



DryFire USA User Manual

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DryFire V4

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Safety

Be sure to read the following safety precautions before using DryFire equipment. It is your responsibility to ensure that the equipment is used safely.

Guns can kill.

Never put a cartridge into a shotgun unless you are on the shooting stand outside.

Double check that your shotgun is unloaded before using it with DryFire.

Take extra care with semi-autos where an unnoticed cartridge may be in the breech or in the magazine.

General

- Do not disassemble any part of the equipment, as this may cause damage. Do not store or use the equipment in dusty areas and protect it from high humidity and rain. If the equipment has come into contact with liquids or has sustained any physical damage, do not use it but remove the batteries and disconnect the power lead and computer lead and have it examined by a competent person.
- Protect the equipment from the high temperatures that can occur in direct sunlight and in automobiles.
- Do not allow foreign objects to enter the equipment. Do not allow children to handle the equipment.
- Do not move the equipment suddenly from a cold to a hot place or vice versa as this promotes condensation which can damage the circuitry.
- Store the equipment where temperatures are between 10° and 60° C and the humidity is 10 to 80%.

Batteries for trigger box

- After removing the batteries from the trigger box, put them in a safe place where there is no danger of them getting into the hands of small children and being accidentally swallowed.

- Keep batteries out of the reach of small children. If accidentally swallowed, consult a physician immediately.
- Never charge batteries unless they are marked "Rechargeable". Never try to take batteries apart or allow batteries to become shorted. Batteries may explode and cause serious personal injury if overheated so never expose them to direct heat or dispose of them by incineration.
- Do not allow any metal object to touch the battery terminals as this may cause a fire or battery leakage.
- Misuse of batteries can cause them to leak acid that can cause damage to nearby items and creates the possibility of fire or personal injury.
- If leakage enters the battery compartment, remove the batteries and dispose of them safely (not by incineration), clean the compartment carefully using a damp cloth and allow to dry naturally in a warm room before replacing with fresh batteries. Do not use the unit while there is still any trace of leakage or moisture present.
- Always make sure that a battery's positive (+) and negative (-) sides are facing correctly when you load it into the equipment.
- Remove the batteries if you do not use the equipment for a long time.
- Use only the type of batteries specified below:
 - Trigger box: 3 x LR44 button cells. These are not rechargeable.

Lasers



Lasers can cause serious personal injury if used irresponsibly. The simulator contains a low power (<3mw) 650nm visible (red) laser diode. The muzzle insert contains a low power (<3mw) 780nm invisible (infra-red) laser diode.

- A laser is a concentrated beam of light - never look directly into the beam of a laser. There is the possibility of serious personal injury or blindness if you stare directly into the beam of a laser.

- The laser used in the muzzle insert is controlled by the trigger box so that it fires a very short pulse (<30ms) when you press the trigger. To allow for shooting doubles the trigger box permits you to fire two pulses in rapid succession after which you should pause briefly before firing again.
- You will not see the laser beam or spot produced by the muzzle insert – infra-red light cannot be seen by the human eye but can cause damage to it. The small LED on the trigger box will flash once each time you fire.
- Never point the muzzle insert at another person. Never point your shotgun, with or without the muzzle insert, at another person. There is the possibility of serious personal injury or blindness if the laser in the muzzle insert is repetitively fired into the eyes of another person.
- Always remove the complete gun assembly: trigger switch, trigger box and muzzle insert; before using the shotgun for live shooting. Leaving the muzzle insert in place may result in an exploding barrel and serious personal injury if a real cartridge is fired.
- The simulator contains a time-out of about 12 seconds. If the laser is on, and you do not shoot at it within this time, it will be turned off for safety reasons and to avoid overheating.

Power Supply

The DryFire power supply is approved for use throughout the world and is supplied with a plug head for connecting to the electrical power in your country. It accepts 110-250V 50Hz/60Hz input and produces 5V regulated output to the DryFire simulator with a positive center terminal.

- Do not handle the AC power supply with wet hands. Do not pull or abrade the AC cord. Keep the adaptor away from sources of heat. Do not drop or damage the power supply. If the unit is dropped and the case is damaged you should dispose of the unit and order a new one.
- Other than the interchangeable plug head, the power supply has no user-serviceable components.
- Never attempt to open the power supply. To do so will expose high voltage levels that can cause serious personal injury or death.

Do not use any other power supply with DryFire products - to do so will invalidate your warranty and may cause a fire or damage to the equipment and danger to those nearby. Contact DryFire USA, if you require a replacement power supply.

Your shotgun

You will be using your own shotgun with DryFire and you will be using it indoors.

- Never insert cartridges into any shotgun until you are on the shooting station on an outdoor range.
- Double check that you have no cartridges in your shotgun before using it with DryFire.
- Ensure that there are no cartridges openly visible or openly accessible in the same room as your DryFire system. You would never forgive yourself if you put your shotgun down and a child found cartridges, put them in the gun and caused damage to himself, others or property.
- Never point a shotgun at anyone.

There are no such things as “accidents” with shotguns - all “accidents” are the result of the inability to think about what could happen or the result of irresponsible or unsafe behavior. Remember: “if it can go wrong, it will go wrong” - always think ahead and put safety first.

Requirements (System and Environment)

DryFire requires:

1. A Windows PC running Windows XP (SP3), Vista 32/64 bit, Windows 7 32/64 bit, Windows 8 32/64 bit, or Windows 10 32/64 bit, which has a spare USB port.

2. A Room:

- With no direct sun or artificial light onto the shooting wall or into the simulator's camera heads.
- With a shooting wall:
 - For Trap and Sporting Clays a ten (10) foot wide wall works well. For Skeet, an eighteen (18) foot wall is best, however a wall as narrow as twelve (12) feet will work if you use the special layouts.
 - That isn't extremely rough or colored dark green. The camera in the simulator needs to see the spot of infra-red light fired from your shotgun, rough surfaces such as stone or bare brickwork disperse the lasers. As long as you can see a bright, clear, red laser spot everything should work fine.
- With a high ceiling, if you intend to use DryFire to practice overhead targets.
- With an electrical outlet for your computer and the DryFire power supply.
- With a tripod (preferred) or table on which to place the simulator so that it faces the shooting wall at a height of between 24 and 60 inches.

Ideally you should have room to stand directly behind the simulator so that your shotgun is directly behind it.

3. A shotgun:

- You will be using your own shotgun to shoot at the target laser projected onto the shooting wall. This will be done by equipping your shotgun with the gun assembly. Take careful note of the safety notes included above.

The Simulator

The DryFire simulator is available with either one or two heads:



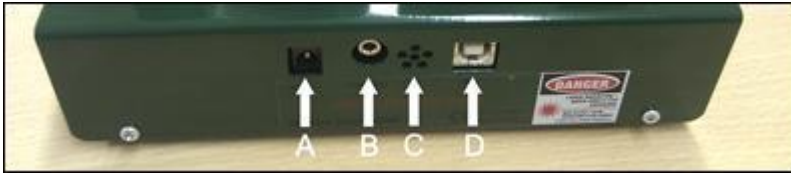
Each head contains a laser (A) and a camera (B):



THE LASER IS CAREFULLY FOCUSED DURING PRODUCTION. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO ADJUST THE LASER USING A SCREWDRIVER OR ANY OTHER DEVICE.

Whether you are using a single or double head simulator, DryFire will show the outcome of all shots on the PC screen.

The back of the simulator has 3 connectors and a microphone as shown below:



A Power socket: Plug the power supply into this socket.

USE ONLY A POWER SUPPLY WITH A 5V REGULATED OUTPUT THROUGH A POSITIVE CENTRAL TERMINAL CONNECTION.

B Manual release: Plug the optional Wireless Release device into this socket.

The Wireless Release is handy when you are in a noisy environment. For example, a youth group with 20 shooters in the room.

C Microphone: If the Wireless Release is not connected to the DryFire unit, the built-in microphone is operational and will respond to you calling “Pull” to release a target.

D USB socket: Used to connect the simulator to your Windows PC using the supplied USB cable – **do not** connect the simulator to the PC until instructed to do so.

All DryFire simulators come with a standard photographic tripod bushing built into the base, so that you can mount it on a tripod

If you don't have a tripod, just position the simulator on a desk or table.

Position the simulator about 48 inches from the wall and near the center of the shooting wall. Ideally you should have room to stand directly behind the simulator so that your shotgun is directly behind it, but if that isn't possible you can stand elsewhere and tell DryFire as we'll explain later.

The Gun Assembly

The package containing the Gun Assembly contains all the necessary information for attaching and using the Gun Assembly.

Do **NOT** connect the simulator to your PC yet.

Introduction

Congratulations, you are now the proud owner of a DryFire clay shooting simulator.

DryFire models the real world to enable you to practice your selected clay pigeon discipline inside throughout the year so that your time on the real range shooting at real clays is more successful and cost effective.

DryFire's model of the real world takes into account such things as:

- How your gun shoots: The Point Of Impact [POI] and Choke for each barrel as well as the characteristics of your cartridge load.
- How the clays fly; including drag, lift and gravity.
- How much energy is required to break the clay.
- How much energy each pellet in your shot carries at each point along its trajectory.

Take some time to correctly configure DryFire and it can present clay trajectories on your wall as they would appear to you on the range.

DryFire will determine the path your shot will take and whether your shot would hit and break, hit but probably not break or miss the clay.

When you miss DryFire will show how you missed, so you know what to do differently – maybe more or less vertical or horizontal lead. If you are shooting rising clays, such as DTL or ATA trap, you can experiment with different POI values for your shotgun's barrels in the DryFire simulated world to see how they might help you in the real world.

If DryFire determines you're unlikely to break a clay, even if you're on target, then you can consider whether you can shoot at the clay when its closer to you or see the effect of using a tighter choke (which will require you to be more accurate) so that more pellets might strike the clay at the greater distance.

Accomplished shooters have also used DryFire to reduce the time to shoot while retaining accuracy using the "slow-motion" function in DryFire. This function shows the clay at slower speeds but requires you to use the normal amount of lead. By repeatedly taking targets while gradually increasing the clay's speed back to normal you can reduce your time to accurately shoot. Taking an away target closer allows you to use a wider choke because at closer distances the pellets hold greater energy and fewer are needed to break the clay.

After repeatedly practicing with DryFire, your sub-conscious acquires a sight picture of when you should shoot that you take with you to the real range and break clays more often.

About this manual

This manual covers the use of both single and double head simulators with the basic software installation. Where differences exist between single and double head units, there are noted.

Items in the manual that relate to safety or are necessary for trouble free running of the hardware, are shown as follows:

SAFETY RELATED ITEM...

Other paragraphs that contain useful tips are shown in a different style:

Handy hint...

There is a new feature in DryFire V4.8 for systems that support projection, which allows the view for the main window to either be the 3D view or the projected view. In this manual, the 3D view is shown and documented.

Using DryFire

This section of the guide will introduce you to the features provided by the DryFire software and explain how they are used

When you are using DryFire V4 you can press **F1** to open help or click the **Help** buttons included on many DryFire dialogs for help about that dialog.

On installation, DryFire V4 Shooter passwords are disabled. If enabled, the default administrator password is “dryfire”. If you are not importing settings from an earlier DryFire V3/USA Friendly installation the default password for Shooter 1 is “red”. For more information on passwords, see the Passwords section.

Muzzle Alignment

Each time you place the DryFire muzzle insert into your shotgun's barrel it will project the laser in a slightly different direction.

It is essential that DryFire knows exactly where the laser is projecting, so that it can tell exactly where you pointed the shotgun. It is therefore necessary to calibrate the muzzle alignment each time you start using DryFire, or if you think the muzzle insert may have moved.

If you find that DryFire reports you missed clays when you believe you hit them, recalibrate your muzzle insert in case it has moved. You can recalibrate your muzzle insert without having to finish practicing the current target or layout.

When the appropriate shooter and gun are selected on the DryFire toolbar, calibrate the DryFire muzzle insert's alignment as follows:

1. Click the Align button to the right of your shooter and gun name on the DryFire toolbar.



2. The following screen will appear, noting the current shooter and gun in the title bar, and DryFire will project a static laser dot on the wall directly in front of your defined shooter location:



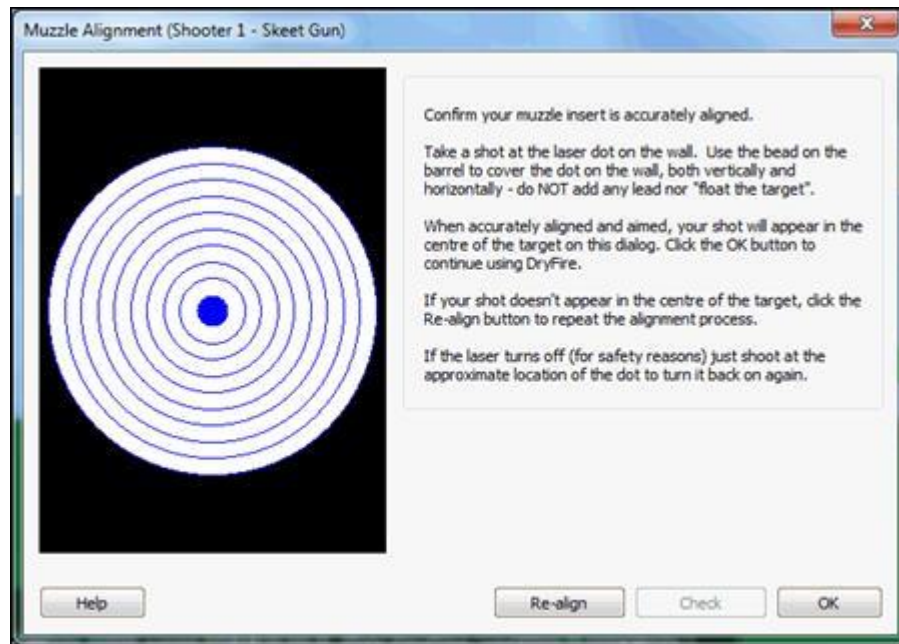
3. Take a shot at the laser dot on the wall. Use the bead on the barrel to cover the dot on the wall, both vertically and horizontally - do **NOT** add any lead and do NOT “float the target”. Shoot as many times as you wish; only your last shot will be registered.

When you shoot the laser will briefly go out to let you know your shot has been seen and, if your PC has sound, you will hear a “bang”.

Click the **OK** button if you are confident your alignment shot was accurate, or click the **Check** button to confirm accurate alignment.

If the laser turns off (for safety reasons) just shoot at the approximate location of the dot to turn it back on again.

4. If checking your alignment, the following screen will appear:



Take a shot at the laser dot on the wall. Use the bead on the barrel to cover the dot on the wall, both vertically and horizontally - do **NOT** add any lead and do NOT “float the target”.

When accurately aligned and aimed, your shot will appear in the center of the target on this dialog. Click the **OK** button to continue using DryFire.

If your shot doesn't appear in the center of the target, click the **Re-align** button to repeat the alignment process.

If the laser turns off (for safety reasons) just shoot at the approximate location of the dot to turn it back on again.

Shoot!

You've now installed and configured DryFire, let's try taking some targets and while doing so introduce you to more of the DryFire program. We'll gradually explain things in more detail and show how you configure DryFire to present targets as accurately as possible.

Remember that you start DryFire either by double clicking the **DryFire V4** shortcut on your Windows desktop or by selecting the **Start, Programs, DryFire, DryFire V4** menu and each time you start DryFire (or whenever you insert/move the muzzle insert) you need to repeat the [muzzle alignment process](#).

Now, having started DryFire and completed the muzzle alignment process, let's shoot some targets.

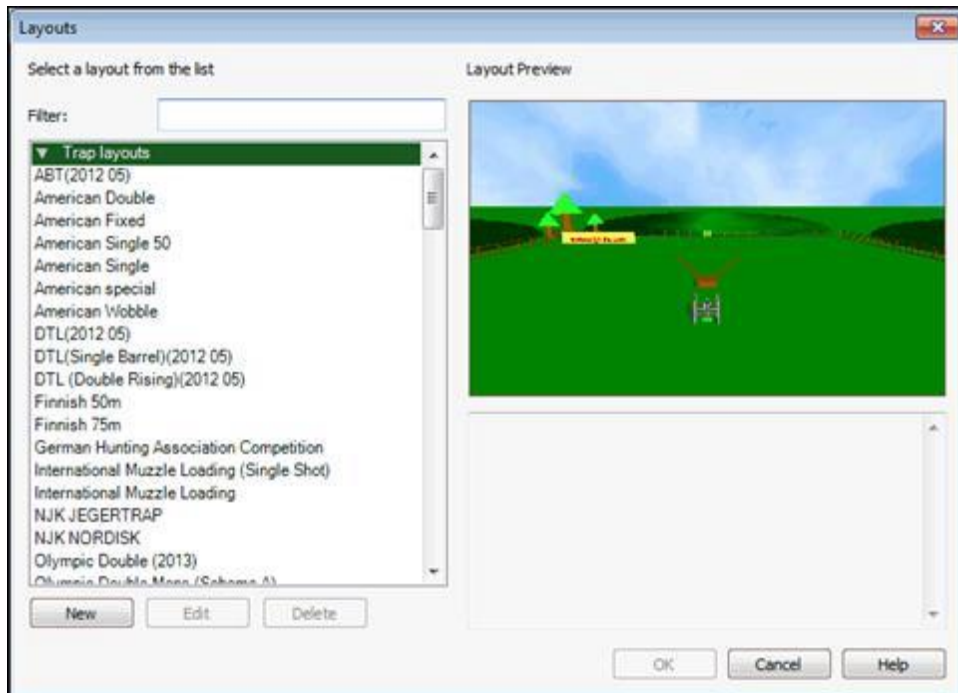
Example 1: The basic start trap layout

DryFire stores target and range details in "layouts", so what targets it presents depends on which "layout" is open. At its simplest a layout consists of one stand (also known as a station or peg) where the shooter stands and one trap from which clays are released; but often layouts include multiple stands, multiple traps and a combination of other elements such as trees, hills, signs or fences.

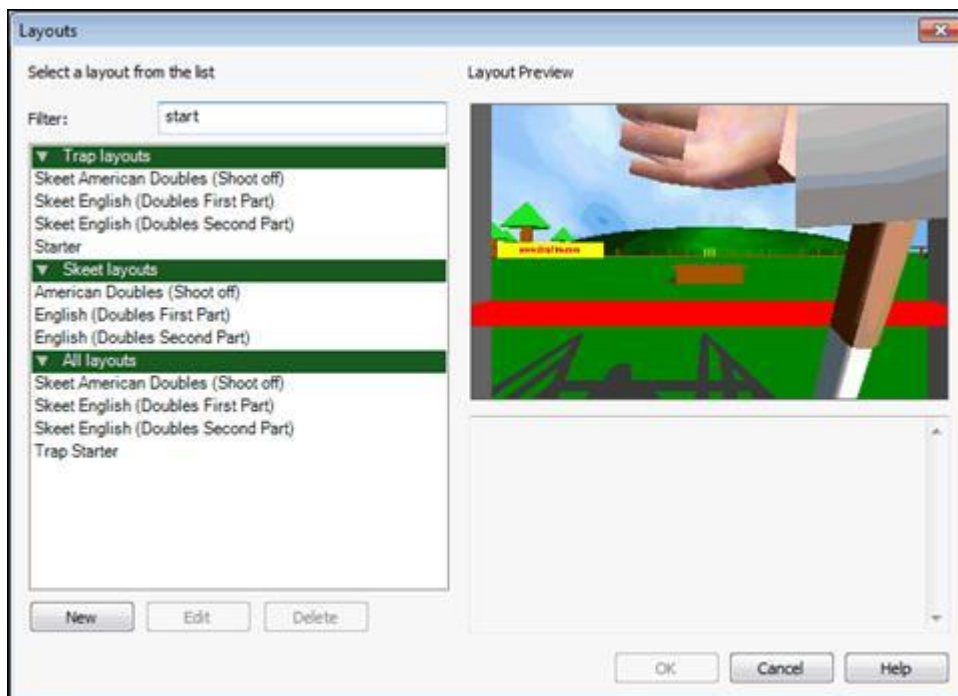
DryFire V4 includes ATA, ABT, DTL and Olympic Trap; English, American and Olympic Skeet; Universal Trench and several Sporting layouts.

To introduce the DryFire software and how you use it, let's start with a simple example layout: **Trap starter**.

First you need to open the appropriate layout file. To do this select the **File, Layouts** menu, the **Layouts** dialog is displayed:

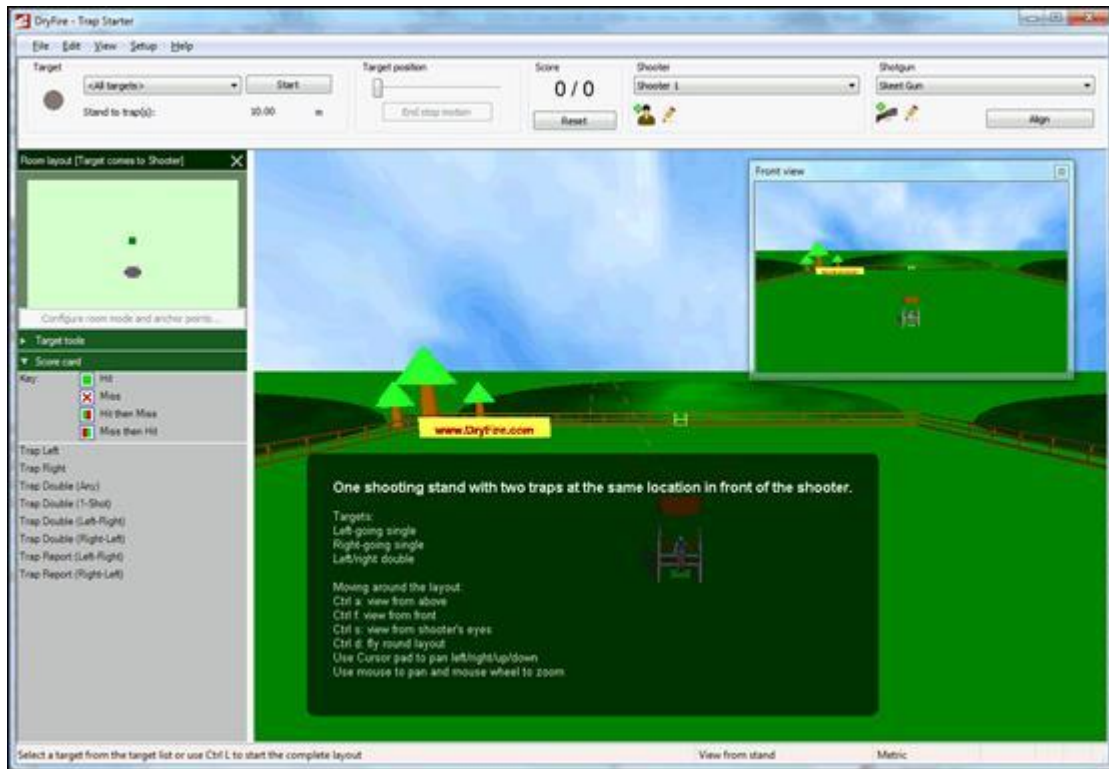


The left column lists available layouts separated into types of layouts by the green headings which you can click to expand or collapse the list; if you know the name or sort of layout you want you can type part of it in the **filter** box above the list to show only layouts with matching names. Type “**start**” into the box on the left, note how the list is then filtered:



Click on the **Trap starter** entry in the left column and DryFire shows you a view of and, if available, information about the selected layout on the right.

