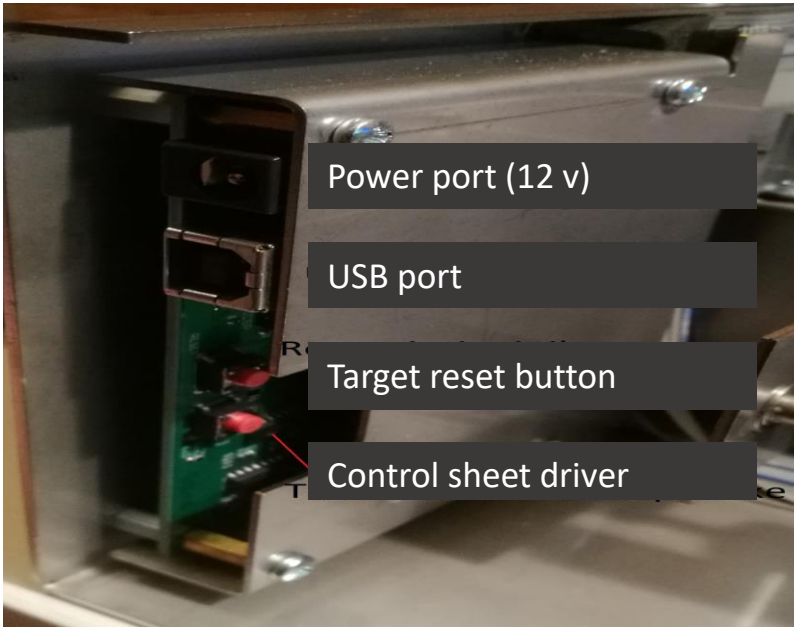
Picture 3. Connection ports and switches
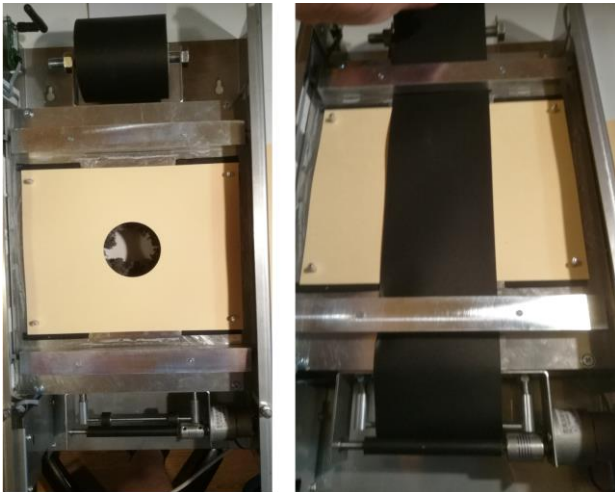
Picture 4. Assembly of the base target card
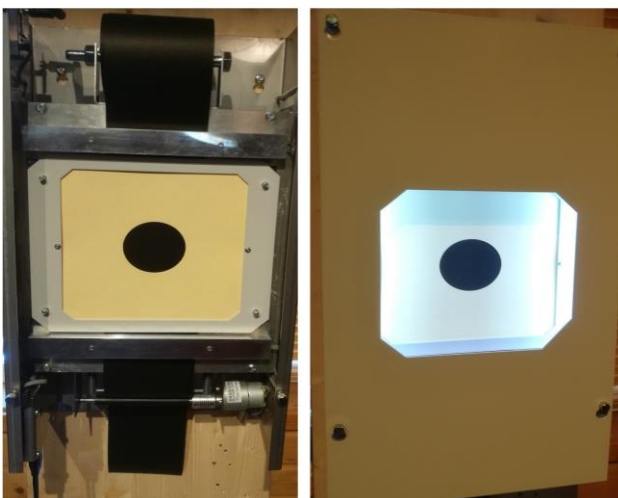
Picture 5. A target face assembly on the left and a front plate assembly on the right

1.4   Assembly of the InBand 50

The InBand 50 EST will be assembled in a same way as a InBand Air. However, there are some differencies when assembling the InBand 50 for metre shooting:

- Lay first an air pistol target to the bottom of the target base

- Instead of a paper control sheet in 10 metre shooting, a 2 millimetre multiusable rubber sheet will be used

- next lay an all-black target card to the target base

- The exact location of the all-black target card is secured by the magnetic metallic bars. The normal target fixing plate for 10 metre target faces provides too narrow space for rubber control sheet and the rubber band would easily be stuck.

