



# MILO Range

Software Version 5

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## Overview

This user manual will cover topics from the perspective of the various software screens available in MILO Range. In order to learn more about a particular feature, identify the relevant software screen and review that section of this guide.

## Technical Support

FAAC Incorporated offers 24/7 telephone as well as email-based technical support. Please contact MILO Service with any concerns or problems at:

Email: [support@milorange.com](mailto:support@milorange.com)

Phone: 1-800-344-1707

## License & Copyright

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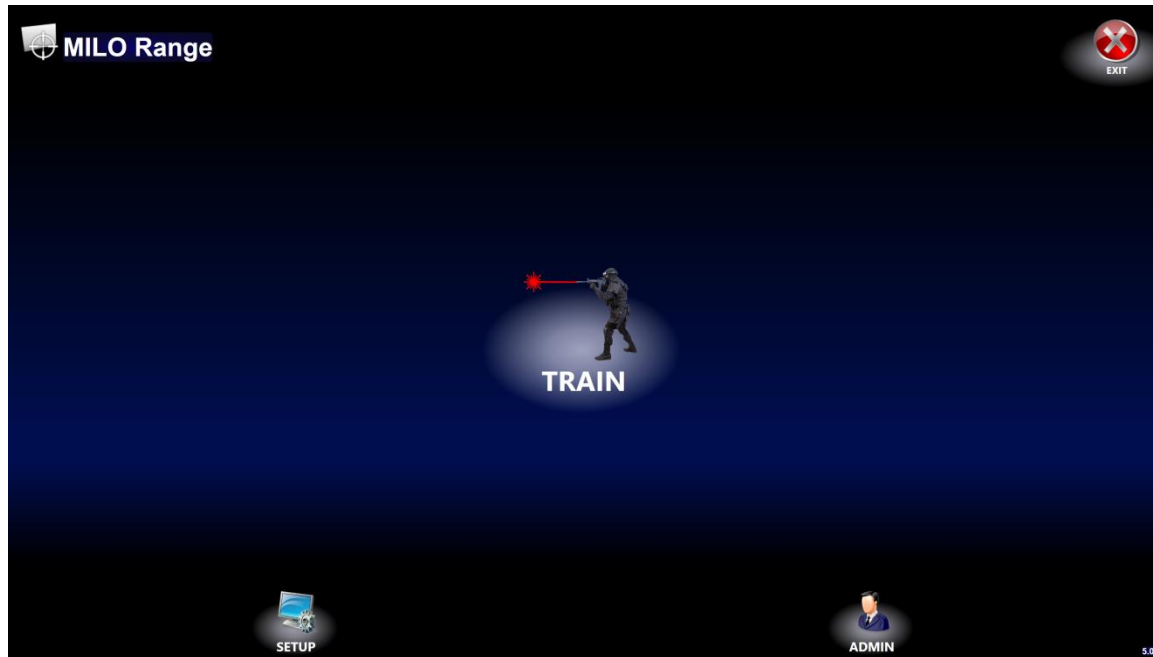
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## Home Screen

The Home screen is designed to allow the instructor to can choose to begin training sessions, setup the various system features or administer system settings.

**NOTE:** When the MILO Range software initially loads, an intro video plays on the projected screen. This can be disabled in the system options screen on the session tab.



## Train

Select the Train button to begin training sessions using laser-based weapons.

## Live Fire

If your system is equipped for Live Fire training, the Live Fire button will be shown here. Select the Train button to begin training sessions using live fire weapons.

## Live Video

If your system is equipped for Live Video role playing training, the Live Video button will be shown here. Select the Live button option to begin live-video, role-playing training sessions.

## Setup

Select the setup button to perform system calibration, flashlight or TAC feature testing and to adjust advanced settings for all three features.

## Admin

Select the Admin feature to administer features such as trainee, weapons, score categories, stored system session records, system reports and system options.