Click the **OK** button to open the layout and the **Trap starter** layout then appears in DryFire:



The DryFire display, above, comprises 6 parts:

1. Menu Bar: File, Edit, View, Setup, Help

Use the menus to open layouts, reconfigure DryFire, change the view or close DryFire.

2. Toolbar



You select which specific target you want to practice from the **Target** list on the left, DryFire tells you the distance from the stand to the selected trap below the target list. The **Start** button is used to start practicing the selected target.

The **Target position** slider is used to access the **Stop motion** function where you can tell DryFire to show, at a specific time or distance into its flight, the

target's position, the lead you should give to hit the target and the perfect aim point.

On the right of the toolbar the **Shooter** and **Shotgun** sections allow you to select who is shooting and with which gun. The **Align** button can be used to quickly recalibrate the muzzle insert for the selected shooter's gun at any time.

When shooting at targets DryFire will show your score on the toolbar, click the **Reset** button to zero it.

3. Main view

DryFire shows views of the virtual DryFire range and results of your shots here.

On opening a new layout, as you've just done, DryFire shows you an overview of the layout.

When available, DryFire shows some brief information about the layout in the black background text box in the lower right corner of its display. Often this information explains the targets included in the layout, but the **Trap starter** layout also includes some hints as to how you change your view of the DryFire virtual range. Take a few minutes to experiment with the options:

- CtrlA (or the View, From above menu) to see the layout from above.
- CtrlF (or the View, From front of layout menu) to see the layout from the front – the view shown when you open a layout.
- CtrlS (or the View, From stand menu) to see the layout from the currently selected stand.
- CtrlC (or the View, Clay's eye view menu) to view an animation showing the view from the clay to the stand through the clay's trajectory.
- CtrlW (or the View, Walk the course menu) to show a preview of each target. Either wait for the preview of all targets to complete or, to abort the preview, press CtrlW again (or select the View, End walk the course menu).
- Use the mouse wheel to move forward or backward.
- Use the cursor keys or click and drag the view with your mouse to pan. Try holding the SHIFT key down while dragging left/right or up/down with the mouse.

- Use the keyboard's number pad to move around.
- Press F4 to hide or show the layout information box.

4. Preview window

DryFire shows the view of the whole layout from the front of the layout with the shooter standing on the currently selected stand/station in the smaller window. This enables you to always see an overview of the open layout.

When you are practicing shots this preview window will show you the view from the stand for the next target to be shot.

You can:

- Drag this window elsewhere on your Windows desktop.
- Hide or show the window by selecting the View, Preview window menu (or pressing F9).

5. Status Bar

DryFire displays suggestions, details of the current view and whether metric or imperial measurements are in use here.

[You can double click on the word Metric or Imperial in the status bar to switch between the measurement systems.](#)

6. Sidebar

The sidebar can be closed and reopened by pressing **F8** or selecting the **View, Sidebar** menu.

It includes a **Room layout**, showing a plan view of your room noting the active room mode and the location of the simulator, shooter stand(s) and any active anchor points. This is described later, as you work through some examples.




Depending on which heading is clicked, the lower portion of the sidebar shows either:

- Score card



DryFire will record the results of your recent shots here for each target practiced:



Hit with both shots at a double or one shot at a single.

-  Shot 1 miss, Shot 2 hit.
-  Shot 1 hit, Shot 2 miss.
-  Miss with both or only shot.

The icons in the **Score card** heading can be used to save the score card as a PDF or print it:

-  Save the score card as a PDF.
-  Print the score card.

- Target information

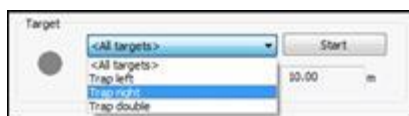
This is used to access the **Stop motion** function and to define **Hold points**.

The **Trap starter** layout has rising targets; a gun that shoots high is often used for this type of target, so that you don't have to cover the clay with the barrel of the gun in order to give the required lead. On the right side of the DryFire toolbar click on the currently selected **Shotgun** to see a list of guns associated with the currently selected Shooter, if you're using a new installation of DryFire V4 you should see **Skeet gun** (which shoots 50:50 or "flat") and **Trap gun** (which shoots 70:30, also known as 0.2m or 7.87inches, high at 32m) – select **Trap gun**:



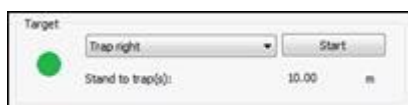
Since this is a new gun, you need to calibrate the muzzle insert for it; click the **Align** button on the toolbar and complete the [Muzzle Alignment](#) process.

For this example we'll use the **Trap Right** target, so click on the currently selected **Target** on the left side of the toolbar and select **Trap Right** from the list.



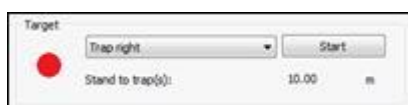
Now we're ready to start showing clays, click the **Start** button to begin practicing shots at this target.

The DryFire toolbar changes slightly; the status circle changes to green to indicate that DryFire is ready to release the target and the **Start** button changes to show **Finish** to provide a means to stop practicing this target:

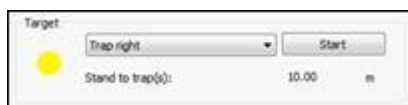


If you have speakers on your PC then DryFire will have also made a “ping” noise – DryFire makes this noise whenever it is ready to release a target, so you don’t necessarily have to look at the screen each time.

Let’s see what happens on the PC when you release a target. When you’re ready, while looking at the PC screen, call “Pull” loudly, press the foot release switch or press the SPACE BAR on the PC running DryFire V4 – the status circle will change to red to indicate DryFire is preparing to release the target:



Shortly thereafter, depending on the active [Minimum and Maximum Target Delays](#), the target will be released. At that time the status circle will change to yellow and the laser dot will appear on the wall.



If you missed anything, wait for the status circle to show green and the “ping” sound then call “Pull” again to repeat the process. Then do it again while looking at the wall so that you can see where the laser appears and how it travels across the wall.

Notice that when DryFire doesn’t detect any shot it considers the target a “no bird”, doesn’t count it towards your score and repeats the target.

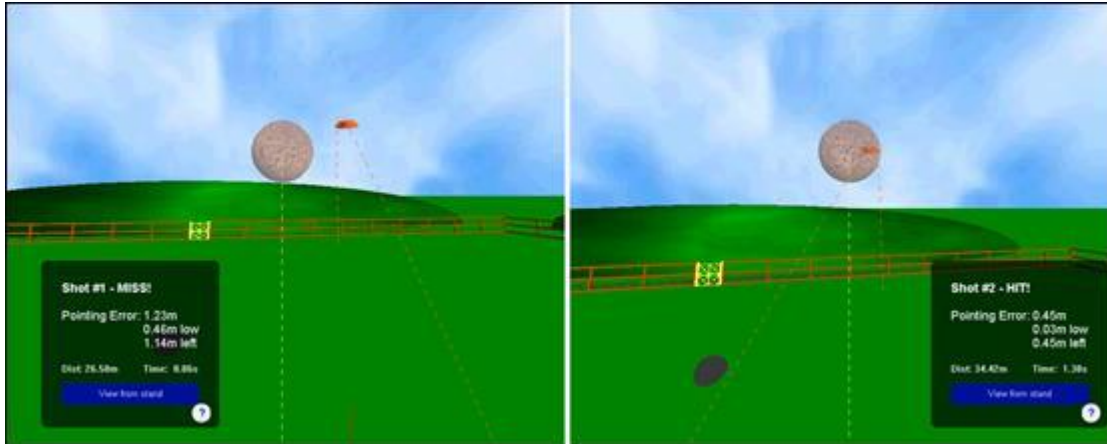
OK, now let’s try to hit it!

Pick up your gun and take up your shooting stance behind the simulator, or wherever you have told DryFire you will stand. DryFire isn’t a substitute for an instructor or coach, so stand and prepare for the shot as you’ve been told to do on the real range.

When you’re ready call “Pull” loudly or press the foot release switch. As you see the laser appear, acquire the clay, allow for lead as normal and press the trigger switch to shoot – if you have sound enabled you should hear a bang from the PC. If you hit the

clay the laser dot will disappear immediately, if it doesn't disappear continue to track it and take your second shot.

As DryFire detects your shots it will show the results on the screen – up to two shots, depending on the target:



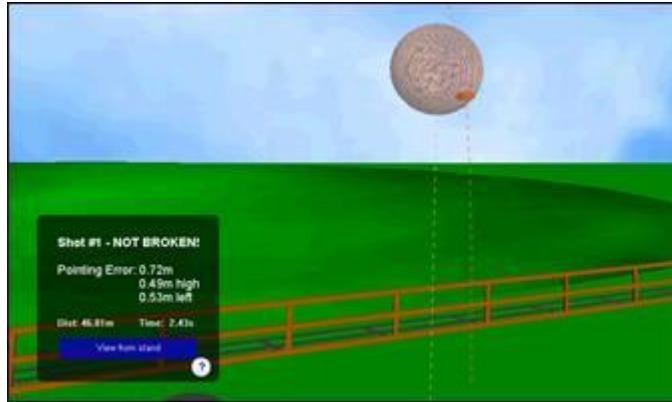
DryFire zooms in to show the shot cloud in close-up, you can click the **View from stand** label to view the shot from the stand and then click **Zoom to shot** to return to this view.

A dashed orange line shows the clay's trajectory, a dashed yellow line shows the shot's path.

This is the genius within DryFire... For each shot, *including misses*, DryFire shows you the position of your shot cloud as a brown circle of pellets in relation to the orange clay at the point they were closest and tells you:

- Result:
 - HIT!
 - MISS!
 - NOT BROKEN!

DryFire knows the energy in each pellet along its path to the clay, how the shot cloud spreads and how much energy is required to break the clay. So if you shoot at a clay when it is too far away DryFire will determine that you failed to break the clay even if the clay is within the shot cloud – you need to shoot at the clay when it is closer to you.



You can change the energy required to break clays via the Energy required flat-on and Energy required edge-on settings on the [Clay details dialog](#). Set them to zero to cause DryFire to ignore distance when deciding if the clay was broken.

- **WRONG CLAY!**

When shooting a double target where the clays should be shot in a specific order DryFire will also tell you if you aimed at the wrong clay.

- Distance and time
 - Pointing Error: The distance from the center of your shot cloud to the center of the clay.
 - Above/Below, Ahead/Behind, Left/Right: An indication of where your shot was in relation to the clay.
 - Distance: The distance the clay was from you.
 - Time: The time from when the clay was released.
 - Distance from stake/post: For Skeet layouts the distance the clay was from the stake/post is also shown.

You can increase or decrease the size of the font used to display result information by pressing Alt + and Alt – respectively. Press Alt 0 to reset the size to its default.

This information, together with the representation of the shot cloud and clay, tell you what you did wrong, or right. Perhaps you have given too much or too little lead? Now, rather than guessing, you can see exactly what was wrong and correct it!

When showing the results of a shot DryFire shows the clay larger than its real size, so that it is visible on screen.

Click the **Finish** button on the DryFire toolbar when you want to finish practicing this target.

Automatic target release

You can configure DryFire to release targets at regular intervals, rather than wait for you to call "Pull", press the foot switch or press the space bar.

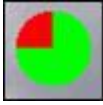
To do so:

1. Display the Automatic target release dialog by either:
 - Clicking on the status circle to the left of the target selection on the toolbar.
 - Selecting the Setup, Automatic target release menu.
2. Tick the Enable automatic target release option and set the required Release interval.
3. Click the OK button.

In automatic target release mode the green status circle on the left of the toolbar gradually changes to red as the selected interval passes, when it is all red DryFire automatically calls "Pull" – any **Target delay** defined via the layout or on the [System configuration dialog](#) or [Configure Delays dialog](#) is then applied before the targets are shown on the wall.

If DryFire should listen for verbal "Pull" commands during the release interval, tick the **Voice override of automatic release** option.

When using DryFire's projector option in automatic target release mode, a countdown timer is shown in the upper left corner of the projected image – the timer changes from green to red as it counts down to automatically releasing the target:



Press **Ctrl Y** to quickly turn automatic target release mode on or off.

Example 2: ATA Doubles or DTL (Double Rising), whole round

Now let's try practicing a whole doubles trap layout using either the **Trap American Double** or **DTL (Double Rising)** layout, depending on whether you shoot the US discipline or not.

You can shoot doubles using DryFire whether you have a single head or a double head simulator.

When using a single head simulator:

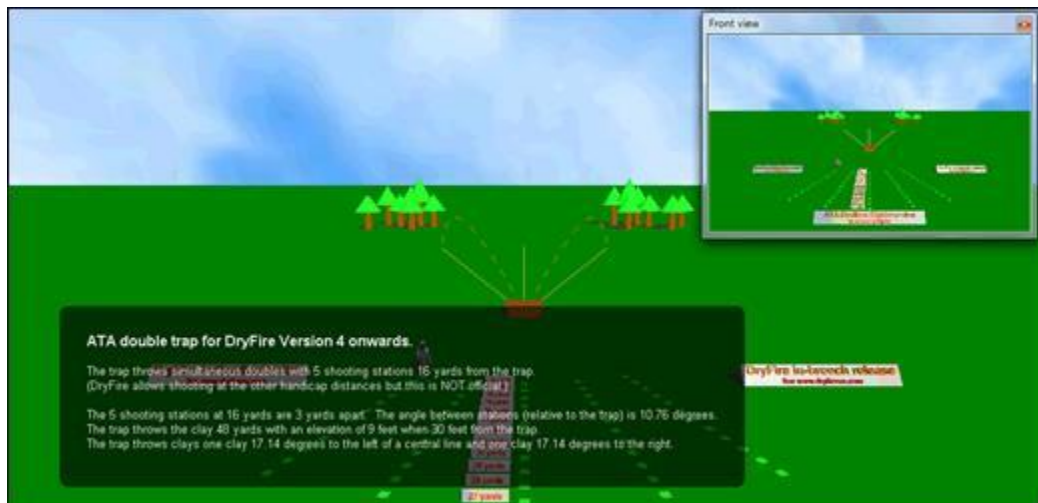
- ☐ DryFire can only show one clay at a time.
- ☐ By default DryFire will switch to show the second clay, at whatever point it would have reached in its flight, if you hit the first clay with your first shot or you are required to shoot at the second clay with your second shot.

You can configure DryFire to show the second clay after you shoot at the first clay even if you miss the first, so long as the second shot is permitted to be taken at the second clay.

For these disciplines DryFire will allow only one shot at each clay in any order; if you shoot at the same clay twice and break it with your second shot it will not count.

Select the **File, Layouts** menu. Look for and double click on either **Trap American Double** or **DTL (Double Rising)** in the left column.

DryFire shows you the view from the initial stand in the main window, the ATA Doubles view is shown below:



In Target comes to shooter mode

With this layout, and most non-Sporting layouts, DryFire V4 can operate in either of two **Room modes** offered by DryFire V4:

- Target comes to shooter

The way that previous versions of DryFire have worked and is supported by all layouts, including sporting.

All shots are taken from the same physical location at in the room and the clay's trajectory is shown on the wall as it would appear on the range when viewed from the appropriate stand/station.

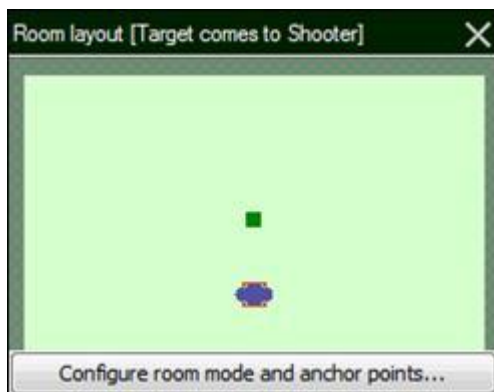
- Move around the room

In this mode shooters stand in different physical locations in the room depending on the station/stand that the target being presented relates to and DryFire shows the clay(s) emerging from or passing through fixed points on the wall, known as anchor points.

This mode is useful when you want specific points on the wall to relate to points on the range, such as traps, trap houses or stakes, or are using a scenic wall canvas such as those available via www.dryfireus.com or your local DryFire dealer.

We will initially shoot the layout in **Target comes to shooter** mode and then look at how you could shoot it in **Move around the room** mode.

The currently selected **Room mode** is shown in the title of the **Room layout** diagram at the top of the sidebar (press F8 to show the sidebar if it is not already displayed):



It includes several elements:

- The large pale green area represents the room, with the main projection wall represented by the horizontal line at the top.
- The simulator's location is represented by the small dark green square.
- When operating in **Target comes to shooter** mode: The single location that all shooters take it in turns to shoot from is represented by a red checked square.
- The shooter's location is shown by the blue ellipse.

Unless you have previously reconfigured this layout to operate in **Move around the room** mode **Target comes to shooter** mode will be selected.

When a layout that supports Move around the room mode is open the Configure room mode and anchor points button and the Setup, Room mode and Anchor points menu are active, select either to show the [Configure room dialog](#) to switch between modes and move anchor points.

These layouts launch rising clays, so a gun that shoots high is often used. If you are using a new installation of DryFire V4, select **Trap gun** from the **Shotgun** list on the toolbar.

Click the **Align** button to [calibrate the shotgun's muzzle insert](#) so you're sure DryFire knows where it is pointing when you take your shots.

You should configure DryFire so that it knows the real-world Point Of Impact of your shotgun, the type of choke you may have fitted and the characteristics of your cartridge so that DryFire can use that information to more accurately determine whether you would hit or miss the clay.

For more information on how to do this, see the Shooter and Gun settings section.

You could select a specific target from the list to practice just that target as you did previously, but this time we'll practice the entire layout as a complete round.

The preview window is useful when you're practicing a whole round as it shows you the view of the next clay's trajectory from the stand you will take the next shot from while DryFire shows the result(s) of your last shot(s) in the main window.

If the preview window isn't already shown, press **F9** to display it.

When practicing a whole round of targets you can configure DryFire to announce your scores and provide minimal spoken instructions. To do this: Select the **Setup, System configuration** menu to show the [System configuration dialog](#), locate the **Program options** section and set the **Speech** to **Chatty** then click the **OK** button.

To practice a round (five simultaneous doubles from each of the five stations), select **Round** in the **Target** list then click the **Start** button.

As before, the DryFire status circle is green and you should hear a “ping” when DryFire is ready to release a target.

Let’s just take a look at the target initially, without trying to shoot it - call “pull” and look at the wall.

Pick up your gun and take up your shooting stance behind the simulator or wherever you have told DryFire you will stand.

When you’re ready, call “Pull” then acquire and shoot at the laser as you would the clay on the real range – give as much lead as you would normally.

As before DryFire will show you the results of your shots in the main window, maintain your score in the toolbar and update your score card in the sidebar.

DryFire will show which target is to be released next in the **Target** drop down list on the toolbar, on the left side of the status bar and in the preview window’s title bar.

Keep calling pull when DryFire’s status circle is green or you hear the “ping” sound to take shots at all targets in the round.

If you don’t want to complete the whole layout, click the Finish button on the toolbar to stop immediately.

When practicing an ATA Single, Double or Wobble Trap layouts you can change the trap settings by selecting the Setup, ATA trap settings menu to show the ATA trap settings dialog.

When practicing ATA Single Trap layouts, the current shooter’s ATA handicap yardage is applied. To change the handicap yardage, edit the shooter’s settings.

In Move around the room mode

OK, now you’ve seen how DryFire allows you to practice a whole layout from one position in your room with DryFire showing the targets on the wall as they would appear from the perspective of each stand on the range, let’s try the same but in **Move around the room** mode.

Move around the room mode works best when the simulator is positioned mid-way across the width of the main projection wall as it will position the room stands and anchor points symmetrically either side of the simulator using whichever is the shorter of the Wall left/right of simulator distances.

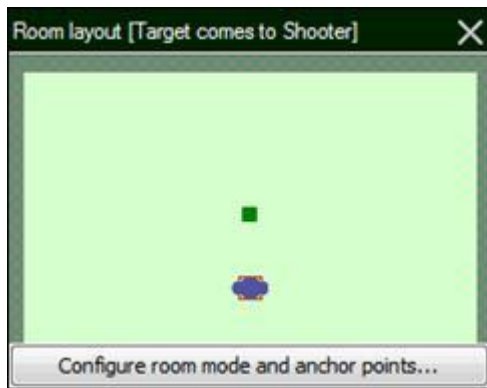
Since the room, you and your gun are not all similarly scaled the room stand locations calculated by DryFire may not produce the same pattern (i.e. a straight line or an arc) as you see on the real range – this is not wrong, DryFire is ensuring

the angles are correct.

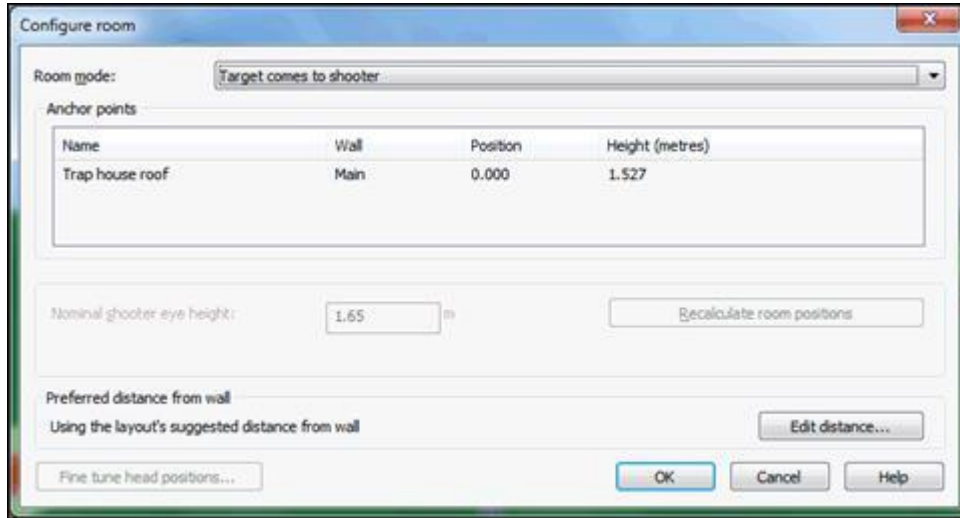
Before DryFire can accurately calculate where you should stand in the room to view the trap locations on the wall accurately it needs to know more details of your room and especially the width of the main projection wall (or canvas).

1. Select the **Setup, System Configuration** menu to display the [System Configuration dialog](#).
2. Review and edit the settings in the Simulator Settings section of the dialog.
3. Click the OK button to close the System Configuration dialog.

If it isn't already displayed, press **F8** to show the DryFire sidebar which includes the **Room layout**:



Click the **Configure room mode and anchor points** button to show the [Configure room dialog](#):



The active room mode is initially **Target comes to shooter**, click on the down arrow at the end of the **Room mode** setting to see a list of possible room modes:

- **Target comes to shooter**

This is the way that previous versions of DryFire have worked and is supported by all layouts.

All shots are taken from the same physical location at in the room and the clay's trajectory is shown on the wall as it would appear on the range when viewed from the appropriate stand/station.

- **Move around the room**

In this mode shooters stand in different physical locations in the room depending on the station/stand that the target being presented relates to and DryFire shows the clay(s) emerging from or passing through fixed points on the wall, known as anchor points.

This mode is useful when you want specific points on the wall to relate to points on the range, such as traps, trap houses or stakes, especially when using a scenic wall canvas such as those available via www.dryfire.com or your local DryFire dealer.