- The tightness of the rubber control sheet roll in the rack should be reasonable that the sheet is able to run smoothly.

- The plastic target face will be attached to the bolded front plate with screws.
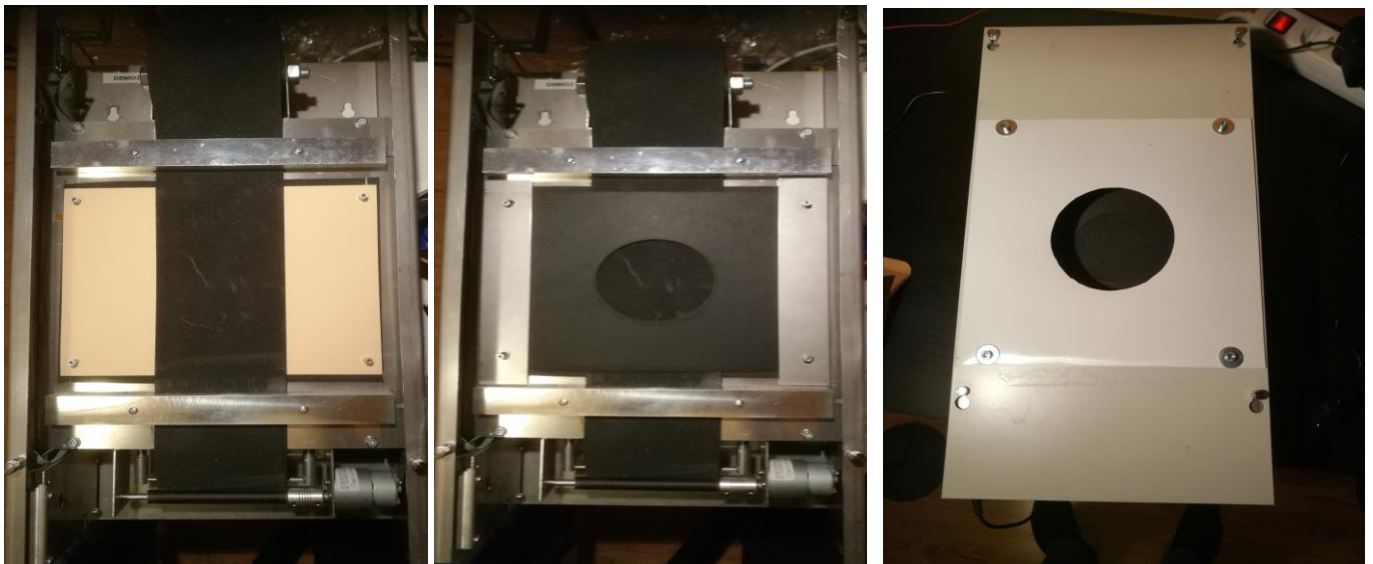
Picture 6. Assembling a InBand 50 for shooting. On the left base card and rubber control sheet, in the middle rubber control sheet and an all-black aiming target and on the right a ready to use InBand 50 electronic target.

2   Downloading the softwares

Before you begin to use an InBand Air system you must download necessary softwares in your computer (PC). These might be USB driver, Bluetooth® driver and finally InBand Scoring software. You can find a video how to download all softwares in Youtube service:

https://youtu.be/WFoVtM9Y2oI

Take notice that the InBand software version in the video might be older than the present version. All the details and functions are not exactly the same as in the newest software version.

2.1   Installing a USB driver

When an InBand Air (or Inband 50 m) is connected to a computer or other display with a USB cable, a USB driver must be installed into the computer. If an internet connection is available in a shooting range, the computer (PC) will automatically load the USB driver. Otherwise you must download the driver when you are home or somewhere else with internet connections.