## Safety Warning & License Acceptance

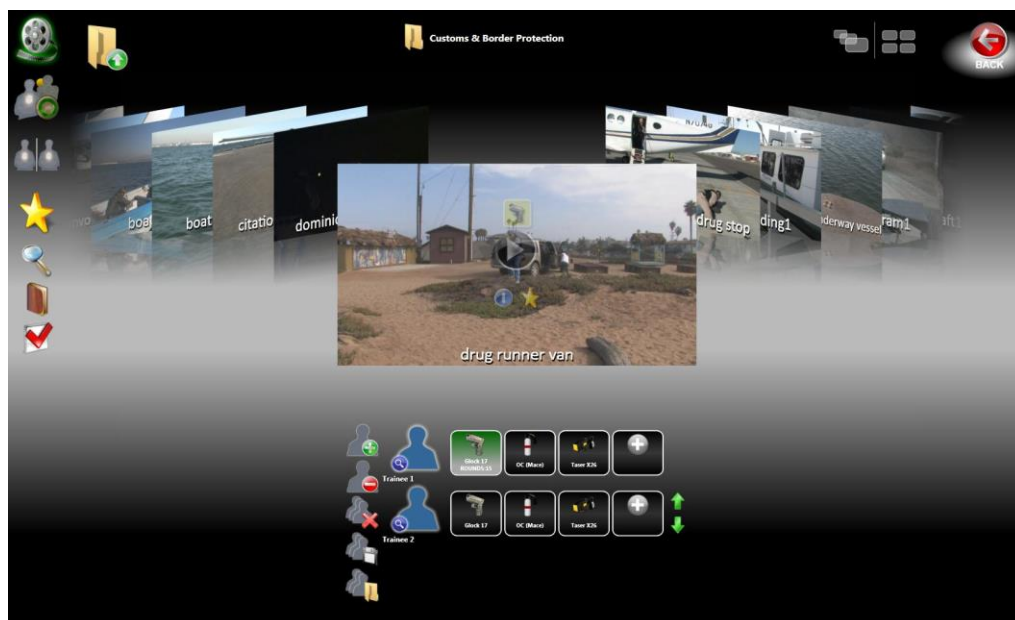
Before starting a session, you will be prompted to accept the system warning information and the software End User License Agreement. In order to use the system for training you must click OK to acknowledge your responsibility for following all applicable firearm and weapon safety guidelines, and to accept all terms of the MILO Range software End User License Agreement. You can read the entire End User License Agreement by clicking on the appropriate link on the warning screen.



## Session Setup Screen

The session setup screen allows the instructor to select the training session mode and setup the weapons and trainees that will participate. There are three training modes that can be selected, using the top-left most buttons on the screen:

- **Video Scenarios:** Interactive branching video scenarios
- **GraphX Targeting:** Interactive firearms targeting applications
- **Firing Range:** Multi-lane targeting with static targets and interactive target courses



In addition to the training session modes, there are additional buttons available on the left side of the screen which is detailed in the following section of this guide.

At the center of the session setup screen is the content preview. The content preview displays images representing the Videos and GraphX applications available on the system. The content preview allows two different display modes:

- **Cover Flow:** A horizontally scrolling list of large images
- **Thumbnails:** A grid of images

You can change the display mode using the toggle button in the upper right of the content preview area. You can scroll through either display mode using the mouse button.

## Video Scenarios

Interactive video scenarios are the primary training content for Use of Force training. There are hundreds of video scenarios included on the MILO Range system.

### *Video Preview Buttons & Information*

The video scenario preview shows a video frame of the scenario. Also on the preview are several key pieces of information and session controls for the instructor.



The yellow box indicates the types of weapons that can be used in this scenario. If weapon types that are not listed here are used by the trainee, the system may not react as expected.

The Play button will immediately start the training session using the scenario currently shown in the preview. If no weapons are assigned to the trainees, the instructor may be prompted to confirm continuing the session without weapon assignments.

The presence of a flashlight icon with a green glow indicates that the flashlight feature is on for the current scenario. To turn it off, simply click the flashlight icon so that it has no green glow OR select the session options button on the left-hand side of the screen and uncheck the flashlight option.

The “i” icon allows the instructor to view training objective information. This information was entered when the scenario was created. It cannot be changed here.

The star icon allows the instructor to add the scenario to the system favorites.

Below the preview is a black bar with white text displaying comments entered by instructors who have previously run this lesson on this system. The feature allows instructor to communicate opinions and directions about a given scenario to other instructors, without editing the lesson file itself.

If the appropriate system advanced option is enabled, users can right-click on the preview image to see the video file name and set the video’s interlace performance (for expert users only).

### Video Preview Folder Selection

At the center-top of the screen is an icon and text indicating the name of the current folder whose contents are displayed in the preview. The content preview shows folders and scenario images for the lessons in the selected folder.



To change the current folder, click on the folder name. A hierarchical list will appear allowing the instructor to select any folder from within the system-defined lessons folder. The instructor can also click on any folder displayed in the preview to navigate to that folder.

To navigate up a folder from the current folder, click on the Folder Up button in the upper-left area of the screen. Note that you can hide the Folder Up button in the system options screen.