For “trap” layouts such as ATA, DTL, Olympic or Universal Trench, there are two sub-modes:

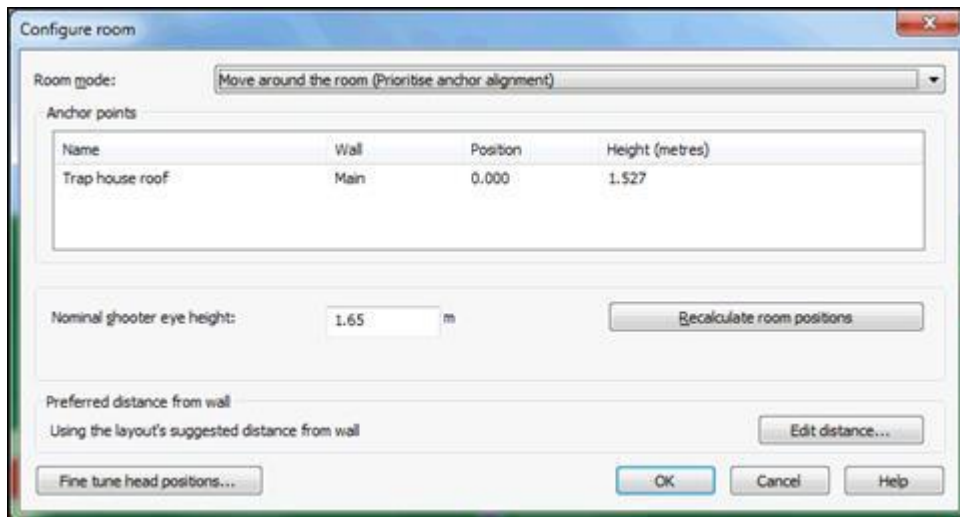
- **Prioritize anchor alignment**

DryFire prioritizes the anchor point location over individual shooter height and, when appropriate to the discipline, handicap.

- **Prioritize target accuracy**

DryFire prioritizes individual shooter height and, when appropriate to the discipline, handicap when showing clay trajectories – the clay launch point may vary.

Select **Move around the room (Prioritize anchor alignment)**:



DryFire automatically calculates the appropriate height for the open layout’s trap on the wall and positions it directly in front of the simulator on the Main projection wall.

The **Nominal shooter eye height** and, when appropriate to the layout, **Nominal shooter handicap** are used to calculate anchor point heights and clay trajectories. For best results, set these to match the shooter or the average of the shooters, and then click the **Recalculate room positions** button to recalculate the anchor’s height and the room stand locations.

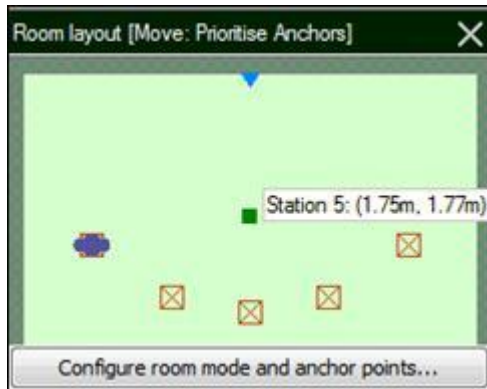
Each trap layout that supports “Move around the room” mode has a built-in preferred distance from the wall which is used to calculate the anchor point and room stand locations. To override this distance and set your own, click the **Edit distance** button.

To directly change the height of the anchor point on the wall, i.e. the trap location: double click on the value in the **Height** column, edit the value then press **ENTER**. DryFire will tell you if it cannot use the height you enter then revert back to the

previous height.

Click the **OK** button to apply the selected room mode and settings.

The **Room layout** in the DryFire sidebar changes to show the **Move around the room** mode is active:



It includes the original and some more elements:

- The main projection wall is represented by the horizontal line at the top of the room diagram.
- The simulator's location is represented by the small green square.
- The location(s) where shooters stand, depending on their next target, are represented by red checked squares.
- Fixed points on the wall, known as anchor points, related to traps, trap houses and stakes are represented by blue triangles.
- The current shooter's location is shown by the blue ellipse.

You can use the elements in the **Room layout** as follows:

- Click on the red squares and blue triangles to see details of their locations, relative to the point on the main projection wall directly in-front of the simulator and to cause DryFire to project a laser dot on the wall directly at or, for room stands, in front of that element's location in the room.
- To mark each room stand(s) in your physical room:
 - Click on the red checked square that represents the room stand in the room plan - DryFire shows the room stand's position left/right of the simulator on the wall.
 - Measure out, perpendicular to the wall from that laser point, the distance DryFire shows on the room layout.

In the above example, the user has clicked on right most red square which represents Station 5, DryFire will have projected the laser at the wall directly in front of where Station 5's room stand should be (1.75m to the right of the

simulator) and you should measure out 1.77m from the wall at that point to mark the Station 5 room stand.

- To locate the anchor points on the wall(s):
 - Click on the blue triangle that represents the anchor point in the room plan - DryFire shows the anchor point's location on the wall so you can position a marker there.

OK, if you've marked the location of the trap on the wall by clicking the blue triangle on the **Room layout** and marked the location of the 5 room stands on the floor by clicking on each red square in the **Room layout** and measuring out from the wall where DryFire projects the laser the distance DryFire shows on screen, then we're ready to shoot the layout.

As before, select **Round** in the **Target** list then click the **Start** button.

DryFire will show the blue ellipse on station 1, you should stand where you have marked Room stand 1 and prepare for the clay to emerge where you have marked the trap house on the wall.

When you're ready, call "Pull" then acquire and shoot at the laser as you would the clay on the real range – give as much lead as you would normally.

As before, DryFire will show you the results of your shots in the main window, maintain your score in the toolbar and update your score card in the sidebar.

DryFire will show which target is to be released next in the Target drop down list on the toolbar, on the left side of the status bar and in the preview window's title bar.

After every 5 targets you will advance to the next station/stand, the blue ellipse in the **Room layout** will move to indicate which room stand you should shoot from.

Example 3: English Skeet

For this example we'll use the **English Skeet** layout to demonstrate single and double skeet targets.

Select the **File, Layouts** menu and double click on the **Skeet English** entry in the left column.

The main DryFire window shows you the view from the front of the layout and information about it:



This layout requires the simulator to be inclined at 45° so that targets from stands 1, 2, 6 and 7 can be shown more completely.

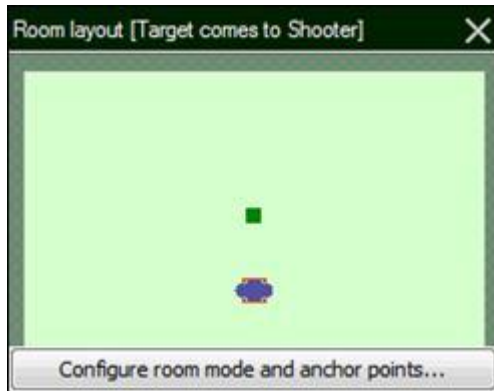
When DryFire needs you to change the simulator angle (e.g. from 0° to 45° or from 45° to 0°) it includes this information in the black background information box and automatically reconfigures itself on the assumption that you will incline the simulator as required. Make sure you check the displayed information in case you need to change the simulator angle.

If you only want to shoot targets from stands 3, 4 and 5 then you can leave the simulator horizontal, but you must tell DryFire by selecting the **Setup, System configuration** menu to show the [System Configuration dialog](#) and then set **Simulator Angle** to zero in the **Simulator settings** section.

In Target comes to shooter mode

With this layout, and most none Sporting layouts, DryFire V4 can operate in either **Target comes to shooter** or **Move around the room** modes. We'll shoot some targets in the default **Target comes to shooter** mode initially and then take a look at how these same targets appear in **Move around the room** mode.

Check the active **Room mode** shown in the title of the **Room layout** diagram at the top of the sidebar (press **F8** to show the sidebar if it is not already displayed):



If the active mode is not **Target comes to shooter**, click the **Configure room mode and anchor points** button, select the **Target comes to shooter** room mode and click the **OK** button.

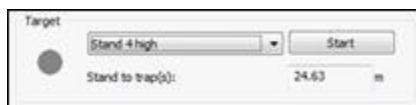
Unless you have previously reconfigured this layout to operate in **Move around the room** mode **Target comes to shooter** mode will be selected.

When shooting skeet you usually use a gun that shoots 50:50, sometimes known as "flat". On the right side of the DryFire toolbar click on the currently selected **Shotgun** to see a list of guns associated with the currently selected Shooter, if you're using a new installation of DryFire V4 select **Skeet gun**:

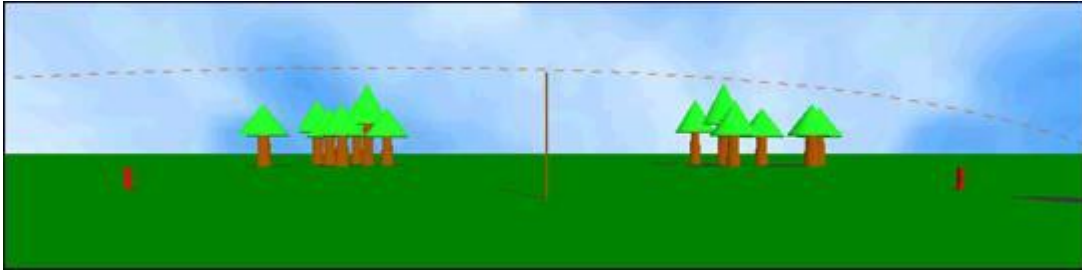


Click the **Align** button to [calibrate the shotgun's muzzle insert](#) so you're sure DryFire knows where it is pointing when you take your shots.

Let's start with a single skeet target from the high-house taken from stand/station 4. Select **Stand 4 high** from the **Target** list on the left side of the toolbar:



The display changes to show the view from the newly selected stand/station and the new target's trajectory:



Now you're looking directly at the crossing point and, as before, the dashed orange line represents the path the clay would take from the high house on your left to ground on your right. When this target is released DryFire will show as much of the center of this trajectory, where you would normally take the shot, on the wall as it can.

Click the **Start** button to the right of the **Stand 4 high** target selection.

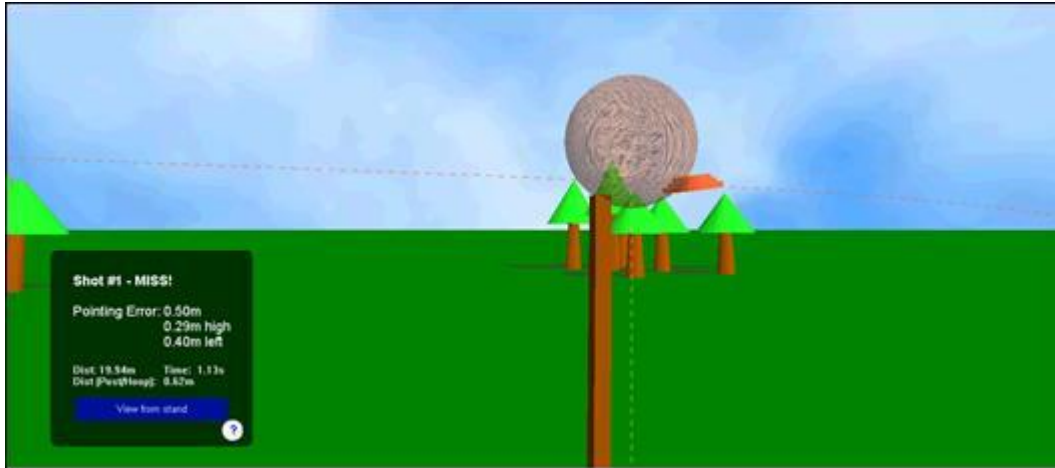
When the status circle on the DryFire toolbar is green or you hear the "ping" sound, look at the wall to see the clay's trajectory and call "Pull" loudly.

OK, now let's try to hit it!

Pick up your gun and take up your shooting stance behind the simulator or wherever you have told DryFire you will stand. DryFire isn't a substitute for an instructor or coach, so stand and prepare for the shot as you've been told to do on the real range.

When you're ready; glance to the left, from where the high-house clay will appear, and call "Pull" loudly. As you see the laser appear, start your swing, acquire the clay, allow for lead as normal and press the trigger switch to shoot – if you have sound enabled you should hear a bang from the PC. If you hit the clay the laser dot will disappear immediately.

As DryFire detects your shots it will show the results on the screen:

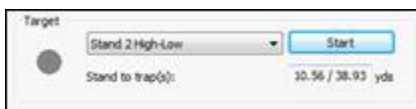


If you missed, use the results to learn why – perhaps you gave too much or too little lead. When you're ready to try again, take up your shooting stance again and call "Pull" to take another target then repeat this until you're happy.

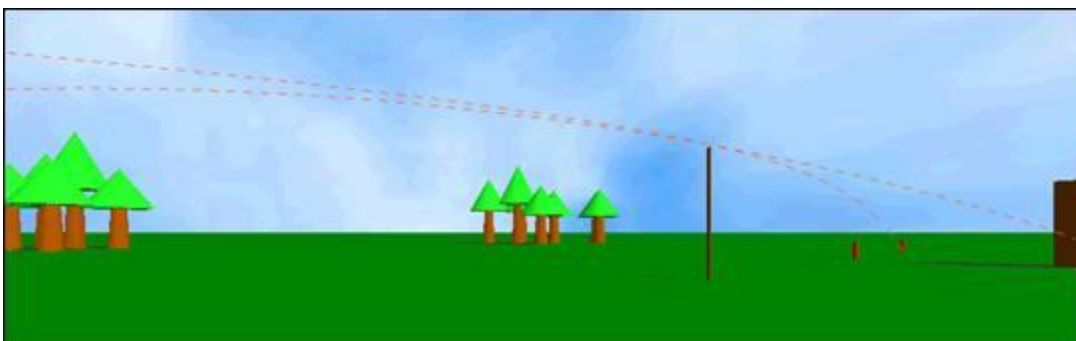
Click the **Finish** button on the DryFire toolbar when you want to finish practicing this target.

Let's try a doubles target – you can do this even with a single head simulator.

Select **Stand 2 HighLow** from the target list:



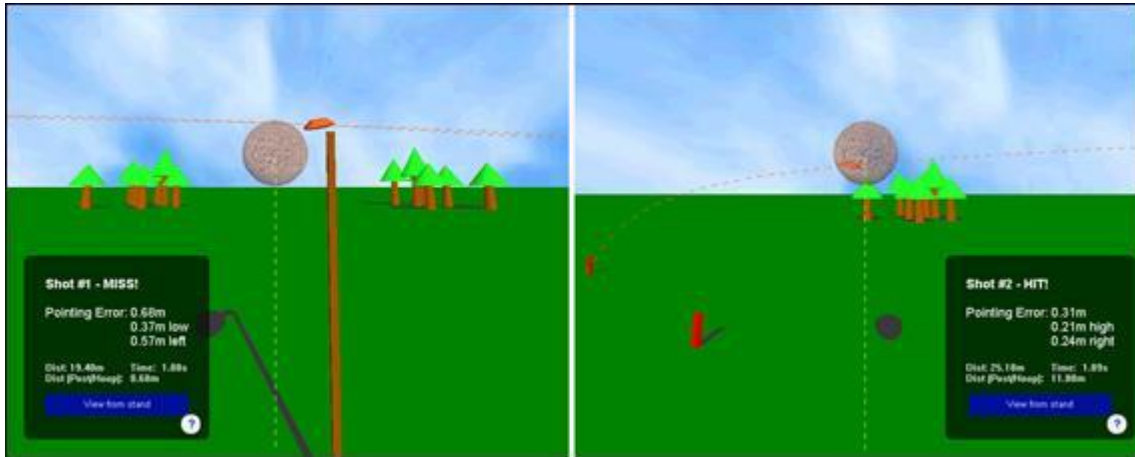
Notice that DryFire now shows two dashed orange lines on the view from stand 2 – one represents the trajectory of the clay from the high-house to your left and the other represents the trajectory of the clay from the low-house to your right:



Click the **Start** button and call "pull" then watch the clays as they arc across the wall.

When you're ready to try to hit the clays, pick up your gun and take up your shooting stance behind the simulator or wherever you have told DryFire you will stand – remember you'll shoot the High-house clay from your left first. Call "Pull" and, as you see the laser appear, start your swing, acquire the clay, allow for lead as normal and press the trigger switch to shoot – if you have sound enabled you should hear a bang from the PC. If you hit the clay the laser dot will disappear immediately. Then acquire and shoot at the second clay.

As DryFire detects your shots it will show the results on the screen, up to two shots:



Results for your first shot will always appear on the left side of the screen and results for your second shot on the right side, irrespective of which side of the wall you shot at.

When the order you should shoot the clays is significant, as in this case:

- If you shoot at the wrong clay and miss, the distances will be from the clay you should have shot at.
- If you hit or aim at the wrong clay DryFire will show **WRONG CLAY**.

Click the **Finish** button on the DryFire toolbar when you want to finish practicing this target.

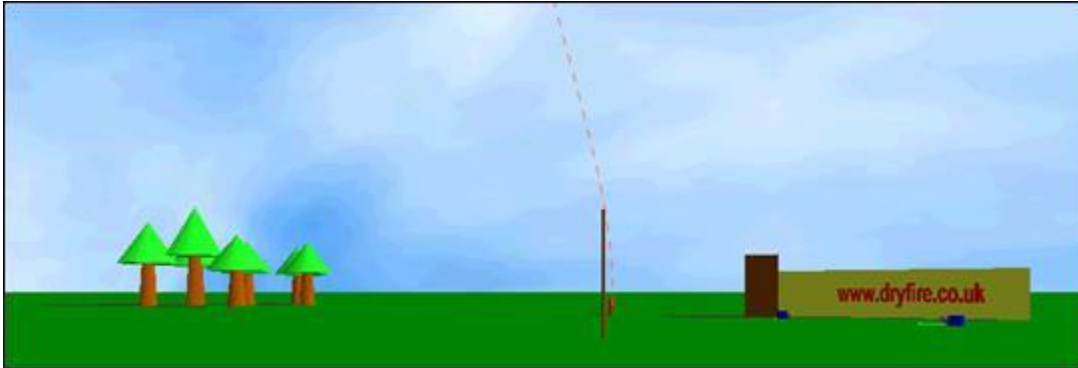
Let's try a target from a different perspective – stand 1 high-house.

IT MAY SOUND OBVIOUS, BUT TAKE A MOMENT TO CONSIDER HOW MUCH CLEARANCE YOU HAVE TO THE CEILING AND WHETHER THERE ARE ANY OTHER OBSTRUCTIONS ABOVE YOUR SHOOTING LOCATION. THIS TARGET STARTS BEHIND YOU AND APPEARS OVERHEAD; TAKE CARE NOT TO HIT ANYTHING WITH YOUR GUN!

Select **Stand 1 high** from the **Target** list:



Notice that the view on the screen from stand/station 1 of the trajectory of the high-house clay reflects what you would see from that stand on the real range looking towards the crossing point and is quite different to the previous views:



The dashed orange line shows the clay is coming from over your left shoulder and going away from you to land in the distance.

Click the **Start** button and call “pull” then watch the laser clay on the wall. You should see that this time the clay is shown coming down the wall from slightly left of center – DryFire shows you the clay as you would see it if you were physically standing on stand/station 1 on the real range while you remain in the same physical location in the room. In other words, DryFire brings the target to you.

When you’re ready to try to hit the clay, pick up your gun and take up your shooting stance behind the simulator or wherever you have told DryFire you will stand. By default you stand in the same location as for previous targets and DryFire shows you the clay as it would appear from the perspective of stand 1.

When you’re ready; glance up, from where you now know the high-house clay will appear, and call “Pull” loudly.

As normal, DryFire shows the results of your shot.

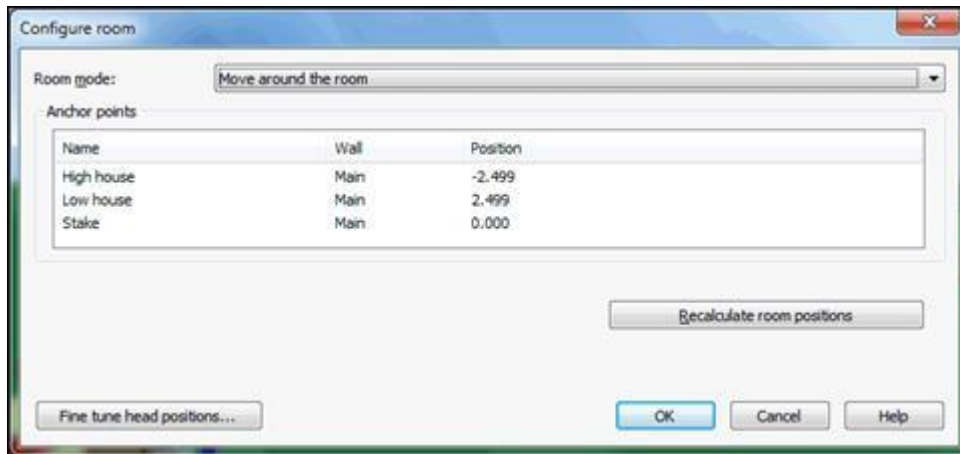
Click the **Finish** button on the DryFire toolbar when you want to finish practicing this target.

In Move around the room mode

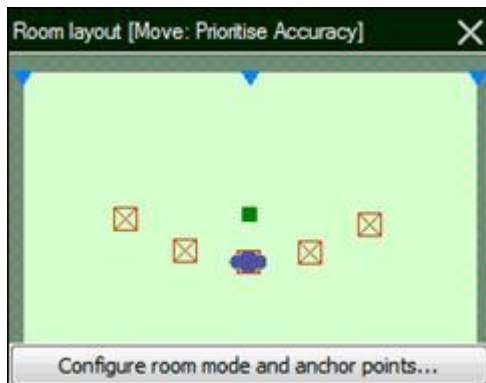
Skeet layouts work best in **Move around the room mode** with wide walls, ~5m or 5.5 yards. If you have a narrower room you should consider using **Target comes to shooter** mode for skeet layouts.

If you attempt to use a Skeet layout in **Move around the room** mode with a narrow projection wall you may find that DryFire cannot calculate room stand locations. If this happens you must either reconfigure DryFire to use a wider wall via the [System configuration dialog](#) or use the Skeet layout in **Target comes to shooter** mode.

OK, now let's try those targets again, but in **Move around the room mode**. Press **F8** to show the sidebar if it isn't already displayed then click the **Configure room mode and anchor points** button below the **Room layout** diagram to show the [Configure room dialog](#) and set the **Room mode** to **Move around the room** as shown below then click the **OK** button:



The **Room layout** diagram is updated to indicate that **Move around the room** mode is active:



As before the room diagram uses blue triangles to represent anchor points but this time there are three representing the high-house, stake and low-house respectively.

The red squares represent the room stands – click on them and measure out the distance DryFire then displays from the laser on the wall to mark the room stand locations.

In Skeet layouts it isn't possible to stand in the room at a location that would provide the same perspective of the clay's trajectories as would be seen from Stations 1, 6, 7 or 8 on a real range – to do so would require you to stand directly against the main projection wall. So shots at these targets are taken from Station 4's location and they are not anchored to the High or Low house.

In effect this means that you stand at Station 4 to take Station 1, 6, 7 or 8 targets and the clay's trajectories for these targets are always shown in Target comes to shooter mode.

Select the target you want to practice from the **Target** list on the toolbar, or select **Round** to practice a whole round of targets, and then click the **Start** button.

DryFire will name the next target to be shown in the **Target** field, show the view of that next target in the **Preview window** and indicate the room stand the shooter should stand on with a blue ellipse in the **Room layout** diagram.

Using a Projector and the DryFire Projector option

PLEASE NOTE THAT YOU MUST PROVIDE YOUR OWN PROJECTOR AND THE WINDOWS PC YOU ARE USING TO RUN DRYFIRE MUST HAVE A SUITABLE GRAPHICS CARD TO CONNECT TO THE PROJECTOR.