A USB driver can be downloaded and installed in the internet address:

https://drive.google.com/open?id=0B3rKx5S-sD2TQ0FNeVBHRnVXZU0

After installing a USB driver, you can proceed to install the actual InBand Scoring software and a Bluetooth® software.

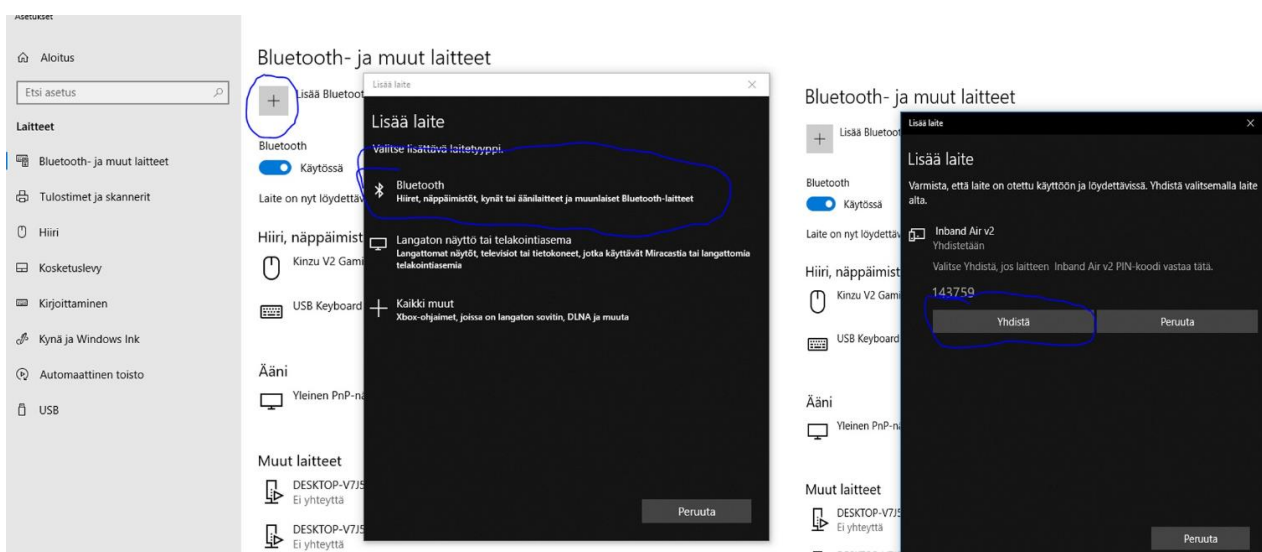### 2.2   Installing the Bluetooth®

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 (picture 6) and opening the result "Settings of the Bluetooth and other devices".