### GraphX Exercises

In addition to video-based interactive scenarios, MILO Range includes many non-linear, fully interactive computer generated graphics exercises. These exercises range in complexity, skill level and length of time to complete. To select GraphX applications, click the GraphX icon on the left-hand side of the screen. Each GraphX application has a unique training objective and feature set.



Click the Play button on the preview image to launch that GraphX application.

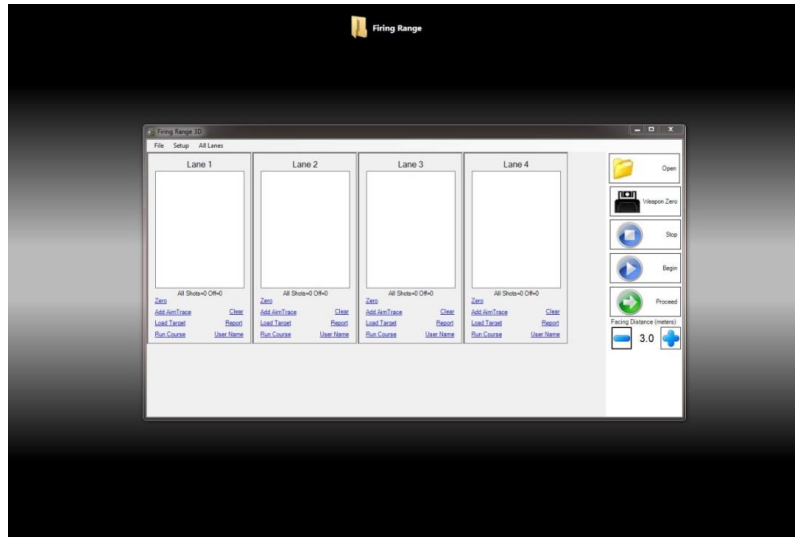


**NOTE:** You must assign weapons and zero them before launching any GraphX application.

Many of the GraphX applications, support background audio. You can select the background audio (in mp3 format) via the system options screen, on the folder tab.

## Firing Range

In addition to video- scenarios and GraphX targeting applications, MILO Range includes Firing Range, a multi-lane targeting mode that allows many lanes of static targets and/or interactive target courses.



**NOTE:** Firing Range does not use the trainee or weapon assignment controls. The instructor will set the number of desired lanes in the Firing Range software and zero each lane inside of the Firing Range screen.

**A complete user guide for Firing Range is provided separately from this user guide.**

## Favorites

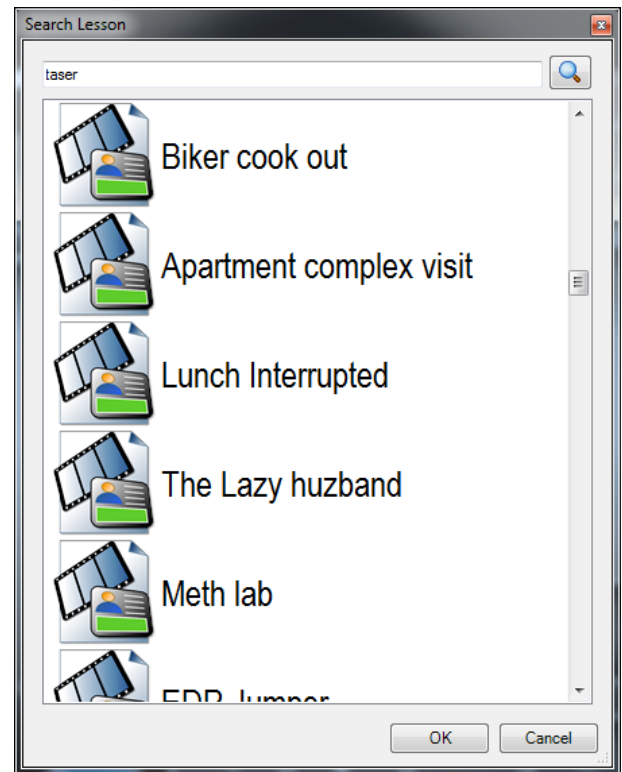
The favorites feature of the system allows an instructor to tag a video scenario or a GraphX application as a favorite to allow quick access to just those scenarios or GraphX. To view system favorites, click on the favorite's icon on the left-hand side of the screen.

The favorites preview has all of the same buttons and information about the scenario or GraphX that are shown in the normal preview; except the “add to favorites” feature. Instead, there is a remove favorite button to remove the scenario from the favorite's folder.