THE DRYFIRE PROJECTOR OPTION ENABLES DRYFIRE V4 TO USE SUCH A PROJECTOR.

The Projector option enables DryFire to show a scenic background image on the wall through a projector connected to the DryFire V4 PC via a second display adapter.



Connect the projector to your PC's second display adapter then select the option to extend your desktop to that second display:

- Press the **Windows** and **P** keys on your keyboard at the same time.

- Select **Extend** from the list of options then presented.

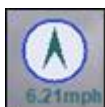
To allow DryFire to show the scenic background through your projector, select the **View, Projector window** menu so that it is ticked – the image should immediately be projected.

To configure projection options, select the **Setup, Projector options** menu to display the [Projector Options dialog](#):

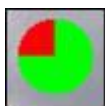
- To have textual shot results added to the projected image, tick the **Show results as text** option.
- To have shot results displayed as a clay and shot cloud on the projected image, tick the **Show clay and shot positions** option.
- To have DryFire show different colored circles around the shot clouds and highlight the related textual shot results with the same color, tick the **Color coded shots** option.
- To interact with DryFire using a projected menu, tick the **Use projected menu** option. Refer to the **Using the Projected Menu** section for more information.
- Use the **Target display** selection to choose whether targets should be shown by the laser or included in the projected image.
- To change the color of the projected clay target, click the image of a clay.

TO SHOW TARGETS, SHOT RESULTS AND MENUS CORRECTLY YOU MUST CALIBRATE THE PROJECTED IMAGE.

If wind is active, the current wind strength and direction of travel is shown in the upper right corner of the projected image.



In automatic target release mode, a countdown timer is shown in the upper left corner of the projected image – the timer changes from green to red as it counts down to automatically releasing the target:



Projection Calibration

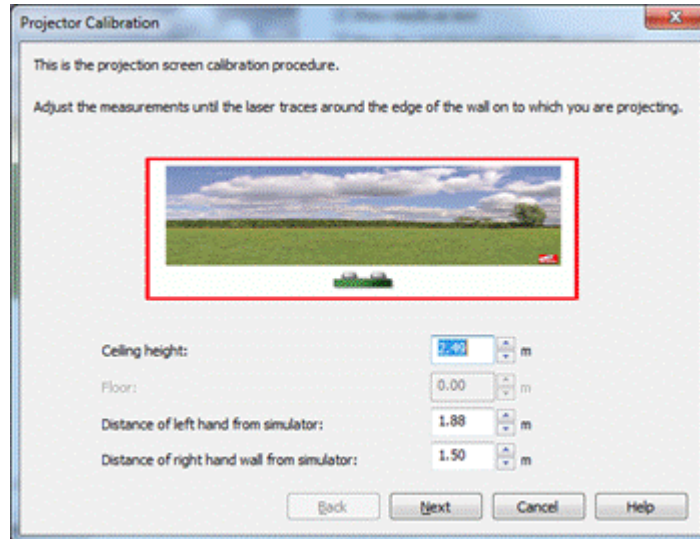
First, ensure that the edges of the projected image are as close as possible to horizontal and vertical.

As a general rule, we recommend that you position the image on the wall so that the horizon is approximately at, or slightly above, the average shooter's eye height.

However, if you are using a ground trap layout in Move around the room mode with fixed anchor points on the wall (as described elsewhere in this guide) check that the anchor points fall in the ground region of the image.

The projected image calibration wizard is launched by selecting the **Setup, Projector options** menu and then clicking the **Start calibration** button:

1. The first step is to check that the dimensions of the room and the position of the simulator in the room are set correctly.



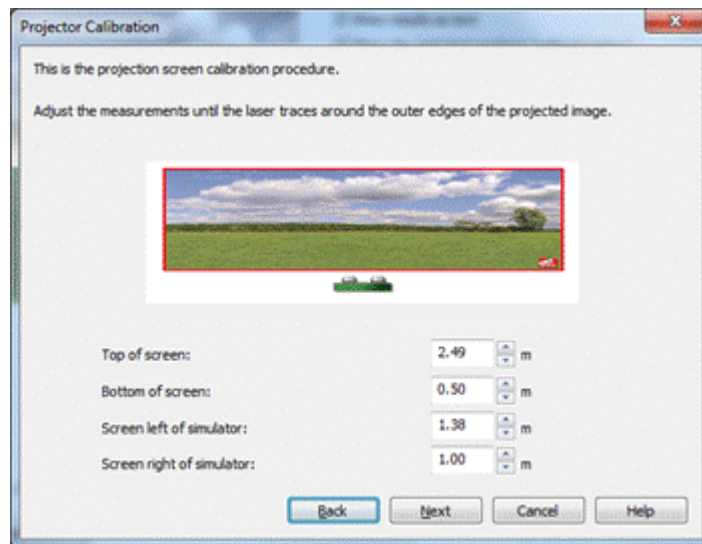
During this step, the DryFire simulator traces around the wall as defined in the system configuration settings. If the laser does not point accurately (within a few inches) of the corners, the settings for the room layout need to be checked and adjusted where necessary. As the dimensions are changed, the rectangle traced by the laser reflects those changes.

If the laser is higher in one corner than the other, the simulator unit is not parallel to the wall and needs to be rotated.

If the laser does not trace within a few inches of the floor, the simulator is either tilting, or its height is not set correctly. You will need to cancel projection calibration and change the [system configuration](#) to correct this.

Click **Next** when you are satisfied that the room settings are correct.

2. For this step, the head on the DryFire unit trace around the edge of the projection screen.

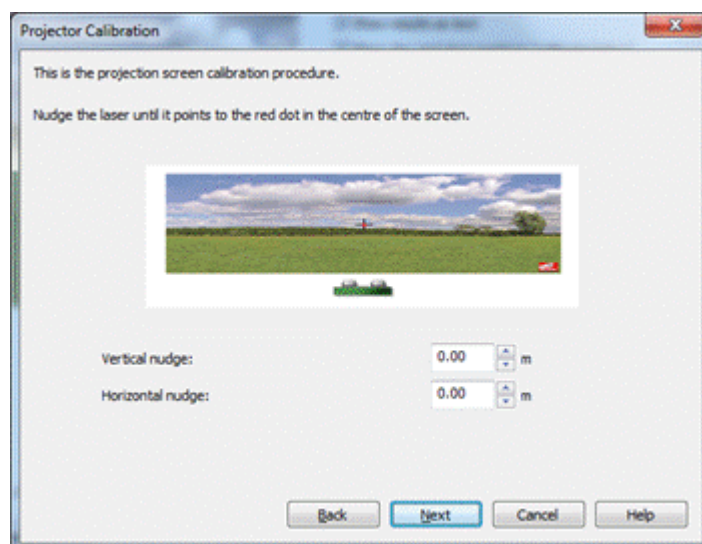


Adjust the screen dimensions until the laser traces around the edge of the projected area as accurately as possible. As the dimensions are changed, the rectangle traced by the laser reflects those changes.

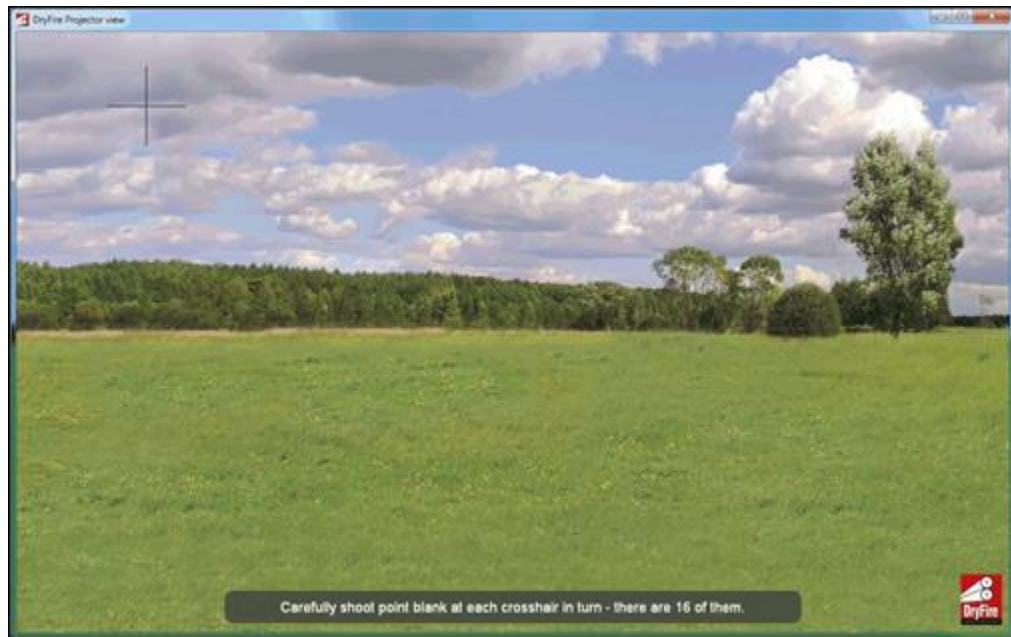
When the screen dimensions are correct, click **Next**.

3. Next make fine adjustments to the calibration so that the laser points to a crosshair in the center of the projected image.

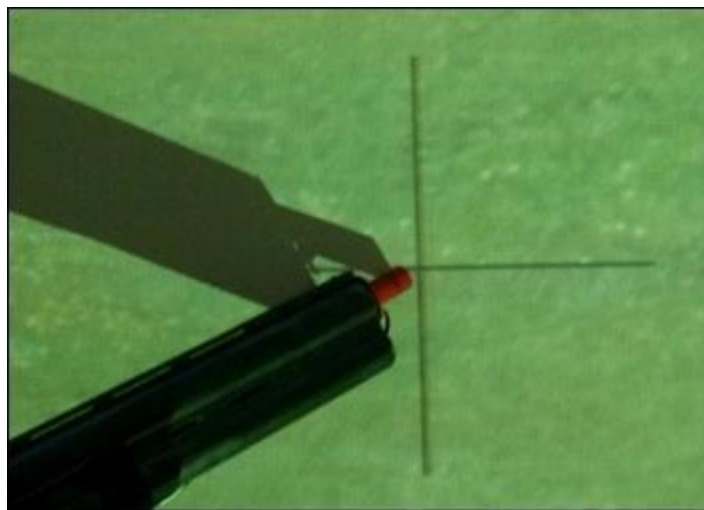
Change the vertical and horizontal nudge values to make the laser point at the center of the crosshair.



4. DryFire will now show a series of 16 crosshair targets in the projected image.

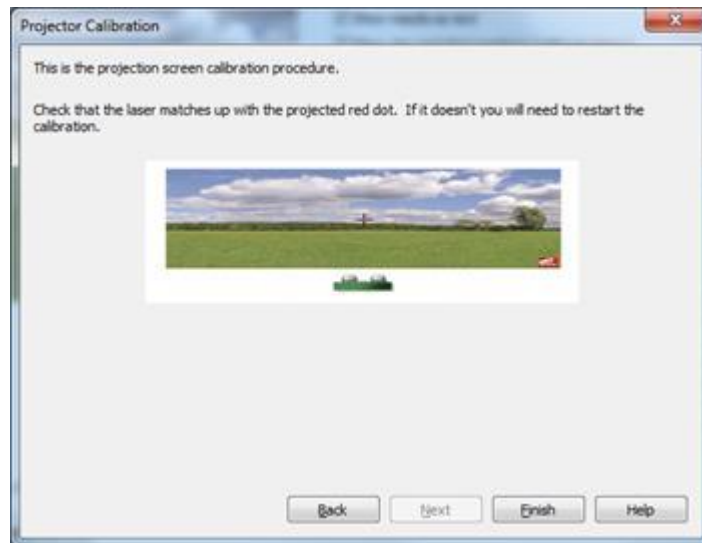


Shoot once from point blank range directly at each of the crosshair targets as they appear in the projected image. Take care not to obstruct the simulator's view of the cross hair, stand to one side and shoot at the cross hair at about a 45 degree angle to the wall with the muzzle right against the wall.



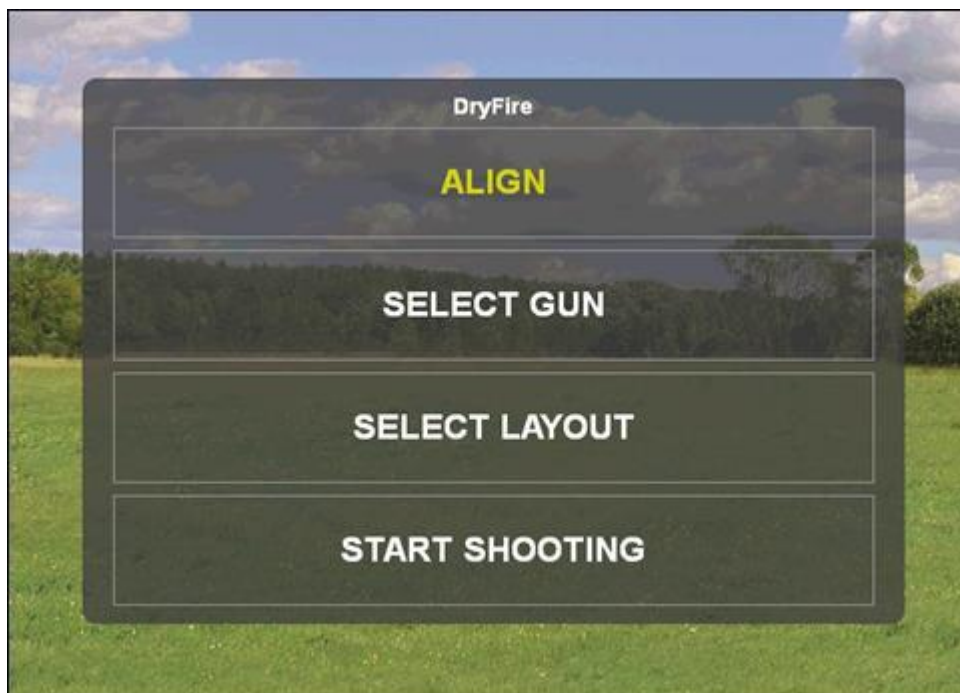
When DryFire has seen your shot at the current crosshair target it will show you the next.

5. As a final test, DryFire will point the laser at the center of the projected image, marked by a red dot. If the laser does not line up with the red dot, the calibration is not accurate and should be restarted.



Using the Projected Menu

DryFire can show a menu on your wall to allow you to select several frequently used functions just by shooting at the wall:



To enable the projected menu:

1. Select the **Setup, Projector options** menu to display the [Projector Options dialog](#).
2. Tick the **Use projected menu** option.
3. Click the **OK** button.

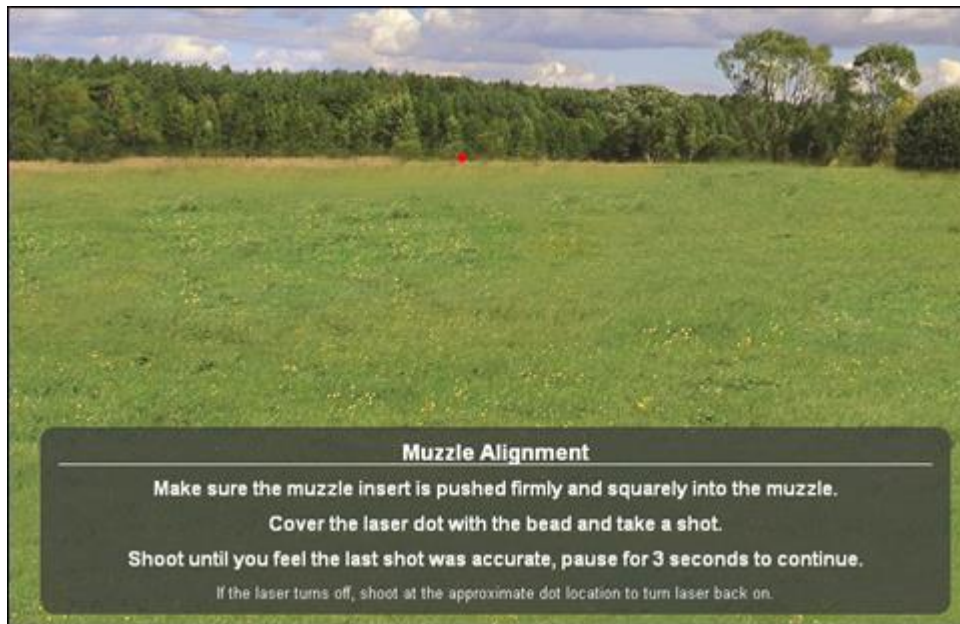
When the projected menu is enabled, DryFire will leave the infra-red camera in your simulator's head(s) on before targets are shown. To display the projected menu, shoot at the area of the wall that either simulator head is pointing towards when no visible targets are shown on the wall, e.g. the current target's launch point.

You then select items from the projected menu by shooting at the required entry.

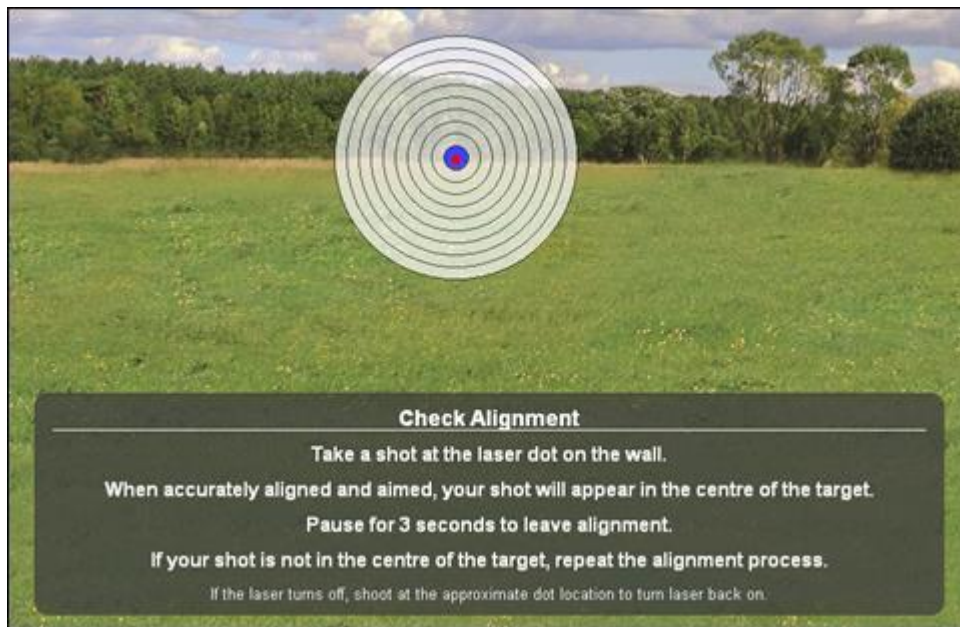
If enabled, the projected menu will be displayed when DryFire sees infra-red light on the wall before a target is released, e.g. if you shoot. If the projected menu appears unintentionally you can either wait a short while for it to go away or shoot around the edges of the menu, not at any item in the menu, to make it close immediately.

Eight of the many layouts supported by DryFire V4 can be selected via the projected menu's "Select Layout" entry, contact us if you want to change the eight.

You can use the projected menu to quickly re-align your shotgun's muzzle insert by shooting at the **ALIGN** entry on the projected menu. The following will then be displayed on the wall:



Shoot directly at the red laser dot until you're confident your aim was accurate, as for normal muzzle alignment. Then pause for 3 seconds to progress to the check alignment stage:



Shoot again directly at the red laser dot and a red circle should appear on the blue target on the wall. When accurately aligned and aimed, your shot will appear in the center of the target on this dialog.

Pause after shooting for 3 seconds to leave the alignment process then repeat alignment if your "check alignment" shot didn't appear in the center of the blue target.

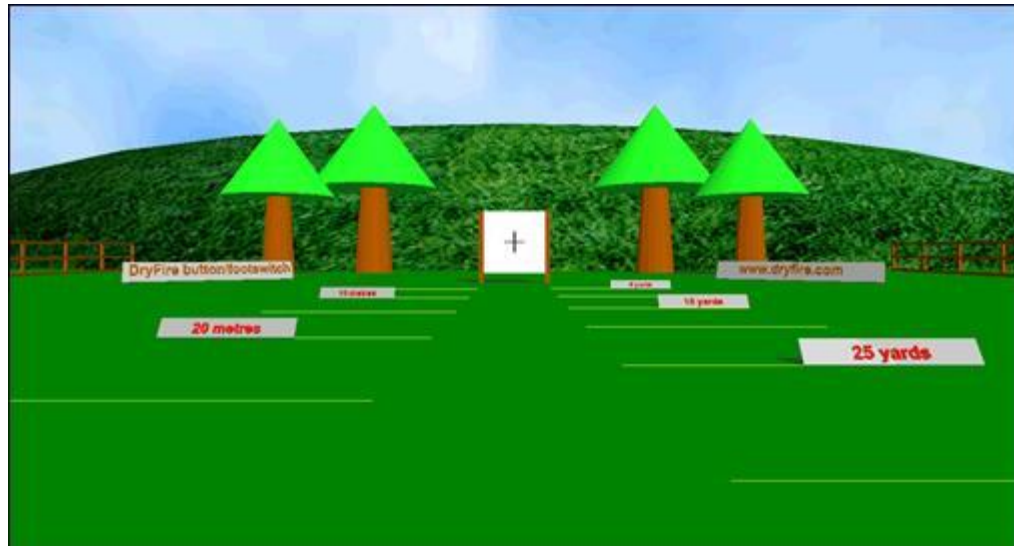
The DryFire Pattern Board

DryFire provides a pattern board so that you can confirm your DryFire gun shoots like your real gun, taking into account both the choke fitted to and the Point Of Impact [POI] of each barrel in your shotgun as well as gravity and distance.

You can also use the DryFire pattern board to calculate equivalent POI at different distances.

After [aligning the muzzle insert](#), use the DryFire pattern board as follows:

1. Select the Setup, Pattern board menu (or press F7), the DryFire Pattern Board target is displayed which you can use to pattern your gun:



2. The pattern board toolbar is slightly different:



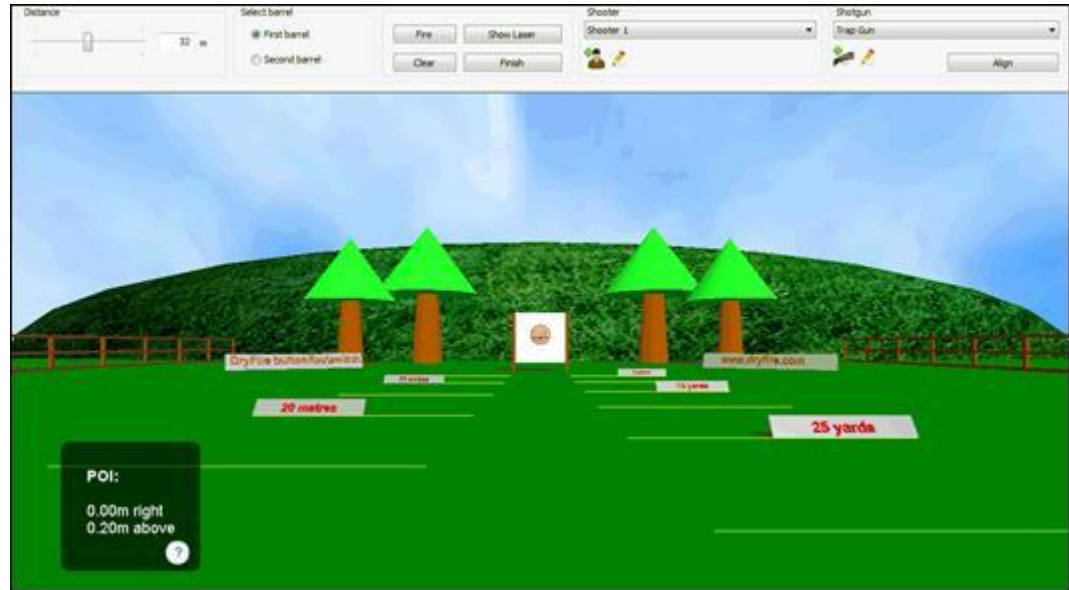
3. Use the slider or edit the number in the Distance frame to change the distance you are standing from the pattern board.