In the setting box choose "Add Bluetooth or other device".
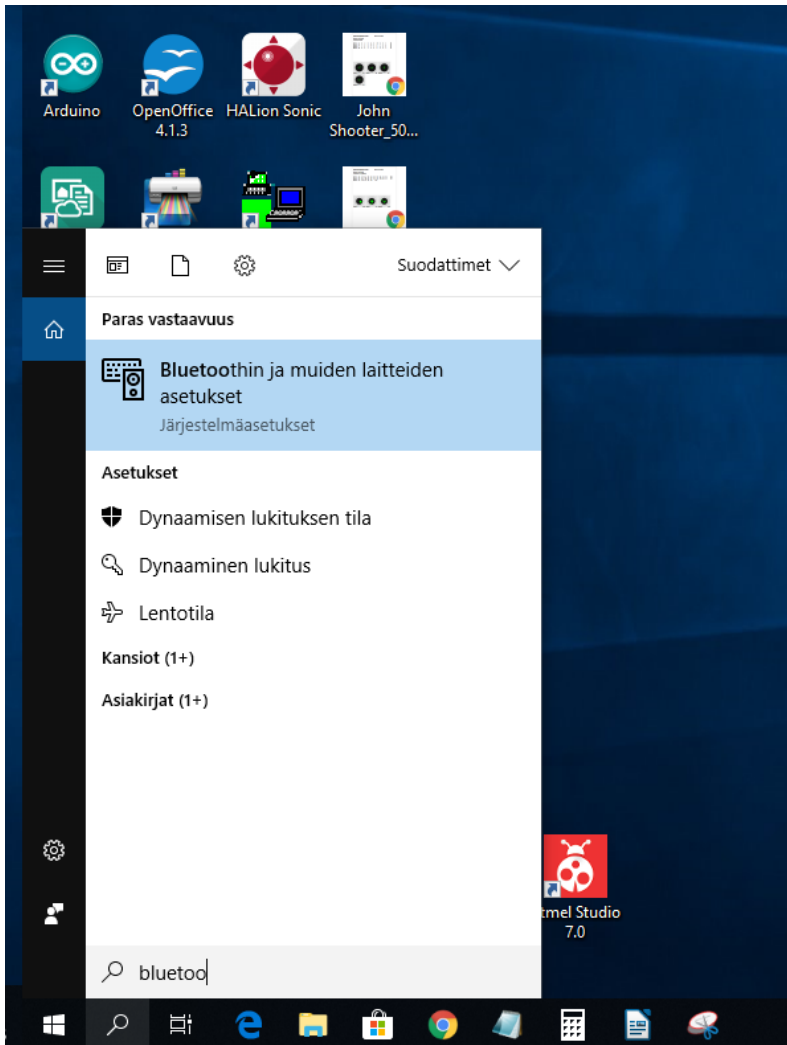
Picture 7. Setting the Bluetooth® in the Windows 10 operating system.

Picture 8. Creating a Bluetooth® connection in Windows 10 operating system.

2.3   **Installing InBand Scoring software**

After you have loaded USB and Bluetooth® drivers, you can proceed to install the actual InBand Scoring software.

You should download the latest version of the InBand Scoring software (VER4.3/1.4.2019) from

- www.inband.fi; Tuotteet/Products (unzip needed before final installing)