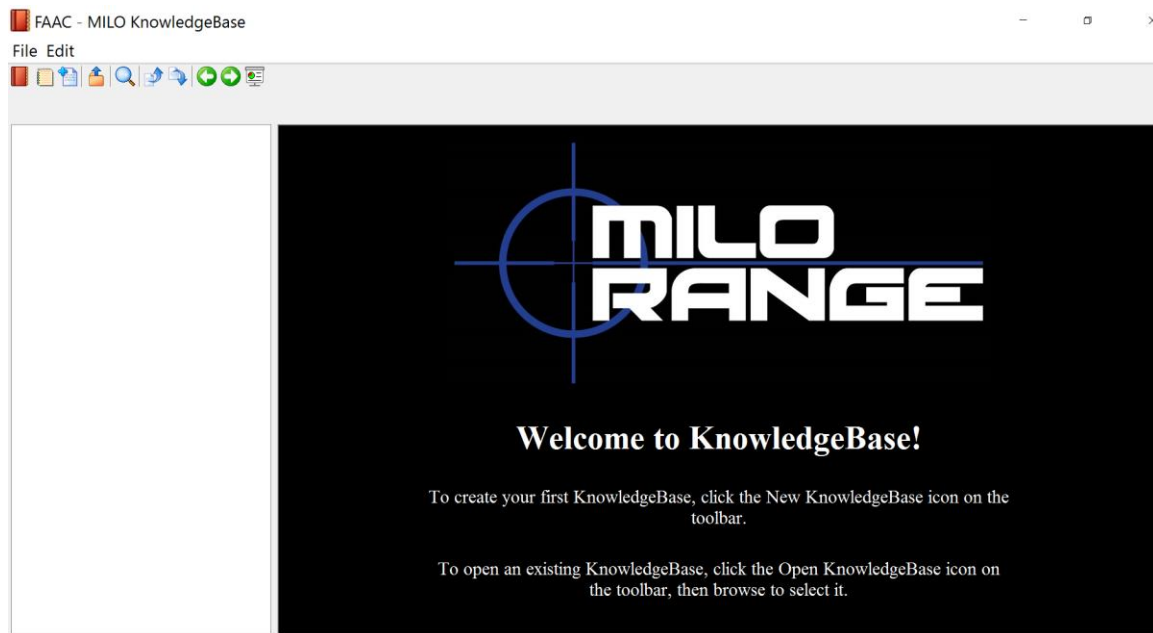
## Search

The search feature allows the instructor to search all of the lesson folders for scenarios that contain the search string in either the title or the training objective. Upon clicking the search button on the left-hand side of the screen, a new window appears allowing the instructor to type text to search for. A list of search results is shown. To navigate to that lesson, double-click it. The search window will close and the preview will navigate to the selected scenario and containing folder.



## Knowledgebase

The Knowledgebase feature of MILO Range allows instructors to present supporting multimedia and documents on the projected screen, for trainees to view. By adding any agency document or video to the MILO Range Knowledgebase, it is made immediately available to display before, during and after the training scenario to support discussion and/or reinforcement of a policy, training objective or key learning point.



### *Displaying Items*

To display an item in your Knowledgebase, onto the projected screen, select the item you wish to present. Click the Present button. This is the right-most button on the toolbar.

### *Creating the Knowledgebase*

To create a new Knowledgebase, click the New Knowledgebase button. This is the left-most button on the toolbar. Choose a name and location to save the new Knowledgebase (“C:\MILO\KnowldgeBase\” is the recommended location). You are now ready to add items to the Knowledgebase.

### *Adding Items*

To add an item to a Knowledgebase, click the New File button. This is the third button from the left on the toolbar. You will be prompted to select a file from your computer. This can be any type of file that you intend to present to trainees.

### *Removing Items*

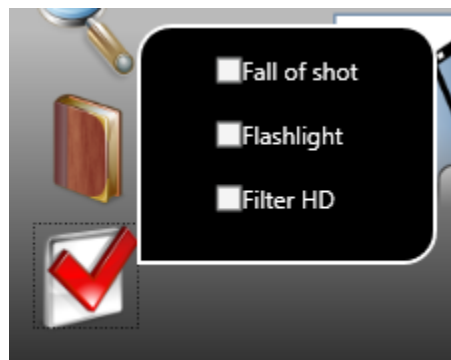
Select the item you wish to remove. Select the Edit menu and select Delete. Note that once you do this, the item will be removed and this cannot be undone. However, you can always add the item back to the Knowledgebase again.

### *Ordering Items*

You can move items up and down in the list so that they are arranged in priority or a specific order. Select the item you wish to move, and then use the Move Up and Move Down buttons on the toolbar.

## **Session Options**

There are several session options available, depending upon which features your system has installed. Session Options can be accessed by clicking the Session Options button on the right-hand side of the session setup screen.