The default distance will be the distance at which the POI for the selected gun's barrel is defined – so in the above example the POI for the first barrel of Shooter 1's Trap gun is defined at 32m. The middle tick mark on the slider control also corresponds to the POI distance.

Click on the main window then use the mouse scroll wheel (or "8" on the keyboard's number pad) to zoom in.

4. Select the appropriate Shooter, Gun and Barrel on the toolbar.
5. Click the Fire button to have DryFire show you where the shot cloud would appear for a shot aimed perfectly at the center of the pattern board from the current distance.

DryFire will report the distance above/below the aim point – if you are shooting from the distance your gun's POI is defined at then this should match your POI, as shown by the following **Trap gun** which shoots 70:30 (or 0.2m) high at 32m:



6. If you want to take a shot yourself, click the Show Laser button and DryFire will show a static laser on the wall for you to aim directly at.

This will also demonstrate your POI, but only if you aim perfectly, so it is often best to use the toolbar's Fire button to confirm the POI.

7. Click the Clear button to clear the pattern board.
8. If necessary you can select another gun, edit the currently selected gun or recalibrate the muzzle insert for the current gun using the controls in the Shooter and Shotgun frames on the toolbar.
9. When you've finished using the pattern board, click the Finish button.

Calculating equivalent POI at different distances

You can also use the pattern board to have DryFire calculate the POI equivalent to your gun's POI at a different distance – this can be useful if your gun needs a POI defined at 37 yards but you need to pattern it in the real world at a shorter distance so that you can see where the pellets hit the board.

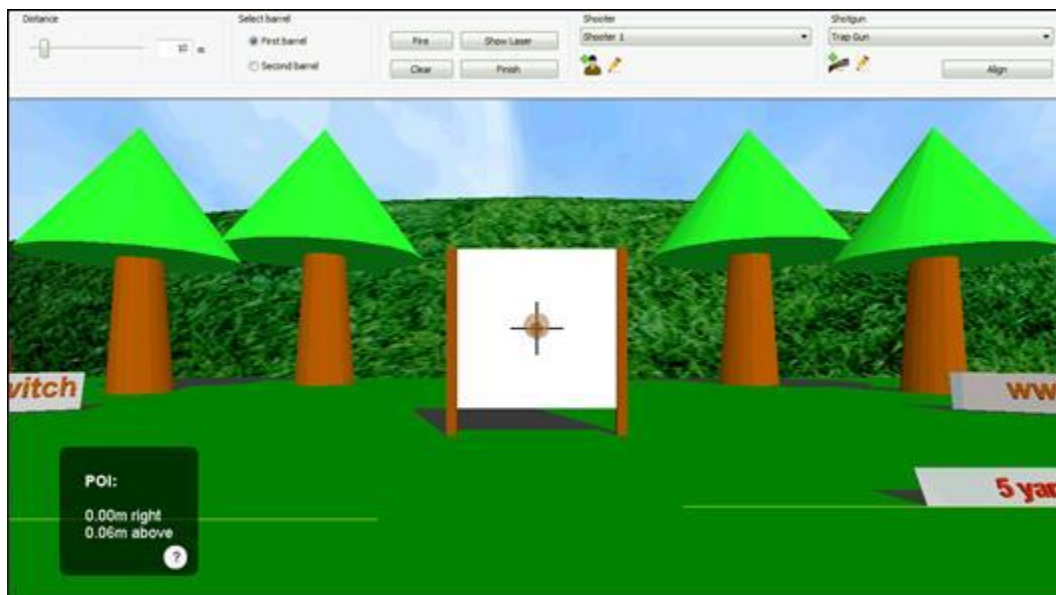
First, configure your existing shotgun or create a new shotgun in DryFire with the primary POI you want to calculate an equivalent POI to, e.g. 0.2m high at 32m or 7.9" high at 35 yards.

Then select the **Setup, Pattern board** menu (or press **F7**) to display the DryFire pattern board.

Make sure that the appropriate shotgun and the main POI distance, e.g. 32m or 35yards, is selected are selected on the DryFire toolbar then click the **Fire** button. You should see that the result box confirms your gun's POI, i.e. **0.2m above** or **7.9" above**.

Use the toolbar's **Distance** slider to select the alternative distance for which you want to calculate an equivalent POI, or type the alternative distance into the distance value field. Click the **Fire** button again – the equivalent POI is now shown by the **above** value in the result box.

In the following example using the default **Trap gun** which is configured as POI 70:30 (or 0.2m, with no choke) high at 32m you can see that the equivalent POI is 0.06m high at 10m:



More detailed configuration

This section refers to several dialog boxes that DryFire displays so that you can configure it. For details of these dialog boxes refer either to Appendix B in this guide or you click the **Help** button on the dialog itself.

Now that you've used DryFire, take some time to fully configure it so that it knows more about the dimensions and layout of the room in which you are using it and more about you and your shotgun(s).

Room Settings

On installation you are required to tell DryFire some basic information about your room's layout. If DryFire is to show you laser clays most accurately you need to provide more information about your room:

1. Select the **Setup, System Configuration** menu to display the [System Configuration dialog](#).
2. Review and edit the settings in the **Simulator Settings** section of the dialog.
3. If your room has a sloping ceiling or you want to use part of the side walls to show the trajectory of wide targets, click the **Advanced** button to show the [Advanced Configuration dialog](#) then review and edit the settings in the **Room settings** section of the dialog.

Click the **OK** button to close the [Advanced Configuration dialog](#).

4. Click the **OK** button to close the [System Configuration dialog](#).

Passwords

On installation DryFire V4 shooter passwords are disabled but the default administrator password is “dryfire”.

If you are not importing settings from an earlier DryFire V3/USA Friendly installation the default password for **Shooter 1** is “red”.

The administrator password can be entered at any time that a shooter's password is requested to gain access to the protected function.

To enable or disable password usage:

1. Select the **Setup, System configuration** menu to show the [System configuration dialog](#). If prompted, enter the administrator password.
2. Click the **Advanced** button to show the [Advanced Configuration dialog](#).
3. In the **Advanced options** section, tick or clear the **Enable shooter passwords** option. You are always required to enter the administrator password to disable passwords.
4. Click the **OK** button repeatedly to exit.

When shooter passwords are enabled:

- The current shooter's password, or the administrator password, must be entered to edit shooter and gun settings via any of the following means:
 - The **Edit, Shooters and their Guns** menu.

If the administrator password is entered or the currently selected

shooter is a “master” shooter then the [Shooters dialog](#) is displayed, double click on any shooter to edit their settings, change their password, edit their existing gun’s settings or add a new gun. If you enter the administrator password you can promote the shooter to a “master” shooter by ticking the **This shooter is a “master”** option or demote an existing “master” shooter to a basic shooter by clearing this option.

- The **Edit shooter** toolbar button.



- The **Edit shotgun** toolbar button.



- The **Add shotgun** toolbar button.



- The administrator password, or that of a “master” shooter selected on the toolbar, is required to access to the [System configuration dialog](#) via the **Setup, System configuration** menu.
- “Master” shooters or the administrator password is required to add shooters.
- The administrator password is required to delete shooters.

Any shooter can change or set their own password if they know their existing password.

The administrator password can be used to change any shooter’s password.

Shooter and Gun settings

On installation, unless settings are imported from an earlier version, DryFire V4 creates a single shooter (**Shooter 1**) with two guns (**Skeet gun** and **Trap gun**). These have standard properties, which you will need to edit so that they match your own – including the shooter's eye height and, for each shotgun barrel, the type of choke(s) fitted, the Point Of Impact [POI] and the cartridge characteristics.

If shooter passwords are enabled:

- To be able to edit any shooter or gun properties, either enter the administrator password or select a “master” shooter on the toolbar before selecting the **Edit, Shooters and their Guns** menu then enter that “master” shooter's password.
- The administrator password is required to create new shooters.

Editing a shooter's settings

To, for example, change the shooter's name, eye height or password; edit any of their guns or define new guns:

1. Select the shooter and click the **Edit shooter** button in the **Shooter** section of the toolbar:



If shooter passwords are active, enter the shooter's password, or the administrator password.

2. The [Shooter details dialog](#) is displayed.

Edit the shooter's name, eye height, ATA handicap yardage and/or password as required. The eye height measurement is the height of the shooter's eye from the floor when they have mounted their gun. ATA handicap yardage is applied when shooting ATA American Single Trap layouts.

3. To edit one of the shooter's guns, double click on the gun in the list to show the [Shotgun details dialog](#) and change the settings as required then click the **OK** button.

To define a new gun, click the **New gun** button to show the [Shotgun details dialog](#) and define the settings as required then click the **OK** button.

4. Click the **OK** button to exit.

Creating a new shooter

If shooter passwords are enabled, the administrator password is required to do this.

1. Click the **New shooter** button in the **Shooter** section of the toolbar.



2. Complete the [Shooter details dialog](#) with the new shooter's name, eye height and password. The eye height measurement is the height of the shooter's eye from the floor when they have mounted their gun.
3. Each shooter must have at least one gun, so click the **New gun** button to show the [Shotgun details dialog](#) and complete the dialog as appropriate then click the **OK** button.
4. Click the **OK** button to exit.

You can use the DryFire pattern board to confirm that each barrel of your gun is shooting as your real gun shoots.

You can review the properties of the chokes known to DryFire and define more via the **Edit, Chokes** menu using the [Choke details dialog](#); these chokes can then be associated with shooter's guns.

Deleting a shooter

If shooter passwords are enabled, the administrator password is required to do this.

1. Select the **Edit, Shooters and their Guns** menu to show the [Shooters dialog](#).
2. Select the shooter to be deleted then click the **Delete shooter** button.
3. Click the **OK** button to exit.

Editing a shotgun's settings

To, for example, change a gun's POI or cartridge settings or select a different choke:

1. Select the shooter in the **Shooter** section of the toolbar then, in the **Shotgun** section of the toolbar, select the gun and click the **Edit shotgun** button:



If shooter passwords are active, enter the shooter's password, or the administrator password.

2. The [Shotgun details dialog](#) is displayed, change the settings as required.
3. Click the **OK** button to exit.

To share a shotgun, so that any DryFire shooter can use it, select **Any shooter can use this gun** from the **Share** option.

Creating a new gun

1. Select the appropriate shooter in the **Shooter** section of the toolbar then, in the **Shotgun** section of the toolbar, click the **New gun** button:



If shooter passwords are active, enter the shooter's password, or the administrator password.

If the rifle/pistol option is installed, a popup menu will appear so that you can choose between shotgun, rifle and pistol.

2. Complete the [Shotgun details dialog](#) as appropriate.
3. Click the **OK** button to exit.

To share a shotgun, so that any DryFire shooter can use it, select **Any shooter can use this gun** from the **Share** option.

More uses for the DryFire Shot Results

Once you've used DryFire's shot results to get more consistent hits you can consider using it in other ways.

For away targets, such as those presented by the **Trap starter** layout, you might:

- Practice to take the shot sooner, while the clay is closer.

If you can do this while retaining a reasonable and consistent pointing error you can consider a wider choke since the pellets will retain sufficient energy to break the clay at the closer range.

Consider using the Stop motion function to show where the clay will reach on the wall at the time you want to shoot and where you should aim to hit that clay then use the Slow motion function to reduce the clay's speed and try to shoot by the marked point. When you can hit the clay consistently at this point, gradually increase the clay speed until you're back to full speed and still hitting the clay by the desired point.

- Practice to reduce the pointing error.

If you can do this then you can use a tighter choke so that more of the pellets are likely to strike the clay when it is further away.

You can, via the [Shotgun details dialog](#), configure DryFire for different chokes in each barrel, perhaps a more open choke for your first shot and a tighter choke for the second shot when the clay will be further away.

For crossing clays, such as skeet, consider the distance the clay is from you when you shoot – if you can shoot when the clay is closer maybe you can use a more open choke to increase the probability of a hit.

Replaying, Exporting and Analyzing previous shot results

DryFire can maintain a log of the shots you take, so that you can either review them within DryFire or process them in another application such as Excel.

The **Report Generator** option takes this a step further by allowing you to analyze your logged shot data showing such information as:

- Average shot time, from clay launch.
- Average distance of the clay from the shooter at the point it is closest to the shot cloud.
- Average pointing error

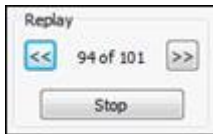
Logging of shots is not turned on by default. It can be turned on by selecting the View, Reply previous shots, Export previous shots data or Report generator menus then responding Yes when asked if you want to start logging shots.

Replaying shots in DryFire

Once shots have been logged, select the **View, Reply previous shots** menu to review your shots within DryFire.

The DryFire toolbar will show the target, shooter and gun used for the shot being replayed and the main window will show the shot results.

Use the **Previous** (<<) and **Next** (>>) toolbar buttons in the **Replay** portion of the toolbar to move forward and backward through the previous shot results:



When you have finished replaying your previous shots, click the **Stop** button in the **Replay** portion of the toolbar to return to normal DryFire mode.

Exporting previous shot data

Once shots have been logged, DryFire can export the previous shot data as a .CSV file which you can then open in, for example, Microsoft Excel.

To do this, select the **View, Export previous shots data** menu and enter a filename.

Using Report Generator

Report generator is an option. If you do not already have the Report Generator option, visit www.dryfire.com for more information.

Once shots have been logged, select the **View, Report generator** menu to review statistics of your (or any other DryFire shooter's) shots.

The [Report generator dialog](#) is displayed:

The list shows the shots you have taken

Selection criteria

Shooter: Chris From date: 23/05/2012 To date: 31/05/2012

Layout: <All layouts>

Shot: All shots

Target: All targets

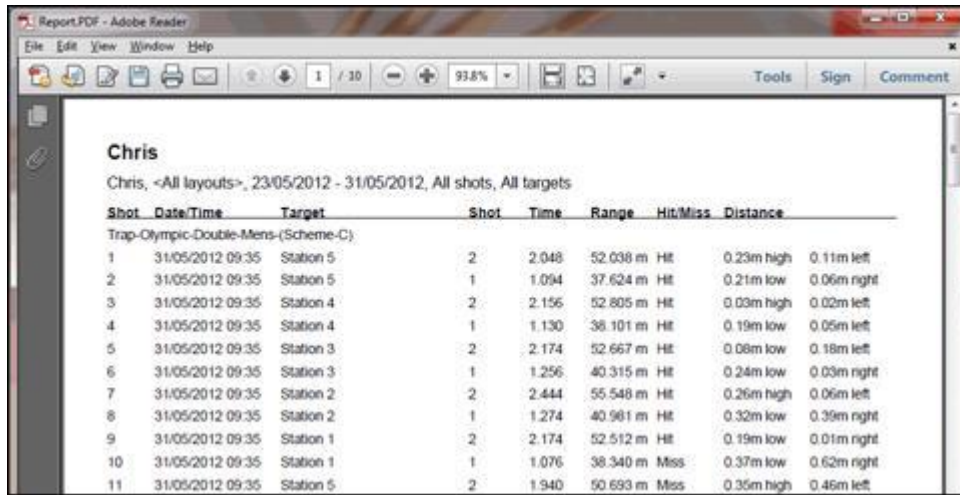
Shot	Date/Time	Layout	Target	Shot	Time	Range	Hit/Miss	Distance
1	31/05/2012 09...	Trap-Olymp...	Station 5	2	2.048	52.0...	Hit	0.23m high 0.11m left
2	31/05/2012 09...	Trap-Olymp...	Station 5	1	1.094	37.6...	Hit	0.21m low 0.06m ri...
3	31/05/2012 09...	Trap-Olymp...	Station 4	2	2.156	52.8...	Hit	0.03m high 0.02m left
4	31/05/2012 09...	Trap-Olymp...	Station 4	1	1.130	38.1...	Hit	0.19m low 0.05m left
5	31/05/2012 09...	Trap-Olymp...	Station 3	2	2.174	52.6...	Hit	0.08m low 0.18m left
6	31/05/2012 09...	Trap-Olymp...	Station 3	1	1.256	40.3...	Hit	0.24m low 0.03m ri...
7	31/05/2012 09...	Trap-Olymp...	Station 2	2	2.444	55.5...	Hit	0.26m high 0.06m left
8	31/05/2012 09...	Trap-Olymp...	Station 2	1	1.274	40.9...	Hit	0.32m low 0.39m ri...
9	31/05/2012 09...	Trap-Olymp...	Station 1	2	2.174	52.5...	Hit	0.19m low 0.01m ri...
10	31/05/2012 09...	Trap-Olymp...	Station 1	1	1.076	38.3...	Miss	0.37m low 0.62m ri...
11	31/05/2012 09...	Trap-Olymp...	Station 5	2	1.940	50.6...	Miss	0.35m high 0.46m left
12	31/05/2012 09...	Trap-Olymp...	Station 5	1	1.130	38.2...	Hit	0.34m low 0.16m left

Print... Save as PDF... Statistics... OK Help

Initially details of all shots logged for the current shooter are displayed. By clicking the downward pointing arrows next to each item you can change the items listed to:

- Show shots taken by another shooter.
- Show shots taken at a specific layout and, optionally, a specific target in that layout.
- Show only the first/second shot results.
- Show shots taken between selected dates.

Click the **Print** or **Save as PDF** buttons to print or save the report for future reference in the following form:



Chris
Chris, <All layouts>, 23/05/2012 - 31/05/2012, All shots, All targets

Shot	Date/Time	Target	Shot	Time	Range	Hit/Miss	Distance
Trap-Olympic-Double-Mens-(Scheme-C)							
1	31/05/2012 09:35	Station 5	2	2.048	52.038 m	Hit	0.23m high 0.11m left
2	31/05/2012 09:35	Station 5	1	1.094	37.624 m	Hit	0.21m low 0.06m right
3	31/05/2012 09:35	Station 4	2	2.156	52.805 m	Hit	0.03m high 0.02m left
4	31/05/2012 09:35	Station 4	1	1.130	38.101 m	Hit	0.19m low 0.05m left
5	31/05/2012 09:35	Station 3	2	2.174	52.667 m	Hit	0.08m low 0.18m left
6	31/05/2012 09:35	Station 3	1	1.256	40.315 m	Hit	0.24m low 0.03m right
7	31/05/2012 09:35	Station 2	2	2.444	55.548 m	Hit	0.26m high 0.06m left
8	31/05/2012 09:35	Station 2	1	1.274	40.981 m	Hit	0.32m low 0.39m right
9	31/05/2012 09:35	Station 1	2	2.174	52.512 m	Hit	0.19m low 0.01m right
10	31/05/2012 09:35	Station 1	1	1.076	38.340 m	Miss	0.37m low 0.62m right
11	31/05/2012 09:35	Station 5	2	1.940	50.693 m	Miss	0.35m high 0.45m left

Click the **Statistics** button to show the [Statistics dialog](#) on which the listed shots are analyzed as demonstrated by the following example:



Statistics

Chris

Chris, <All layouts>, 23/05/2012 - 31/05/2012, All shots, All targets

Average time:	1.45	sec	Hit percentage:	63
Average range:	39.57	m	Hits:	210
Average pointing error:	0.41	m	Misses:	121
			Total shots:	331

	Hits	Misses	Ahead		Behind		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay travelling left to right:	101 (66%)	52	0.24	67	0.28	85	0.24	84	0.22	69
Clay travelling right to left:	109 (61%)	69	0.27	76	0.27	102	0.33	96	0.22	82

	Hits	Misses	Left		Right		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay rising:	141 (73%)	52	0.21	84	0.22	108	0.26	89	0.22	104
Clay falling:	69 (50%)	69	0.34	77	0.33	61	0.31	91	0.22	47

Buttons: Print..., Save as PDF..., Print all..., OK, Help

The upper section summarizes your shot results and the lower section analyses the shot results based on the clay trajectory's characteristics, so that you might identify which sort of shots (e.g. rising clays traveling from left to right) you miss more often.

You can compare statistics to, for example:

- Compare results for the same target at different times, to see if you're improving.

- Compare results for different targets, to identify which you miss most and therefore offer the best possibility for improvement.

To compare statistics for two or more lists of shots:

1. Set the selection criteria on the [Report generator dialog](#) to show the first list of shots.
2. Click the **Statistics** button to analyze the current list of shots on the [Statistics dialog](#).
3. Click the **OK** button to return to the [Report generator dialog](#).
4. Set the selection criteria on the [Report generator dialog](#) to show the next list of shots.
5. Click the **Statistics** button to add the analysis of the current list of shots to the [Statistics dialog](#).
6. Switch between the tabs on the [Statistics dialog](#) or click the **Print**, **Save as PDF** or **Print all** buttons on the [Statistics dialog](#) to compare the shot statistics

Repeat steps 3 to 6 as necessary.

The following examples show Chris' first shot results for Station 1 targets and Station 5 targets in the Olympic Double Trap Scheme C layout:

The screenshot shows the 'Statistics' dialog box for a user named 'Chris'. The title bar says 'Statistics'. Below the name, it specifies 'Chris, Trap-Olympic-Double-Mens-(Scheme-C), 23/05/2012 - 31/05/2012, First shot, Station 1'. The dialog is divided into two main sections. The top section contains summary statistics: Average time: 0.98 sec, Average range: 36.29 m, Average pointing error: 0.52 m, Hit percentage: 53, Hits: 8, Misses: 7, and Total shots: 15. The bottom section contains a detailed breakdown of shot results for different target types and directions. It includes buttons for 'Print...', 'Save as PDF...', 'Print all...', 'OK', and 'Help'.

	Hits	Misses	Ahead		Behind		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay travelling left to right:	0 (0%)	0	0.00	0	0.00	0	0.00	0	0.00	0
Clay travelling right to left:	8 (53%)	7	0.00	0	0.41	15	0.16	4	0.29	11
Clay rising:	8 (53%)	7	0.00	0	0.41	15	0.16	4	0.29	11
Clay falling:	0 (0%)	0	0.00	0	0.00	0	0.00	0	0.00	0

Statistics

Chris | Chris

Chris, Trap-Olympic-Double-Mens-(Scheme-C), 23/05/2012 - 31/05/2012, First shot, Station 5

Average time:	0.99	sec	Hit percentage:	80
Average range:	36.04	m	Hits:	12
Average pointing error:	0.36	m	Misses:	3
			Total shots:	15

	Hits	Misses	Ahead		Behind		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay travelling left to right:	12 (80%)	3	0.25	4	0.25	11	0.07	6	0.25	9
Clay travelling right to left:	0 (0%)	0	0.00	0	0.00	0	0.00	0	0.00	0

	Hits	Misses	Left		Right		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay rising:	12 (80%)	3	0.26	11	0.25	4	0.07	6	0.25	9
Clay falling:	0 (0%)	0	0.00	0	0.00	0	0.00	0	0.00	0

Print... Save as PDF...

Print all... OK Help

By switching between the tabs, using the **Print**, **Save as PDF** or **Print all** buttons you can compare the results.