- https://drive.google.com/open?id=0B3rKx5S-sD2TYUpDNTk2WW0ySkU

3   **Using an InBand Electronic Scoring targets**

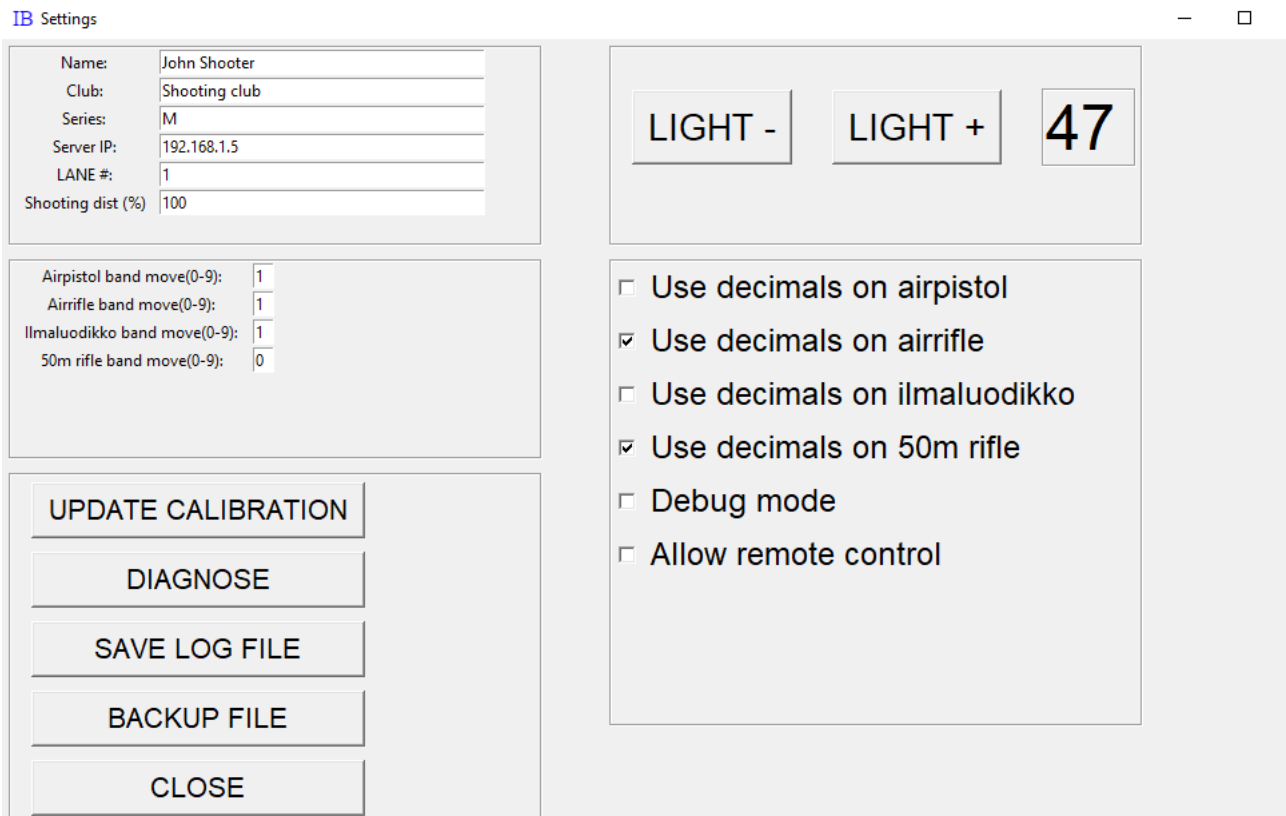3.1   **Launching a InBand Scoring programme**

Before executing an InBand Scoring software, check that the target is connected to your computer or other display via USB cable or the Bluetooth® driver is installed. When you execute an InBand Scoring programme, the software is automatically searching an Inband target. On the first time this might take a while. Next time the searching time is much shorter. After TARGET STATUS turns in to green with text "Connected", the target is ready to use (picture 9).

Picture 9. Executing InBand Scoring program. On the left picture, software is searching (yellow symbol "connecting"). In the middle, target is connected into computer and the system is ready to shoot (green symbol "Connected". On the right, the target is not found (red symbol "No target"), and then you must check that the USB cable is connected and the target power is on.

3.2   Settings

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

Picture 10. Settings

Name: Shooters name (appears also in the result, timing and scoring list

Club: Shooting club

Series: Shooters category (f.ex age class)

Server IP: If multiple targets are used (f.ex competition), the IP address of the central computer is indicated here. Note: familiarise yourself with InBand Range Officer software by the special manual

LANE#: Firing point number.

Shooting dist (%). A true shooting distance may be chosen by determining the relative length compared to the official shooting distance. For example, if you are shooting with an air rifle at 7 metres, you put a number 70 (70 % of 10 metres is 7 metres)

Airpistol band move: Control sheet step in air pistol shooting. The step can be adjusted between numbers 0 – 9. By default, number 1 runs control sheet about 1 centimetre, which is usually adequate in training purposes. If the precision of the target is fully utilized, the control sheet steps

should be so long that there is no risk to shoot shots in the same hole. Practically speaking, the divergence in precision is less than 1 millimetre if a bullet hits the old hole.

Air rifle band move: Control sheet step in air rifle, look previous point (air pistol)

Ilmaluodikko band move: Control sheet step in hunting rifle, look previous point (air pistol)

50m rifle band move: Rubber control sheet step in 50 metre rifle shooting. While bullet holes in the natural rubber sheet will shrink almost all, the default number can be 0 (zero).

DIAGNOSE: This diagnosis button is normally used only in the maintenance of the EST device.

SAVE LOG FILE: With this function, you can save the log file of the previous shooting activities in order to help analyse possible unwanted malfunctions by the manufacturer.

BACKUP FILE: This function asks user, how the back-up file of the results will be named. It is a text file.

CLOSE: This function closes the Settings box. The settings box may be closed also by pushing the X in the upper right corner.

LIGHT+ ja LIGHT -: The level of illumination of the target device can be adjusted between 0 – 100.

Use decimals on XXX: In every shooting discipline a user can choose whether the scoring is done with full rings or decimals. The default is that in air rifle and 50 metre prone shooting decimals are on.

Debug mode: Normally Debug function should be off (no X). If the Debug function is on, it will be shown some extra features and data in a display which is beneficiary in possible trouble shooting.

Allow remote control: If this function is on (X), it is possible to control a single target remotely. This should be on only in competitions.

3.3   Practising with an InBand Air

After the InBand target is connected (Target Status is green) to the computer, you can start practising. The way to the shooting session begins by pushing Practise button in the main panel. In the Practise settings window will be chosen a necessary discipline after which the Start button is clicked.

Picture 11. Choosing a shooting discipline

Kuva 12. Inband is ready for shooting

When the InBand Scoring opens the target graphic, you can start shooting. The last shot is always shown in red colour. The old ones in a serie are green. The target graphic is cleaned after every ten shots. The shot figures are seen in scoring card during shooting session.

The screen can be zoomed out or in by pushing +/- buttons. A Shooter can save a hard copy of his/her shooting with Save PDF button. The report is in pdf format. The default name of the file is formed by shooters name, discipline and date. The file name is also possible to write according to your own choise.

SIGHTERS ON function turns target on sighters mode with black diagonal line in upper left corner.

After you have shot enough sighters in an air pistol or a rifle (10 m or 50 m) training you can push red RESET button to start competition series.

PRINT GROUP function makes a pdf print file of a previous shot group which you can also print out. This function can be utilised when testing a precision of a target. Shoot first a test group of 5 into a whole target paper target (without aiming mask). Next, print out a pdf picture. Finally put the target paper with bullet holes over the printed paper. If target is precise, you can see the hits through the printed paper holes. This is how the factory test is done before you have got your InBand electronic target.

When you are finished with your training session, you can push QUIT button. You can stop training session also by pushing X in the upper right corner of the window.

3.4   Competition shooting

Match operation will not be updated in coming InBand Scoring versions any more. It will be possible that it will be taken out of the individual software options. Although its function is a Match, it not intended for competition management, but only competitive training.


Picture 13. Choose your discipline and push START MATCH button

In Match pick-up window (picture 12) you determine your shooting discipline, number of shots and shooting time. After this press START MATCH button.

The sighters are first done after pushing START SIGHTERS. After this starts 15 minutes sighting time which may not be interrupted.