The above two dialogs show, for example:

- Chris' hit percentage is better from Station 5 (80%) than Station 1 (53%) though he takes his first shot in similar times (0.98 or 0.99 seconds) after clay launch. Perhaps this is because Chris is right handed and on Station 1 the clays were traveling from right to left whereas on Station 5 they were traveling from left to right.
- For Station 1 targets Chris is always consistently the clay, so needs to allow more lead on these targets.
- The average time Chris takes to make his first shot, with practice he could aim to reduce that time while maintaining a good hit percentage.

Consider printing (or saving as a PDF) Report Generator's lists or statistics for specific layouts or targets on different dates as you use DryFire over a period of time for filing in a journal so you can compare to them later.

When Report Generator is enabled you can have DryFire automatically calculate your statistics at the end of a round of all targets. To do so, select the **Setup, System configuration** menu to show the [System configuration dialog](#) and tick the **Show statistics after shooting a round of all targets** option in the **Program Options** section then click the **OK** button.

Stop and Slow motion functions

Normally DryFire shows clays moving across the wall as you would see them from the stand on the range.

DryFire also provides functions to show clays moving at slower speeds (slow motion) and to show static clays at the point the clay would have reached at a specific distance or time into its flight (stop motion).

You can use these function in various ways, some of which are outlined below.

Using slow motion to practice mount, swing, acquire and shoot

If you are learning the process of shooting clays you might like to start practicing at a slower speed and, once you're happy at that speed, gradually build the speed back up to normal.

You can easily do this with DryFire for any layout and any target as follows:

1. Selecting the **Setup, System configuration** menu to display the [System configuration dialog](#).
2. Locate the **Clay speed** setting in the **PC Settings** section of the dialog and edit the setting as required. To cause DryFire to show clays moving at half their normal speed, set **Clay** speed to **50%**.
3. Click the **OK** button to close the dialog.

Now, having first [aligned your muzzle insert](#), open the layout and select the target you want to practice and click the **Start** button – everything remains the same except the speed the clay moves across the wall.

[Remember: Although the speed at which the clay is shown moving across the wall will change the lead required to hit it will be unchanged.](#)

As you get more confident, increase the **Clay speed** value gradually back to 100% until you're able to go through the mount, acquire, shoot and follow through process at normal speed.

Using stop motion to show clays at set points in their trajectory

Sometimes even slow motion clays move too fast!

DryFire's stop motion function can project a static laser to show, at any point in time, where a clay would be on its trajectory – from launch to landing.

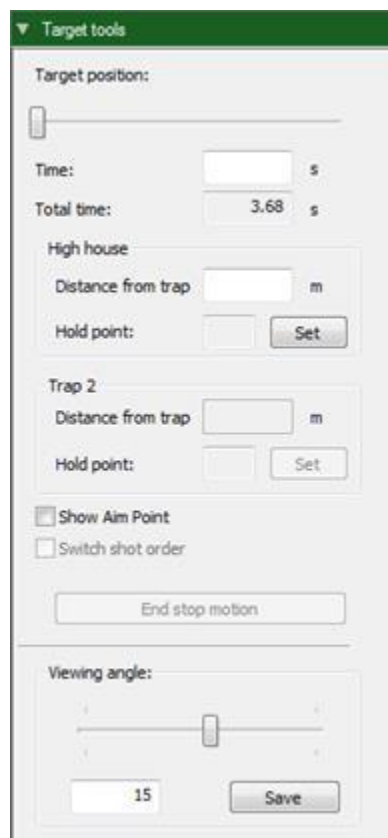
DryFire will tell you on screen what the appropriate vertical and horizontal lead would be to hit the clay at that point, taking into account your gun and cartridge settings as well as

the distance the clay is from you. DryFire also provides an option to show the correct aim point for each clay on the wall.

When using projected targets while the **Show aim point** option is ticked, DryFire will show **both** the target clay and the appropriate aim point (taking into account your cartridge characteristics and the target clay's speed, direction and distance) in the projected image.

Use the stop motion function as follows:

1. Select the **View, Sidebar** menu or press **F8** to show the **Sidebar** on the left then click the **Target tools** heading:



2. Use the **Target position** slider to select the clay's position along its trajectory; the left end of the slider represents launch and the right most represents landing. As you move the slider DryFire will:
 - Show on the wall:
 - The position of the clay(s).
 - Show on the screen:

- The position of the clay(s) along a dashed orange line that represents the clay's trajectory
- The lead required to hit the clay(s), taking into account such things as distance, choke, POI and cartridge.
- The horizontal distance of the clay from the trap and the time from launch.

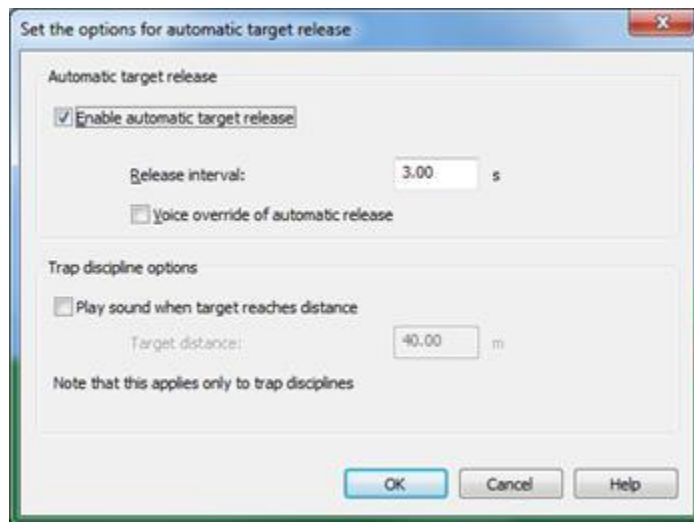
If you want to show a specific time or distance into the flight you can enter these into the **Time** or **Distance from trap** fields instead of using the slider.

3. Tick the **Show aim point** option to cause DryFire to show on the wall where you should point your shotgun to hit the clay at the current position along its trajectory instead of the clay's position.
4. Tick the **Switch shot order** option to change the barrel used to shoot at the target.
5. Click the **End stop motion** button to turn off the stop motion function.

Reducing your shot time

In trap shooting, you need to shoot before the target is too far away from you. DryFire has a feature to help you reduce your shot time.

On the **Target Options** dialog, you can set a distance for the clay from the shooter at which the system will play a sound.



The idea is that you set a distance within which want to shoot. When you practice, if you hear the sound you know the target has gone too far.

Hold points

Hold points are positions in a clay's flight at which you might position yourself before calling "Pull" in readiness for the clay appearing. DryFire maintains a shooter specific list of hold points for each target in each layout.

Each shooter sets hold points via the **Stop Motion** function in the **Target tools** section of the **Sidebar**. If the **Sidebar** isn't already displayed press **F8** to show it and then click the **Target tools** section heading.

Having selected the appropriate **Target** and **Shooter** on the DryFire toolbar, type a time/distance into the appropriate trap's field or use the slider to show the clay's position on the wall at a specific point in its flight.

When the laser is showing the location you want to treat as your "Hold" point for this target, click the **Set** button.

When a hold point has been defined for the currently selected Shooter and Target DryFire will show the hold point as well as the launch, intermediate and landing positions when you press **F2** or select the **View, Clay positions on wall** menu.

Squadding

The “Squadding” option enables a group of shooters to practice a layout at the same time, as if on the range.

Shooters take it turn to shoot, either all from the same stand (e.g. skeet or sporting) or each from a different stand/station (e.g. ATA, DTL or Olympic trap) before moving to the next stand while DryFire maintains separate scores for each shooter.

Each shooter has their own gun settings, so DryFire applies personal settings depending on who is shooting.

Before you can create a squad and select it to shoot as a group you need to define all the shooters that will be in the squad. This process is the same as for single user mode.

If shooter passwords are enabled, the administrator password is required to do this.

1. Click the **New shooter** button in the **Shooter** section of the toolbar.



2. Complete the [Shooter details dialog](#) with the new shooter's name, eye height and password. The measurement for eye height is the height of the shooter's eye from the floor when they have mounted their gun.
3. Each shooter must have at least one gun, so click the **New gun** button to show the [Shotgun details dialog](#) and complete the dialog as appropriate then click the **OK** button.
4. Click the **OK** button to exit.

Once all the shooters and their guns have been defined, create the squad as follows:

1. Select the **Edit, Squads** menu to display the [Select squad dialog](#).
2. Click the **New squad** button to display the [Squad details dialog](#).
3. Enter the new squad's name and then tick the check boxes next to up to 6 shooters that form this squad.
4. Click the **OK** button to close the [Squad details dialog](#).
5. To create additional squads, repeat steps 2-4.
6. Click the **OK** button to close the [Select squad dialog](#).

Having created a squad you can now, and in the future, shoot a layout as that squad:

1. Select the **File, Start squad session** menu to display the [Select squad dialog](#). It is possible to create a new squad at this point by clicking the **New squad** button to display the [Squad details dialog](#).
2. Select the squad that is to shoot from the list and then click the **OK** button to display the [Squad login dialog](#).
3. Check that the appropriate layout is selected; click the **Browse** button to select a different layout via the [Layouts dialog](#) if necessary.
4. If a squad member is not present, clear the **Present** check box for that shooter to temporarily omit them from the squad.
5. If passwords are enabled, each shooter is required to confirm their identity by entering their password and clicking their **Login** button.

After logging in they can select which of their guns they want to use for this squad session and, if the layout supports it, confirm their handicap yardage.

If the administrator password is entered instead of a user's own password then all shooters are immediately logged in.

6. Each shooter is allocated a stand. Depending on the layout selected all shooters may be on the same stand (e.g. skeet or sporting) or each shooter may be on a different stand (e.g. ATA, DTL or Olympic trap).



7. When all present shooters have logged in and configured their settings appropriately, click the **OK** button to start squad shooting session.

DryFire now switches to operating in Squadding mode for the selected layout and squad:



The toolbar and sidebar show different settings and information when operating in squadding mode

Squadding Toolbar

In squadding mode the DryFire toolbar is slightly different:



The **Target**, **Shooter** and **Shotgun** lists show the next target to be shot and which shooter and shotgun will shoot.

The **Align** button can be clicked at any time to align the current shooter's shotgun.

It's a good idea for each shooter in the squad to align their gun before releasing their first target unless they have already done so in the current DryFire session.

The **Target number** field increments as shooters move through the targets in the current layout.

To end squadding mode, and return to single user DryFire, click the **End squadding mode** button.

To stop practicing the current layout, click the **Finish Round** button to be returned to the [Squad login dialog](#).

If Prompt for passwords between rounds is ticked on the Advanced configuration dialog each shooter will be required to login again before you can start a new round.

Squadding Sidebar

The squadding mode sidebar (press **F8** to show or the sidebar) shows a plan view of the room, a button to configure the room then each shooter's name and current score:



The **Room layout** diagram shows the active room mode and location of any room stands and anchor points. The **Configure room mode and anchor points** button is used to change the room mode and edit the anchor point locations. For more information refer to the practicing examples earlier in this guide.

As the round progresses, DryFire:

- Shows each shooter's current score next to their name in the sidebar.
- Highlights the name of the shooter that should shoot next in the sidebar and notes it in the upper left corner of the main window.
- Shows the next shooter's view of the next target in the "preview" window.
- Shows the current target number in the toolbar.

At the conclusion of the round statistics for each shooter are shown on the [Squad results dialog](#) with options to print or save the reports as a PDF.

Trap Exercises

The “Trap exercise” option allows one or more shooters to practice the specific type of shots (e.g. hard left/right) from the stand they want to concentrate on for ATA single trap, DTL or ABT layouts.

Shooters take it in turn to shoot, either all from the same stand or each from a different stand/station.

Each shooter has their own gun settings, so DryFire applies personal settings depending on who is shooting.

Shooters, or their coach, define a training plan that consists of at least one exercise. Each exercise defines one of two sorts of angles:

- **Fixed angles**

A list of up to 10 specific angles is defined.

e.g. 10 degree left, 20 degrees left, 15 degrees right, 25 degrees right, 0 degree straight-away.

DryFire V4 shuffles the list of angles, to introduce some degree of variation, and an angle can be included more than once to increase the frequency with which clays are thrown at that angle. You might use this to define the troublesome angles most, but include a few other angles to break the practice up and stop the shooter anticipating the next clay trajectory.

- **Wedge of the pie**

A wedge is defined within which DryFire V4 will throw the clay at random angles.

The wedge is defined as a center line angle and a trap oscillation angle. You could use this option to create a standard ATA, DTL or ABT left/right range of targets, but more often you'll define a wedge to one side of the straight-away line, so that you get the sort of targets you want to concentrate on.

When defining the center line: 0 degrees is straight away, specify a negative number of degrees for a left of straight away center line or a positive number of degrees for a right of straight away center line.

For example, a wedge with a center line at 10 degrees left of straight-away (-10) with a trap oscillation angle of 15 degrees would produce targets anywhere in the range from 25 degrees left to 5 degree right of straight-away.

Each exercise can define the criteria upon which a hit will be judged, either:

- **Based on pellet energy (default)**

As in normal usage, DryFire determines whether you hit and break the clay is based on the energy present in the pellets likely to strike the clay.

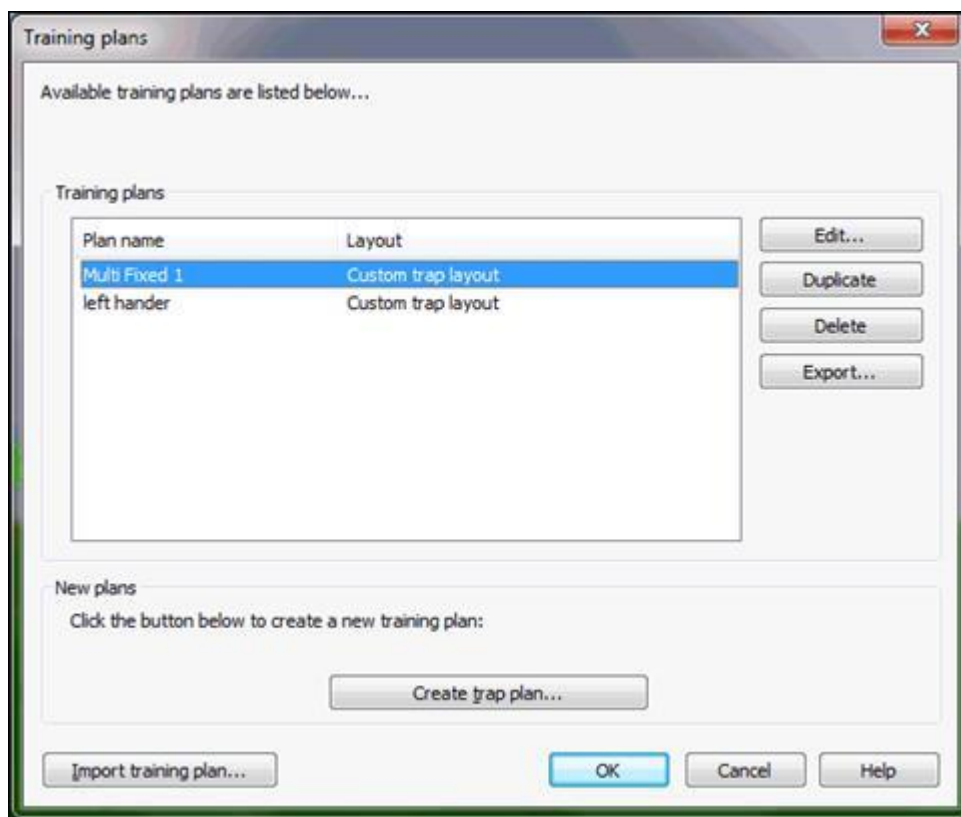
- **Maximum pointing error**

DryFire determines whether you hit and break the clay based solely on the distance from the center of the shot cloud to the center of the clay when they are closest (the pointing error) – if it is closer than is set for the exercise then DryFire considers the shot a hit.

- **Maximum pointing error & range**

DryFire determines whether you hit and break the clay based on a combination of the pointing error (as above) and the distance from shooter to clay at that point.

To create a DryFire V4 Training plan, select the **Edit, Training plans** menu to show the [Training plans dialog](#):



Initially no training plans are defined.

If you have received a training plan from another DryFire V4 user or PC, click the [Import training plan](#) button to import it into your copy of DryFire.

To create a new plan, click the **Create trap plan** button. To edit (or review) an existing training plan, select the training plan in the list then click the **Edit** button. Both cause the [Trap exercises dialog](#) to be displayed:

Trap Exercises

Training Plan
Name:

Available exercises

Exercise
First exercise

Exercise
Name: Type:

Target
Clay speed (1=100%):
Maximum target delay: s
Minimum target delay: s

Wedge of the Pie
Centre line: deg
Trap angle: deg
Intermediate height: m

Wind
Speed:
Direction: deg

Hit criteria
Pointing accuracy:
Maximum distance: m
Hit between: and m

Define or edit the training plan's name in the upper box.

When creating a new plan a default exercise is created for you – edit this as required.

To add another exercise to the training plan, click the **Add** button. To remove an existing exercise from the plan, select the exercise then click the **Delete** button.

Exercises are practiced in the order listed, to change the order select an exercise and then click the **Up** or **Down** buttons.

For each exercise you can:

- Set the name, this is displayed when you're practicing the exercise.
- Set the type of exercise, either **Wedge of the Pie** or **Fixed angles**.
 - For wedge of the pie (shown above) you then define the center line angle trap oscillation angle and Intermediate height. When defining the center line: 0 degrees is straight away, specify a negative number of degrees for a left of straight away center line or a positive number of degrees for a right of straight away center line.
 - For fixed angles you tick up to 10 check boxes then define their specific angles:

Fixed angles	
<input checked="" type="checkbox"/> Angle 1	10
<input type="checkbox"/> Angle 2	0
<input checked="" type="checkbox"/> Angle 3	20
<input type="checkbox"/> Angle 4	0
<input type="checkbox"/> Angle 5	0
<input type="checkbox"/> Angle 6	0
<input type="checkbox"/> Angle 7	0
<input type="checkbox"/> Angle 8	0
<input type="checkbox"/> Angle 9	0
<input type="checkbox"/> Angle 10	0

- Set the target characteristics:
 - Use the **Clay speed** value to control the speed the target moves.
 - Set **Maximum target delay** and **Minimum target delay** to the same value to introduced a fixed delay, or different values to introduce a random delay, when **Pull** is called.
- Set the **Wind** characteristics.
- Set the **Hit criteria**.
 - **Based on pellet energy (default)**

As in normal usage, DryFire determines whether you hit and break the clay is based on the energy present in the pellets likely to strike the clay.

- **Maximum pointing error**

DryFire determines whether you hit and break the clay based solely on the distance from the center of the shot cloud to the center of the clay when they are closest (the pointing error) – if it is closer than is set for the exercise then DryFire considers the shot a hit.

- **Maximum pointing error & range**

DryFire determines whether you hit and break the clay based on a combination of the pointing error (as above) and the distance from shooter to clay at that point.

When all the exercises to be included in a training plan have been defined, click the **OK** button again to return to the [Training plans dialog](#).

Having created or imported a training plan, now you're ready to shoot it.

Select the **File, Start training session** menu and the [Start training session dialog](#) is displayed:



The 'Start training session' dialog box is shown. It has a title bar and a close button. The main area contains instructions: 'Select the layout and number of shots per exercise for this training session. Then select shooter(s), their stand and training plan.' Below this, there are sections for 'Layout' and 'Shooters'. The 'Layout' section has a 'Layout type' dropdown set to 'Down the line' and a 'Targets per exercise' dropdown set to '25'. The 'Shooters' section is a table with columns: Shooter, Stand, Handicap, Training plan, Info..., and Ad Hoc... There are six rows of shooters: Chris, Bill, Trinity, Eric, Frank, and Hans. Chris and Bill are checked in the 'Shooter' column. Chris is assigned 'Stand 1', '16 yards' handicap, and 'Left Hander' training plan. Bill is assigned 'Stand 2', '16 yards' handicap, and 'Left Hander' training plan. The other three shooters are not checked and have default values. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

Shooter	Stand	Handicap	Training plan	Info...	Ad Hoc...
<input checked="" type="checkbox"/> Chris	Stand 1	16 yards	Left Hander	Info...	Ad Hoc...
<input checked="" type="checkbox"/> Bill	Stand 2	16 yards	Left Hander	Info...	Ad Hoc...
<input type="checkbox"/> Trinity	Stand 3	16 yards	Left Hander	Info...	Ad Hoc...
<input type="checkbox"/> Eric	Stand 4	16 yards	Left Hander	Info...	Ad Hoc...
<input type="checkbox"/> Frank	Stand 5	16 yards	Left Hander	Info...	Ad Hoc...
<input type="checkbox"/> Hans		16 yards	Left Hander	Info...	Ad Hoc...

Select the layout and number of shots that should be taken for each exercise then, for each shooter taking part in this training session, tick a check box and complete the row of settings appropriately for that shooter, then click the **OK** button.

Click the Ad Hoc button to display the Trap exercises dialog and define a temporary training plan, just for the shooter's current training session, then select it from the Training plan list.

The selected shooters then take it in turns to shoot the targets for each of the exercises that form their selected training plan. During this process the sidebar shows a score card for each shooter that includes entries for the exercises that the training plan they are shooting includes:



The 'Score card' sidebar is shown. It has a title bar and a close button. Below the title bar is a 'Key' section with four items: Hit (green square), Miss (red X), Hit then Miss (green square with red X), and Miss then Hit (red square with green X). Below the key is a section for 'Chris' with a score of 9. Under 'Chris' is 'left hander, Stand 1' with two exercises: 'Ex1 (Fixed angles)' (4 green squares) and 'Ex2 (Fixed angles)' (1 red X and 3 green squares). Below that is a section for 'Bill' with a score of 10. Under 'Bill' is 'left hander, Stand 2' with two exercises: 'Ex1 (Fixed angles)' (4 green squares) and 'Ex2 (Fixed angles)' (1 red square and 3 green squares).

The name of the shooter that should take the next target is highlighted in red in the sidebar.

When all exercises in the selected training plans have been completed for all shooters DryFire displays statistics about the results on the [Training session results dialog](#):

Training Session Results

Chris Bill

All exercises

Average time: 0.89 sec
 Average range: 31.00 m
 Average pointing error: 0.33 m

Hit percentage: 81
 Hits: 9
 Misses: 2
 Total shots: 11

	Hits	Misses	Ahead		Behind		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay travelling left to right:	3 (100%)	0	0.24	3	0.00	0	0.00	0	0.19	3
Clay travelling right to left:	6 (75%)	2	0.24	4	0.24	4	0.30	3	0.15	5

	Hits	Misses	Left		Right		Above		Below	
			Average	Total	Average	Total	Average	Total	Average	Total
Clay rising:	9 (82%)	2	0.16	8	0.30	3	0.30	3	0.16	8
Clay falling:	0 (0%)	0	0.00	0	0.00	0	0.00	0	0.00	0

Print... Save as PDF...

Print all... OK Help

Each shooter's results are displayed on a separate tab, click the appropriate tab to show the results for a different shooter.

For each shooter DryFire will show statistics for all and each exercise in the training plan the shooter shot – use the drop down list below the shooter's name to change the statistics displayed.

The **Print** and **Save as PDF** buttons allow an individual shooter's results to be printed or saved – the saved PDF can then be emailed to a coach so that they can review the shooter's results. The **Print all** button can be used to print results for all shooters that participated in this training session.

Course Designer

The Course Designer option allows you to create your own layouts or edit some of the layouts provided with DryFire V4, so you can create your own targets and practice them.