After the sighting time is ended, you can start competition (competitive shooting) by pushing START MATCH button.
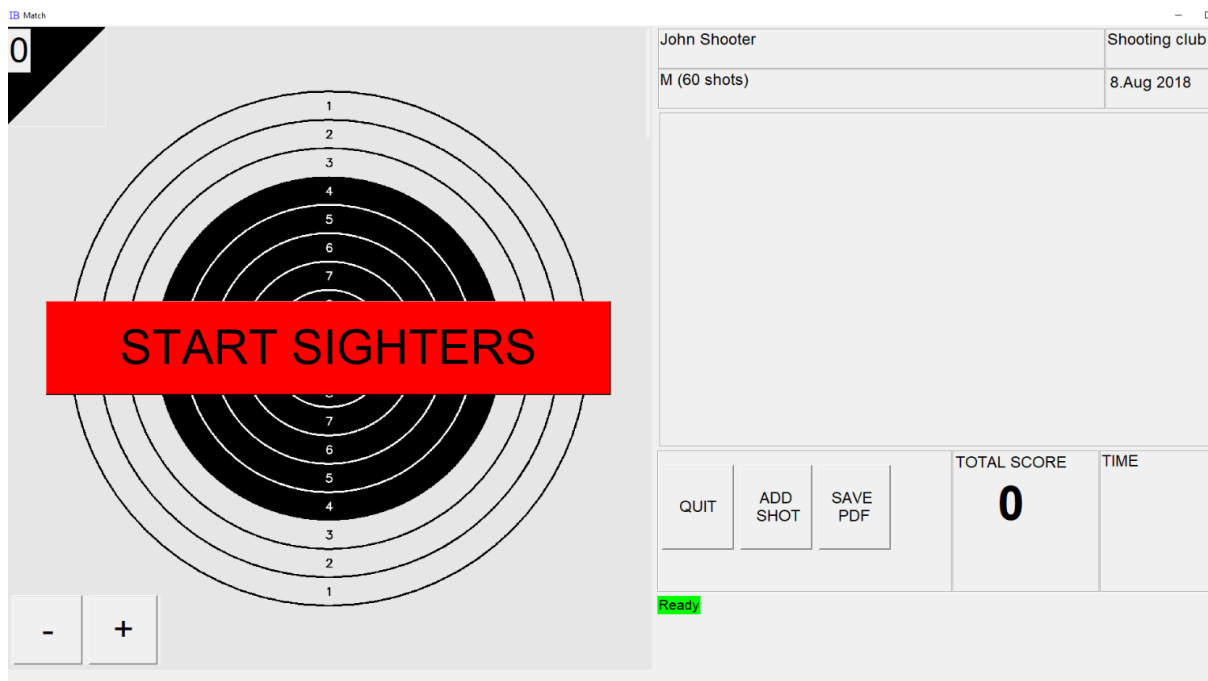
Picture 14.Sighters will be started by pushing START SIGHTERS button.
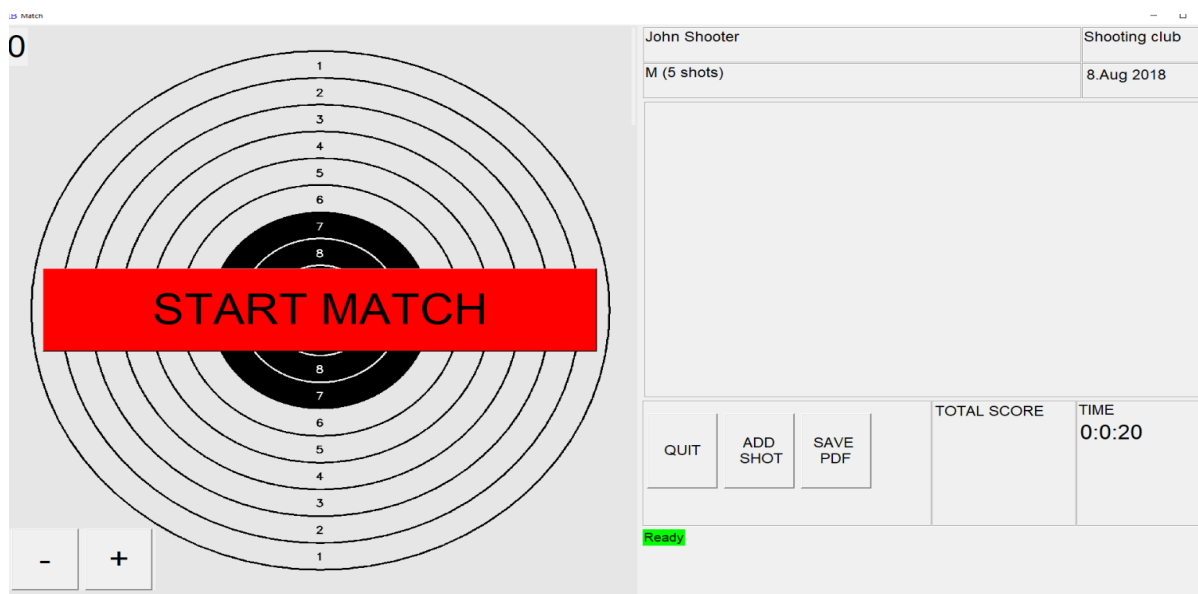
Picture 15. Competition starts by pushing START MATCH button.