You can define one or more traps at varying heights each throwing targets at a set distance with optional horizontal and/or vertical oscillation and clay tilt. Targets can be single, simultaneous double or on-report double and you can define whether the shooter is permitted one or two shots at each target and, for doubles, whether the targets must be taken in a specific order.

Creating a new layout

To create a new layout:

1. In DryFire V4, select the **File, Layouts** menu to show the [Layouts dialog](#).
2. Click the **New** button at the bottom of the left-hand list of existing layouts.
3. Course Designer starts, showing a simple layout comprising one stand and one trap pre-configured as a single target allowing full use of the gun (two shots).
4. Refer to the **Using Course Designer** section below for more information.

Editing an existing layout

Some of the layouts provided with DryFire V4 and all of the layouts you have created yourself using Course Designer can be edited using Course Designer.

Either:

- To edit the currently open layout, select the **Edit, Layout** menu.
- To edit another layout:
 1. Select the **File, Layouts** menu to show the [Layouts dialog](#).
 2. Select the layout you want to edit in the list of layouts.
 3. The **Edit** button below the list will be active if it is possible to edit the selected layout. Click the **Edit** button to edit the selected layout in Course Designer.

Deleting a layout created in Course Designer

1. Select the **File, Layouts** menu to show the [Layouts dialog](#).
2. Layouts created in Course Designer are listed in the **Custom** section of the left-hand list of layouts.
3. Select the layout you want to delete then click the **Delete** button below the list.

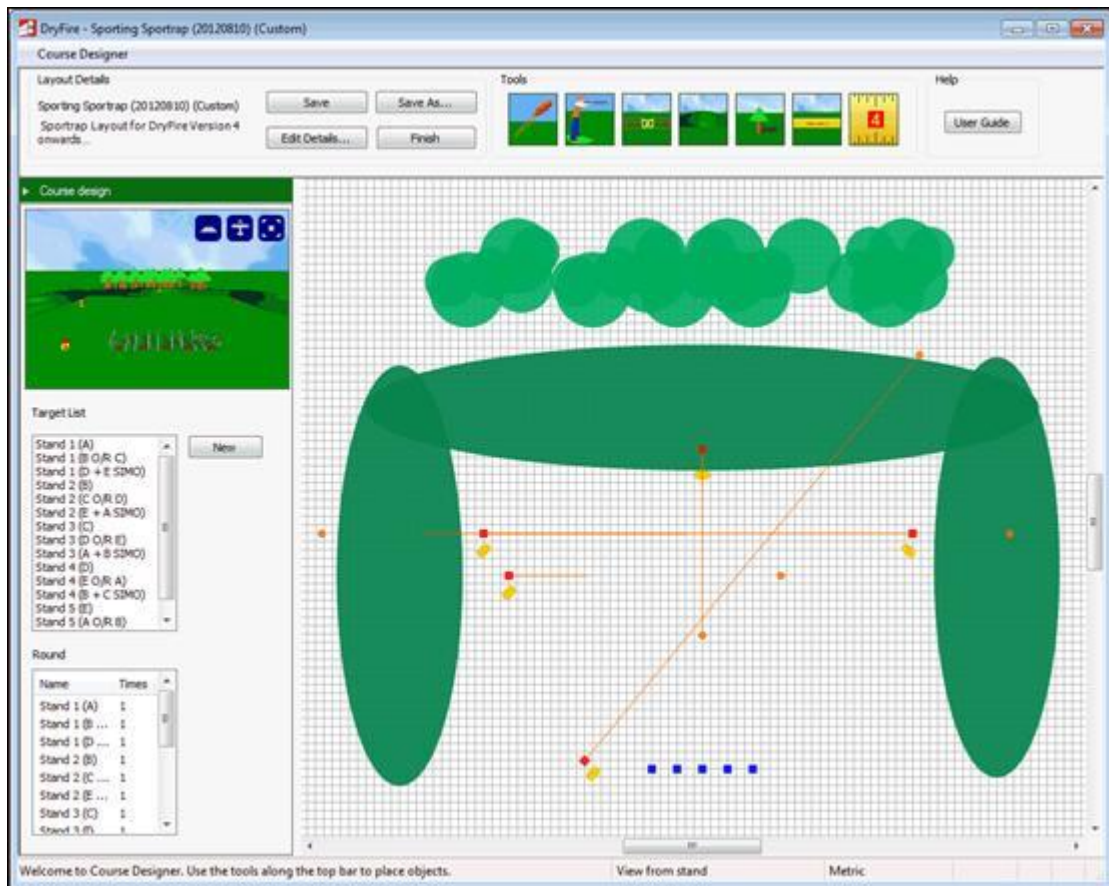
Using Course Designer

Before using Course Designer it may help to note:

- A trap is a thing that releases a clay. In real life a trap may release one or two clays but with DryFire a trap only ever releases one clay. If you want two clays released from the same place you should define two traps at the same place.
- A shooting stand or station is the place you shoot from.
- A target is a combination of a stand and one or two traps. It does not matter how many traps or stands you create using Course Designer, none of them will provide targets for you to shoot at unless you specifically create targets and define which stand and which traps are to be used.
- A round is a sequence of one or more targets.

The Course Designer screen







A sample DryFire V4 Course Designer window showing the stand Sporting Sportrap layout is shown below:




The screen comprises several sections:

The 4 text buttons are used to **Save** the layout, **Edit the Details** displayed when the layout is loaded or **Finish** editing the layout and close Course Designer.


The first 6 icons are used to add items to the current layout. Click the icon then click on the plan view to insert the object where you click, hold down the **Ctrl** key before clicking on the icon and while clicking in the plan view to repeatedly insert the object:

	Insert a trap.
	Insert a stand.
	Insert a fence.
	Insert a hill.
	Insert a tree.
	Insert a wall, optionally with text.

The next icon is used to measure distances and angles:

	Click on the first point in the plan view then move the mouse to the second point to measure the distance.
	Click on the second point then move the mouse to measure the angle at the first point between the other two points.
	Click again to stop measuring.

If the game option is enabled:

	Add a game flight or path.
---	----------------------------

The sidebar shows a 3D preview of the layout, you can click and drag this layout to move around and use the mouse wheel to zoom in/out. Click the small blue button in the top right corner of the preview window to switch the right-hand section between plan and 3D preview mode.

Course Designer shows various information and settings in the sidebar depending on what, if anything, is selected in the right-hand plan view window. In the above example nothing is selected in the plan view window, so a list of defined targets and how they are combined to form a round is listed. If you click on a stand, trap or wall in the plan view window information about that object will appear in the sidebar

In “plan mode” this is where you place and move the objects that form your layout. Use the scroll bars to pan around the area onto which you can drop objects to create the layout.

In “Preview” mode you can see a larger 3D view of your current layout and move around within it using the same controls as in DryFire V4 itself.

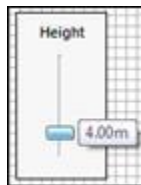
Editing a layout

Having placed objects onto the layout you edit them as follows:

Traps

Traps are shown with a red square indicating the trap and clay launch point, an orange line showing the clay trajectory and an orange circle marking the clay landing point

- To change the height of a trap, click on the red square then adjust the height slider that appears in the pop-up settings screen.



If you have placed two or more traps at the same point and the wrong trap is selected when you click on the red square, click on the orange line related to the trap you want to select (to bring that trap to the top) and then click on the red square.

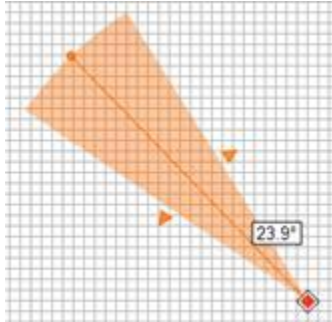
- To adjust the distance and angle that a clay is thrown, click on and drag the orange circle that represents the clay's landing point.

The throw distance and angle from straight up are shown as you drag the landing point.

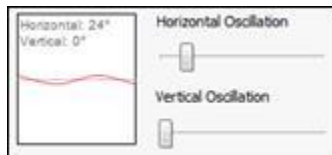
To “lock” the trajectory's angle, so you can just change the distance, hold down the Ctrl key while dragging the range circle.

- To adjust/add the horizontal oscillation of a trap, click on the clay's trajectory (orange line) and then either:

Drag either of the outward pointing orange arrow heads.

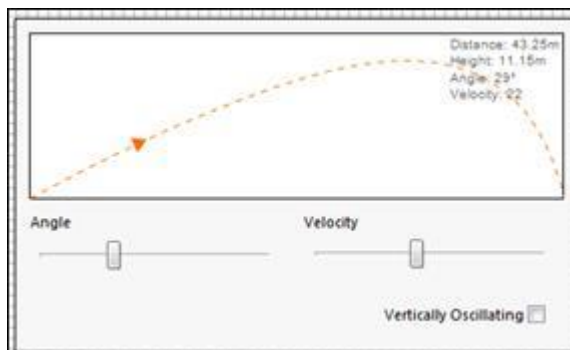


Drag the **Horizontal oscillation** slider that appears in the left-hand sidebar.

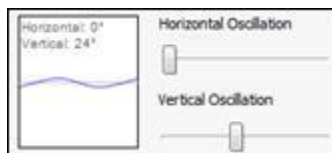


- To adjust/add the vertical oscillation of a trap or the velocity with which the clay is thrown, click on the clay's trajectory (orange line) and then either:

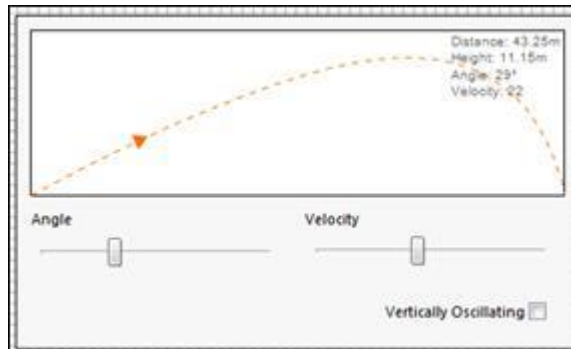
In the pop-up settings screen tick the **Vertical Oscillating** check box then drag the **Max-Angle** and **Min-Angle** sliders.



Drag the **Vertical oscillation** slider that appears in the left-hand sidebar.



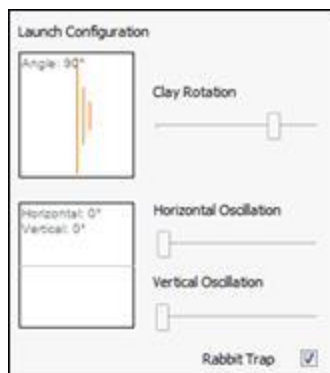
- To adjust the velocity with which the clay is thrown, click on the clay's trajectory (orange line) and then drag the **Velocity** slider in the pop-up settings screen:



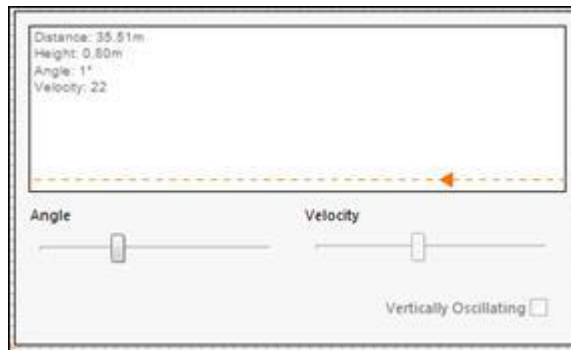
- To change the angle at which the clay is launched, click on the clay's trajectory (orange line) and then drag the **Clay rotation** slider that appears in the left-hand sidebar.



- To create a “rabbit” trap, click on the clay's trajectory (orange line) then tick the **Rabbit Trap** option in the sidebar:



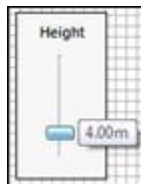
The pop-up settings screen for a rabbit trap is slightly different:



Stands

Stands are displayed as blue squares.

- To change the height of a stand, click on the blue square then adjust the height slider that appears in the pop-up settings screen.



- To select whether the stand is drawn in the 3D world with a safety cage or change/set the stand's name, click on the blue square to display the stand's properties in the sidebar:

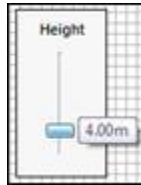
Stand Properties	
Name:	<input type="text"/>
X:	0.00
Y:	-20.00
Height:	4.00m
Safety Cage	<input checked="" type="checkbox"/>

Then tick or clear the **Safety cage** check box and/or edit the **Name** field.

Trees

Trees are displayed as light green circles.

- To change the height of a tree, click on the green circle then adjust the height slider that appears in the pop-up settings screen.



Fences

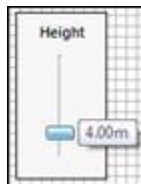
Fences are shown as thin brown lines, with brown circle node points at each end and in the middle.

- To rotate a fence about an end node or to change its length, drag the other end node.
- To rotate a fence about its mid-point or to change its length, hold down the **Ctrl** key and then drag either end of the brown line.
- To move a fence, drag any part of the brown line except the mid and end point nodes.

Walls

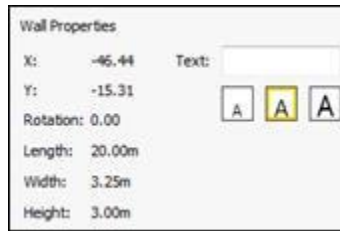
Walls are displayed as thick yellow lines, with yellow circle node points at each end.

- To change the height of a wall, click on the yellow line then adjust the height slider that appears in the pop-up settings screen.



- To rotate a wall about an end node or to change its length, drag the other end node.
- To change a wall's thickness, click on the yellow line then drag the yellow arrow heads

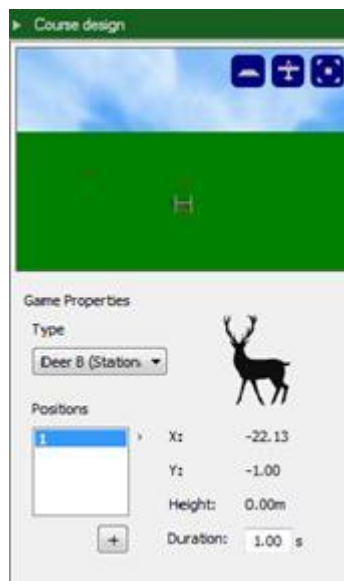
- To set/change the caption on a wall, click on the yellow line then edit the settings that appear in the sidebar.



Game

Game targets can be either moving or stationary. A stationary target is displayed for a specified duration and then disappears. A moving target passes through a set of defined positions in the 3D world.

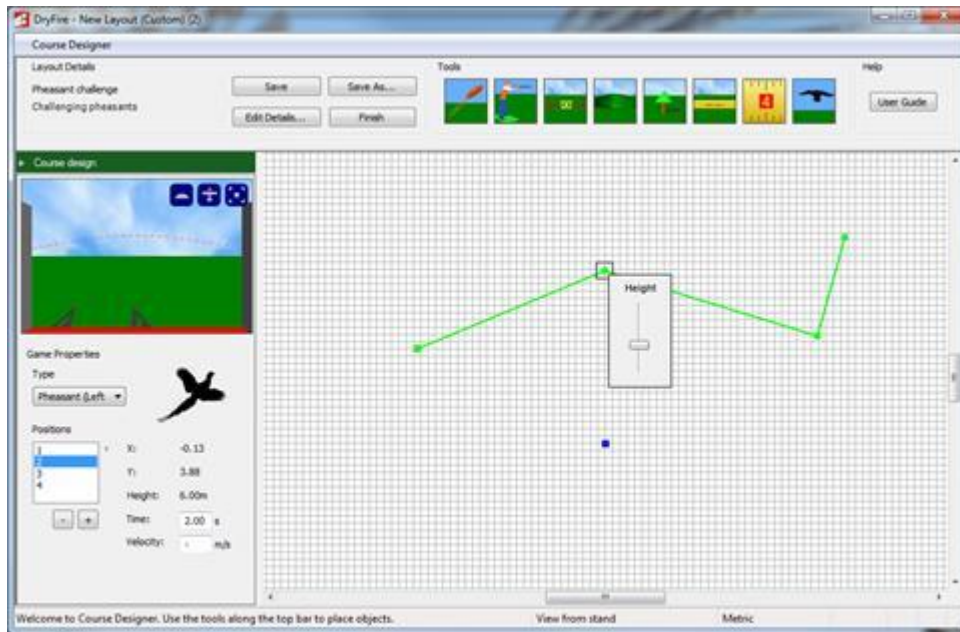
To create a stationary target, click on the game tool icon and then click on the position where the target should appear.



Select an image for the target, set its duration and click **save**.

The procedure to create a moving target starts in the same way, by marking the position where the target should start and selecting an image set.

To define points through which the target moves, click the **+** button. The starting point is marked by a green square; other positions are green circles. Move the positions around the world to generate a path. The height of the target above the ground can also be specified for game birds in flight.



The path is shown as straight lines, but when the target is projected, the movement will be smoothed to make it more realistic.

Object selection

To select an object, click on it.

To select multiple objects either:

- Click on the first object then press and hold down the **Ctrl** key while clicking on the second and subsequent objects.
- Click and drag to draw a region to select the objects within the region.

To delete the selected object(s), press the **Delete** key.

To copy the selected object(s), press **Ctrl C**. To paste the copied objects, press **Ctrl V** – the pasted objects are automatically all selected.

Having selected multiple objects you can then drag any one of them to move all of them.

To undo a change, press **Ctrl Z**. To redo a change, press **Ctrl Y**.

Targets

A target is a combination of a stand and one or two traps. It does not matter how many traps or stands you create using Course Designer, none of them will provide targets for you to shoot at unless you specifically create targets and define which stand and which traps are to be used.

Having created objects in the layout, create targets by clicking on an empty area of the plan (to clear any selection) and then do the following:

- Click the **New** button in the sidebar to start the target creation process.



Target Creation - Step 1: Target Picker

Stand/Station
Click on the stand/station from which the target will be taken.

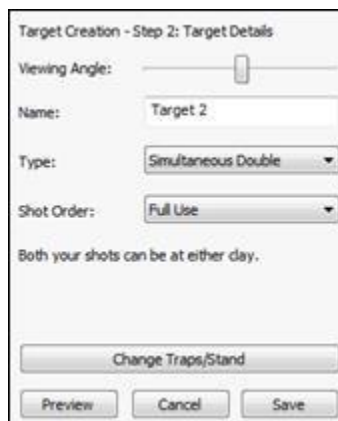
First Trap
Click on the first trap to be shot.

Second Trap (Optional)
To make the target a double, click a second trap to be shot.

Cancel Next

Select the stand, first trap then (if appropriate) second trap and then click the **Next** button.

- Set the target's properties via the settings in the sidebar:



Target Creation - Step 2: Target Details

Viewing Angle:

Name:

Type:

Shot Order:

Both your shots can be at either clay.

Change Traps/Stand

Preview Cancel Save

Use the **Viewing Angle** slider to adjust the direction the shooter will be looking and so effect the portion of the clay's flight projected onto the main wall.

- **Name** the target as you want it to appear in DryFire's **Target** list.
 - For doubles, select the **Type** required and the shot order.
 - Click the **Preview** button to see the target on the wall.
- Click **Finish** to create the target.

To create a target consisting of a combination of stand and one/two traps that isn't already defined:

- Click on the stand then hold down **Ctrl** while clicking on the trap(s).

- Click the **Create from selection** button in the sidebar.

Set the target's properties via the settings in the sidebar:



Target Creation - Step 2: Target Details

Viewing Angle:

Name:

Type:

Shot Order:

Both your shots can be at either clay.

Use the **Viewing Angle** slider to adjust the direction the shooter will be looking and so effect the portion of the clay's flight projected onto the main wall.

- Name the target as you want it to appear in DryFire's Target list.
- For doubles, select the Type required and the shot order.
- Click the Preview button to see the target on the wall.
- Click **Finish** to create the target.

To edit, delete, re-order or preview an existing target click on an empty area of the plan (to clear any selection) then select the target in the sidebar and then click the appropriate button to the right of the sidebar's list of targets.



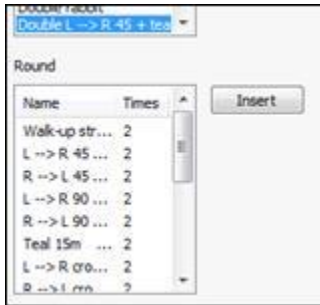
Target List

Walk-up straight ahead
L --> R 45 degrees 15m
R --> L 45 degrees 15m
L --> R 90 degrees 15m
R --> L 90 degrees 15m
Teal 15m
L --> R crosser 30m
R --> L crosser 30m
L --> R rabbit 13m
R --> L rabbit 13m
Double 45 degrees
Double crosser
Double rabbit
Double L --> R 45 + tea

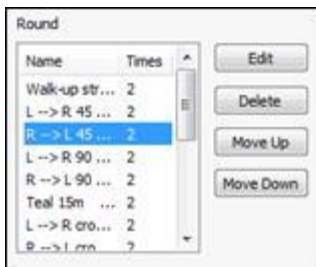
Rounds

A round is a sequence of one or more targets.

Having defined the required target(s) you can define how they should be shot as a "Round" by selecting an entry in the sidebar's **Target** list then clicking the **Insert** button next to the sidebar's **Round** list.



To repeat a target you can click the **Insert** button again, or select the target in the **Round** list and click the **Edit** button next to the sidebar's **Round** list.



To re-order how targets are shown when shooting a round, select the target in the round and then click the **Move Up** or **Move Down** buttons.

Sharing a layout created in Course Designer

Once you have created your layout in Course Designer, you can share it with the world. Note that your computer must be connected to the Internet to use this feature.

1. Select **Share Layout** from the **File** menu.
2. Your layout will be uploaded to dryfire.com and then a page will open in your web browser, which allows you to edit the layout name and description.

Course Designer Layouts

Upload Section

Layout Name:

Layout Description:

By submitting your layout you agree to Wordcraft International using the layout.

Download Section

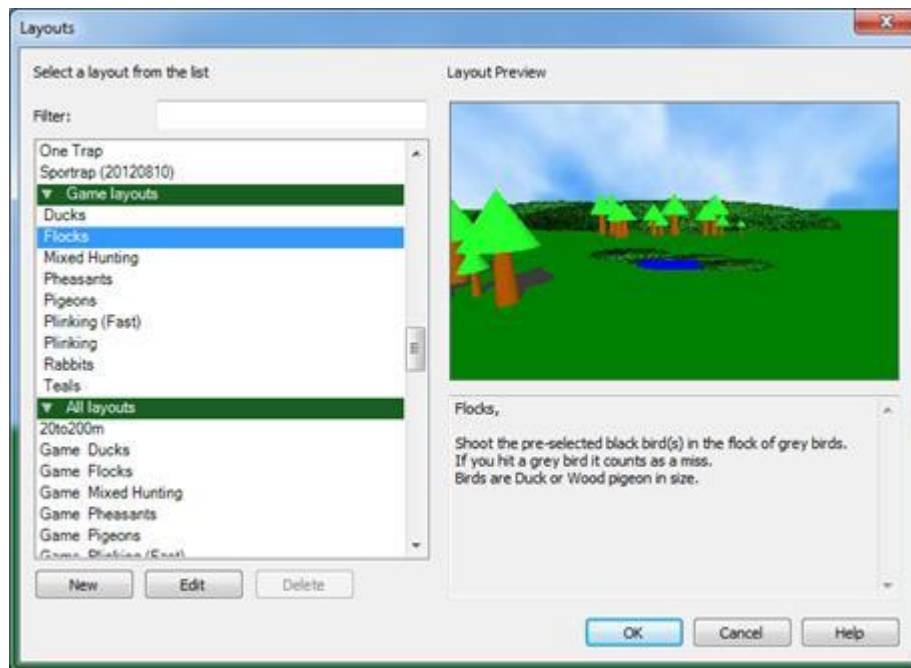
Layout Name	Layout Description	
Trap Layout	Super Trap example	<input type="button" value="Download"/>

Need to know where to put the layout file?

3. Click **Submit**. Your layout will be tested before being made available on the DryFire website.

Game

On the list of layouts shown on the **Open Layout** dialog box is a section for Game.



Select one of the game layouts just like any other discipline.

The game layouts are always listed, even if the game add-on is not installed. Selecting a game layout without the game add-on will pop up a dialog allowing you to see more information about it from dryfireus.com.

Note that you need the projection add-on in addition to the game add-on.

The game layouts cover flying birds, such as pheasant or pigeon, rabbits and other fur, and stationary targets (plinking).

A typical game layout provides a range of targets. You can select a particular target to practice, as with clays, or shoot a "round", where the targets are presented in a random order.

The targets are shown as a silhouette against the projected background. Shoot as you would do, taking lead into account.



The game layouts included with DryFire are:

- Ducks
- Flocks
- Mixed Hunting
- Pheasants
- Pigeons
- Partridges
- Plinking
- Plinking Fast
- Rabbits
- Teals

There are some targets that feature a flock of birds. The bird you should aim at is displayed in black, while the others in the flock are shown in gray.

The results of shots are reported in the same way as for clay shooting.



Rifle and pistol target simulation

The rifle and pistol simulation add-on allows the DryFire simulator to provide short range targets along with an alternative game hunting option.

Gun Properties

A rifle or pistol is set up in the same way as a shotgun, but the properties that are defined are different. To set up a new gun:

- Click on the "add gun" icon on the tool bar.
- A menu will appear to allow you to select rifle or pistol in addition to shotgun.
- Fill in the details on the dialog box.

The screenshot shows a dialog box titled "Rifle / Pistol details". It has a standard Windows-style title bar with a close button. The dialog is organized into several sections:

- Name:** A text field containing "Chris's Rifle".
- Rifle details:** A section containing:
 - Barrel length:** A text field with "0.90" and a unit dropdown set to "m".
 - Barrel twist length:** A dropdown menu showing "1:12" and a text field with "0.30" and a unit dropdown set to "m".
 - Twist direction:** A dropdown menu showing "Right".
 - Calibre:** A dropdown menu showing ".22 LR".
 - Dead time between shots:** A text field with "1.50" and a unit dropdown set to "s".
- Sights:** A section containing:
 - Zero distance:** A text field with "25.00" and a unit dropdown set to "m".
- Bullet details:** A section containing:
 - Muzzle velocity:** A text field with "1200" and a unit dropdown set to "m/s".
 - Ballistic coefficient:** A text field with "0.120".

At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

The value for the ballistic coefficient determines how the bullet "flies" and is derived from the weight, size and shape of the bullet. Its value varies depending on the ammunition used. Values for the ammunition you use should be available from the manufacturer's website.

Short range targets

Short range target practice is started using the **Rifle and Pistol target...** option on the **File** menu. Selecting this shows a dialog box to set the properties of a target, such as how big the target is, how high above the ground it is and its distance from the shooter.

Target

Target measurements

Distance from shooter to target: 10.00 m

Target diameter: 0.10 m

Target centre above ground: 1.40 m

Shooting

Shots per target: 10 ☐ Unlimited

Shot time limit: 5 ☐ None

Target time limit: 20 ☒ None

Shooter eye height: 1.60 m

Start new target: Delay

Show sighting diagnostic: No

Screen display

Countdown time: 3 s

OK Cancel Help

Click **OK** to start. The first thing to do is align the laser muzzle attachment on you gun. This corrects any difference in the alignment of the laser and the gun barrel.

A zoomed in view of the target is displayed on the main screen.

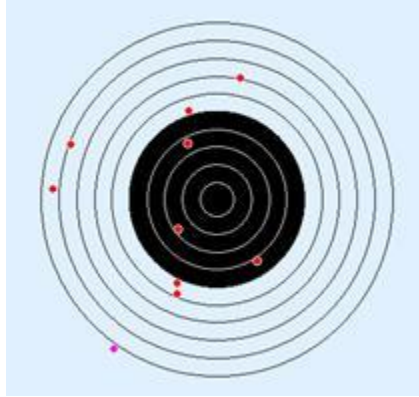
If the projector option is installed, the zoomed view of the target is also displayed on the left hand side of the projection window. A view of the target is displayed in the main part of the projection window, scaled so that it is the correct size for the given shooting distance and the position of the shooter in the room.

The laser dot may not be exactly aligned with the projected target. This can be corrected using the **projection adjustment** controls in the toolbar. This ensures that the camera is also pointing at the center of the target.

In the rifle target dialog is a drop list from which you select the method of starting a target.

- 10 second delay
- Test shot
- Press SPACE to start shooting this target
- Voice activation

Every shots you take will be displayed on the zoomed in target view. The most recent shot is shown in purple; other shots are shown in red.



The score records your shots at the target:



The above scorecard shows scores across a number of targets, each set of scores on a separate line. You can review the grouping for a target by selecting the line of scores from the scorecard.

Accuracy

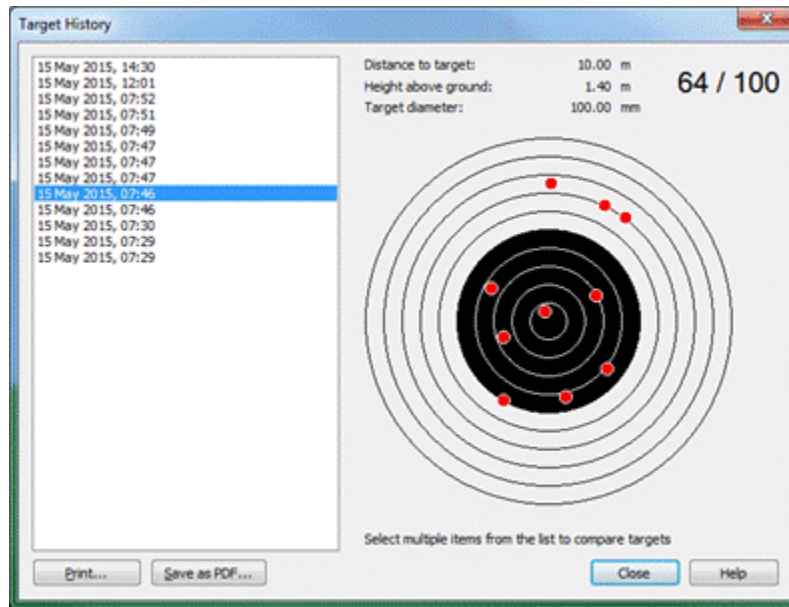
You will find that you need to be more accurate in the measurements you set in the system configuration than for shotgun shooting. In particular, make sure you stand the distance from the wall that is specified on this dialog. Also make sure that the shooter eye height is accurate.

The simulator should be placed about a meter from the wall, or closer if the shots shown on the target form a distinct grid.

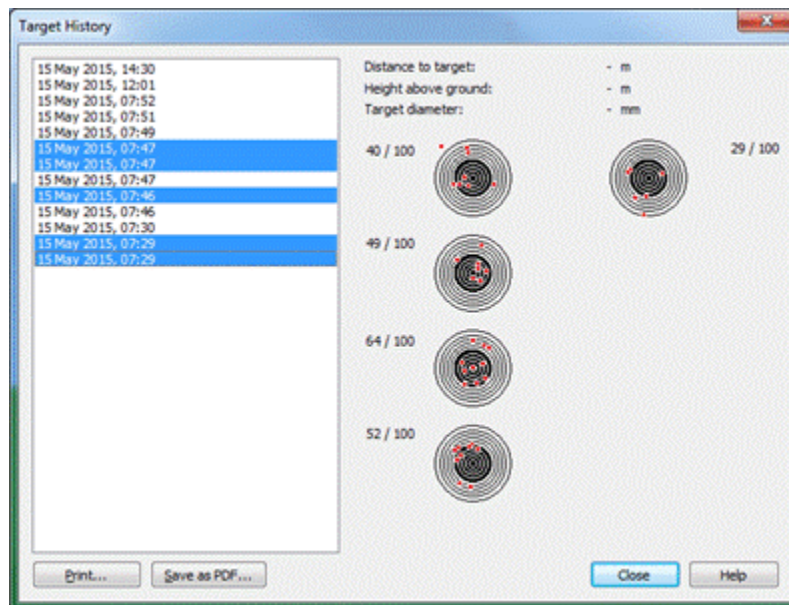
Target shooting history

The targets shot are logged by DryFire, and the target shooting history provides a way to view targets shot in the past.

The target shooting history dialog box lists dates and times at which targets were shot. Clicking on an entry in the list shows the target and the shot positions.



Selecting multiple items from the list, allows shot patterns to be compared.



You can print out targets, or save them as a PDF.

MyClayShootingRecord (MCSR)

If you have the DryFire report generator add-on, you can upload your DryFire scores to your account on myclayshootingrecord.com.

To use this feature, your DryFire system needs to be connected to the Internet.

About myclayshootingrecord.com

myclayshootingrecord.com offers a number of subscription levels. The basic service, allows you to store all your shooting records online. By linking this with DryFire, you can compare your DryFire scores, your other training scores and your competition scores side by side.

Linking DryFire to your myclayshootingrecord.com account

If you do not already have an account on myclayshootingrecord.com, go to the web site and sign up.



Clicking on the **Subscription details...** button displays a dialog into which you can enter the email address with which your myclayshootingrecord.com account is registered.

Select the option to control when your scorecards are uploaded.

Scorecard upload button

This is the  upload button on the scorecard view.

After every round

Your scores will be uploaded to MCSR on completion of a round.

When I finish using DryFire

Your scores will be uploaded to MCSR when you close DryFire. If you want to upload your scores without closing down, use the <cloud image> button.

Ask me after every round

A dialog box is displayed on completion of a round so that you can confirm that you want to upload your scores.



GunMotion

The GunMotion add-on will track your gun movement during DryFire practice.

[This feature is currently only available using an iPhone.](#)

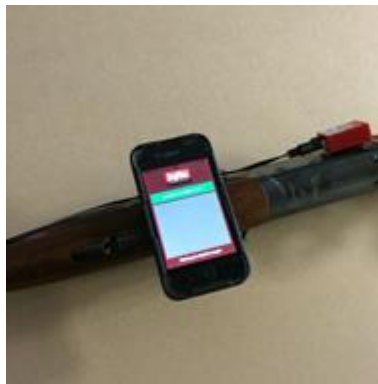
Setting up GunMotion

Before using GunMotion you need to install the DryFire GunMotion iPhone app from the AppStore.

Next attach your phone securely to your gun. We recommend using a mount like those available for attaching an iPhone to a mountain bike, such as this one from Nitelze.



Fastened long ways to the bottom of the gun facing downwards

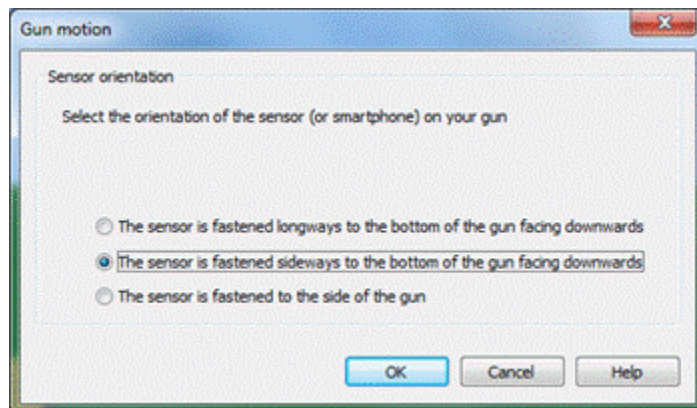


Fastened sideways to the bottom of the gun facing downwards



Fastened to the side of the gun

Select the **Gun motion** item from the **Setup** menu. This dialog allows you to specify the orientation of the phone on the gun.



If you run DryFire and the GunMotion app, they should connect. If you select the **Gun Motion** section on the side bar of the main window, you should see a message saying "Gun motion sensor connected OK".

Now shoot a round as normal. Notice that after each shot, the results are displayed, along with a faint line showing the motion of your gun. An item also appears in the list in the **Gun Motion** section of the side bar. Click on an item in the list to show the track more clearly.



At the end of the round, and any time during the round, you can click on an item in the gun motion list to review your gun motion for any target.

Interpreting GunMotion tracking

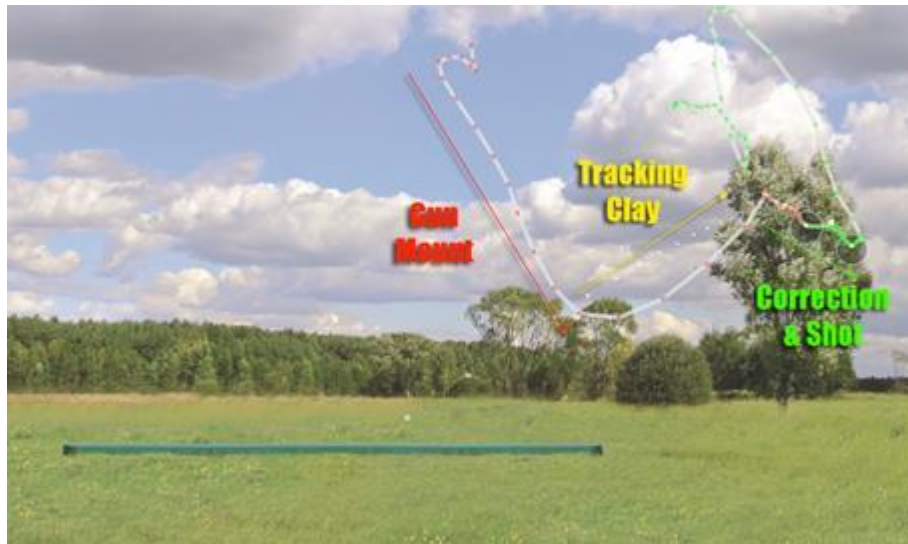
Here is the motion that was recorded for a sporting target:



Notice that there are arrows at intervals along the path, indicating the direction. The arrows are red up until the time of the first shot and green thereafter.

The spacing of the arrows is an indication of the speed at which the gun was moving: the closer together the arrows, the slower the movement of the gun.

Using this information, we can interpret the motion we recorded as follows:



Troubleshooting GunMotion

If you are having problems with GunMotion, check the following:

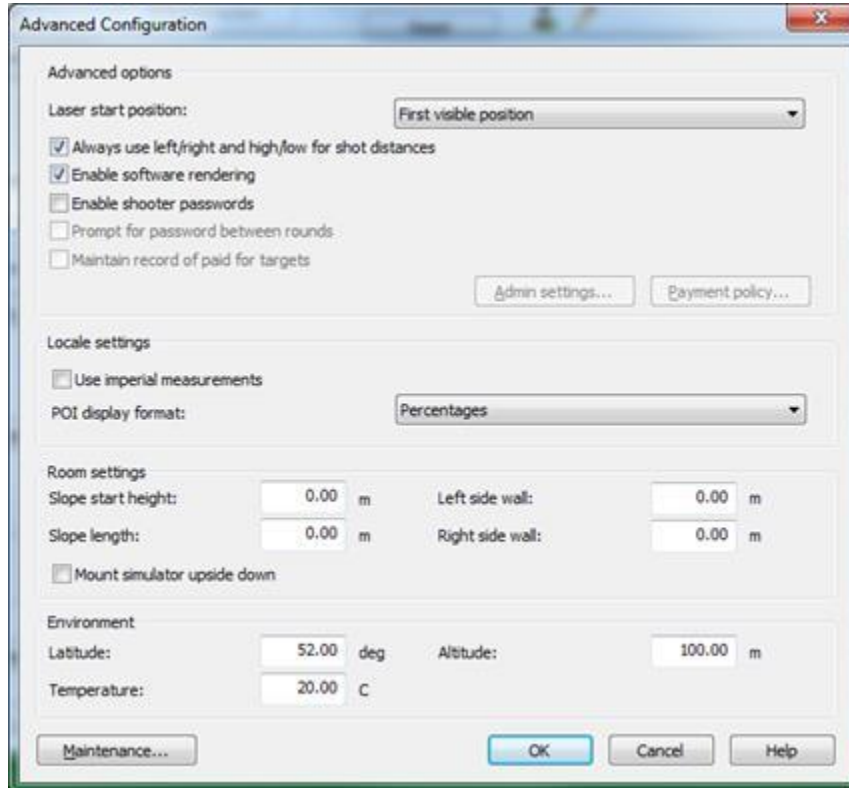
<i>Symptom</i>	<i>Solution</i>
The app does not connect to DryFire	Check that your phone and computer are connected to the same network
The gun motion track is upside down	Check the orientation of the phone on the gun. You might need to rotate it through 180°
The gun motion track is completely wrong	Check that you have set the orientation you selected on the Gun Motion Settings dialog matches the orientation of your phone on the gun

Advanced Configuration dialog

This dialog is used to define advanced settings that affect all DryFire shooters. It is displayed by clicking the **Advanced** button on the [System Configuration dialog](#).

Screenshot(s)

Metric measurements



Imperial measurements

Advanced Configuration

Advanced options

Max IR dot size: 12

Laser start position: First visible position

☒ Always use left/right and high/low for shot distances

☐ Enable software rendering

☐ Enable shooter passwords

☐ Prompt for password between rounds

☐ Maintain record of paid for targets

Admin settings... Payment policy...

Locale settings

☒ Use imperial measurements

POI display format: Percentages

Room settings

Slope start height: 0.00 in Left side wall: 0.00 in

Slope length: 0.00 in Right side wall: 0.00 in

☐ Mount simulator upside down

Environment

Latitude: 52.00 deg Altitude: 1076 feet

Temperature: 20.00 C

Maintenance... OK Cancel Help

Usage

The dialog is used as follows:

- To change the settings: Edit the data as appropriate (see table below) and then click the OK button to save the changes.
- To discard any changes you may have made: Click the Cancel button.

IF INSTRUCTED TO DO SO BY DRYFIRE SUPPORT, CLICK THE MAINTENANCE BUTTON TO DISPLAY THE SIMULATOR MAINTENANCE DIALOG.

Settings on this dialog

The settings on this dialog are described below.

Advanced options

Item	Description
Laser start position	When preparing to show a target DryFire can either position the simulator's head so that the laser points at the trap launch

Item	Description
	<p>point or the point in flight at which the clay first becomes visible to the shooter:</p> <p>First visible position: The simulator head initially points to the position where the clay is first visible to the shooter. This option produces more consistent start points on the wall.</p> <p>Launch position: The simulator head initially points to the launch point of the clay from the trap. If the trap is located in a trap house, the laser will not be switched on until the clay is outside the trap house. This option produces smoother trajectories on the wall, at the expense of less consistent start points. This is the method that DryFire V3 used.</p>
Always use left/right and high/low for shot distances	<p>Controls whether DryFire always uses left/right and high/low relative to horizontal and vertical axes to describe the position of the shot relative to the clay. This is the default mode in DryFire V4.</p> <p>The alternative mode, as used in previous versions of DryFire, uses different terms depending on and relative to the clay's trajectory at the time the shot cloud is closest to the clay.</p>
Enable software rendering	<p>DryFire uses OpenGL (Open Graphics Language) to draw images on your PC screen and uses functions provided by the graphics cards/chips hardware to speed up the process. Unfortunately some graphics cards/chips have bugs in their OpenGL firmware – such bugs might result in blank or single color screens.</p> <p>To configure DryFire to use any functions provided by your graphics card to draw images more quickly, clear the Enable software rendering option, click the OK button to close the dialogs then restart DryFire.</p>
Enable shooter passwords	<p>Controls whether shooter passwords, or the administrator password, are required to access DryFire functions.</p> <p>When passwords are in use, click the Admin settings button to show the Admin settings dialog on which you can change the administrator password.</p> <p>See the Passwords section for more details.</p>
Prompt for passwords between rounds	<p>Used with the squadding option, after a round completes with this option selected the “Select squad” dialog is displayed and shooters are required to login again before they can shoot another round.</p>

Item	Description
Maintain record of paid for targets	<p>This option is only available when passwords are enabled. When selected DryFire will maintain a count of all targets shot at by each shooter whether as part of a squad or in single user mode.</p> <p>The totals are shown by selecting the Setup, Shooter credits menu on the Shooter credits dialog where the administrator can indicate who has paid for credits and see the balance of paid/unpaid credits for each shooter.</p> <p>Click the Payment policy button to show the Payment policy dialog on which you can select whether pre-payment is required and whether shooters credits relate to targets or clays.</p>

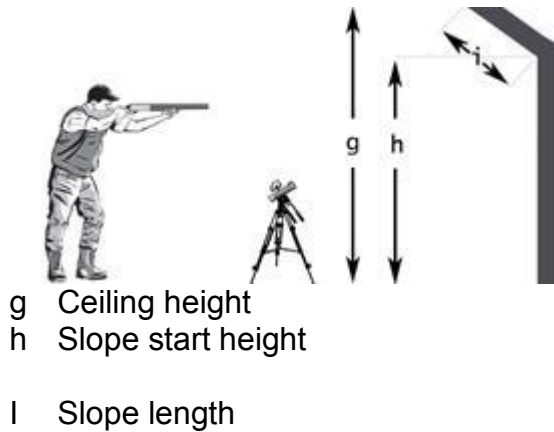
Locale settings

Item	Description
Use imperial measurements	<p>DryFire uses the International Standard metric system. Select this option for Imperial measurements. Measurements are stored as metric values between sessions and converted into imperial for display and editing purposes only.</p> <p>Note: You can also change between metric and imperial, when no dialog is displayed, by double clicking the word Metric or Imperial in DryFire's status bar.</p>
POI display format	<p>You can define the Point Of Impact [POI] for each barrel of your shotgun at a specific distance. The POI can be defined either as a specific distance that the center of the shot cloud hits above the aim point at that distance, or as a percentage/ratio of the shot cloud that will be above the aim point at that distance.</p> <p>If you prefer to express the POI as a percentage/ratio rather than an actual distance, select percentage/ratio here.</p>

Room settings

You can change between metric and imperial measurements via the Use imperial measurements setting on the Advanced Configuration dialog or, when no dialog is displayed, by double clicking the word Metric or Imperial in DryFire's status bar.

When entering settings, refer to the following diagram:



Item	Key	Description
Slope start height	h	The height from the floor at which your wall start to slope inwards - a roof conversion or attic perhaps. Set to zero if your wall does not have a sloping section.
Slope length	i	<p>The length of the slope starting from its height above the floor up to the point where it reaches the ceiling.</p> <p>Set to zero if your wall does not have a sloping section.</p> <p>Note: Instead of measuring the length of the slope, you can measure how far the slope comes into the room - i.e. the horizontal distance from where the slope meets the wall and the ceiling. If you are specifying this distance, enter the length as a negative number.</p>
Left side wall		If any amount of the left-hand side wall can also be used to show wide targets enter the length of side wall to be used.
Right side wall		If any amount of the right-hand side wall can also be used to show wide targets enter the length of side wall to be used.
Mount simulator upside down		Tick this option if the simulator is mounted upside down, on the ceiling.

Environment

These settings influence the clay and shot trajectories.

Item	Description
Latitude	Enter the latitude of the simulated shooting range.
Altitude	Enter the altitude of the simulated shooting range.
Temperature	Enter the average temperature of the simulated shooting range at the time you will use it.