### *Fall of Shot*

Check this option to display a graphic image at the location of all shots fired, during the session, on the projected screen. This option will allow the student to see where their shot fell, in real-time.

### *Flashlight*

Check this option to enable flashlight during video scenarios. Uncheck to turn it off. It is recommended to leave this option turned off unless it is really desired for the training session.

### *Filter HD*

Check this option to filter the video scenarios so that only those with High Definition video will be available in the content preview.

### Live Fire Controls

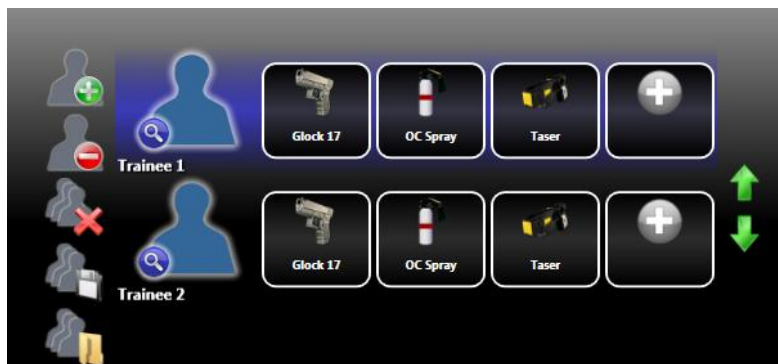
If your system is equipped for live fire, and you are in the live fire session screen, you can use this button to close the holes in the target screen. MILO Range includes an automatic capability to determine when it is appropriate to close the holes in the live fire screen's paper surface. Click the Closed Holes button to override this feature and close the holes regardless of how many exist.



### Trainee Assignment

In each MILO Range training session, it is important to assign weapons to trainees so that the system knows what weapons to watch for and react to. The trainees and their weapon assignments are referred to as the trainee lineup. By default, the session will have 2 anonymous trainees in the lineup, with no weapons assigned. Optionally, you can select trainees from the system database, rather than leaving them anonymous.

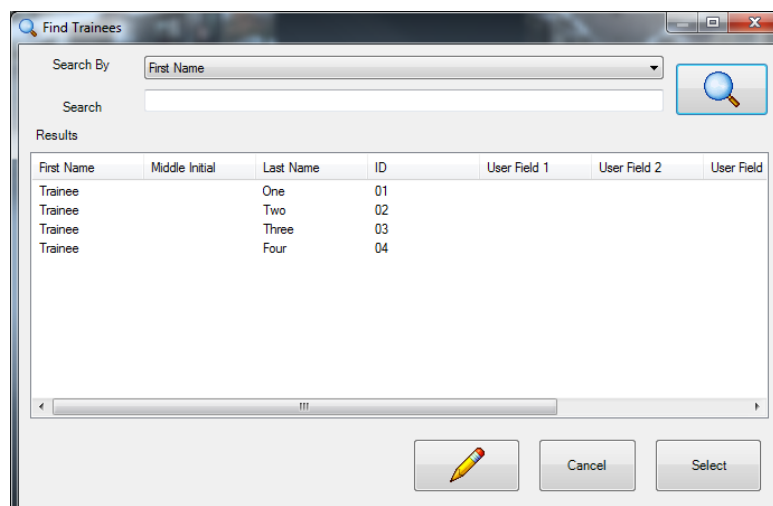
**NOTE:** The system has the ability to remember the last used trainee (and weapon) assignment from session to session, even if the software or computer is restarted. This feature can be toggled on and off in the Admin – System Options screen



### Add, Select, Remove

By default, the session will have 2 anonymous trainees in the lineup. To add a trainee to the lineup, click the Add Trainee button to the left of the lineup area. This will add an anonymous trainee to the lineup.

To select a trainee from the database, click the blue silhouette of the trainee. The trainee search window will open.



Select a trainee from the search results or type a search string to filter the trainees. Once selected, the name on the trainee in the trainee lineup will be updated with the selected trainee's name.

To remove a trainee from the lineup, click on the trainee line in the lineup and then click the Remove Trainee button.

### *Save & Load Lineups*

You can save the trainees and their weapon assignments to enable fast access to the most commonly used lineups. By saving a lineup, you can later load that lineup and avoid having to assign the weapons to the trainees.

To save a lineup, assign the weapons you want to each of the trainees in your lineup, then click Save Lineup and enter a name for the lineup file.

To load a previously saved lineup, click the Load Lineup button and select the desired lineup file. The weapons will already be assigned. You only need to zero them before beginning the lesson.

### *Clear All*

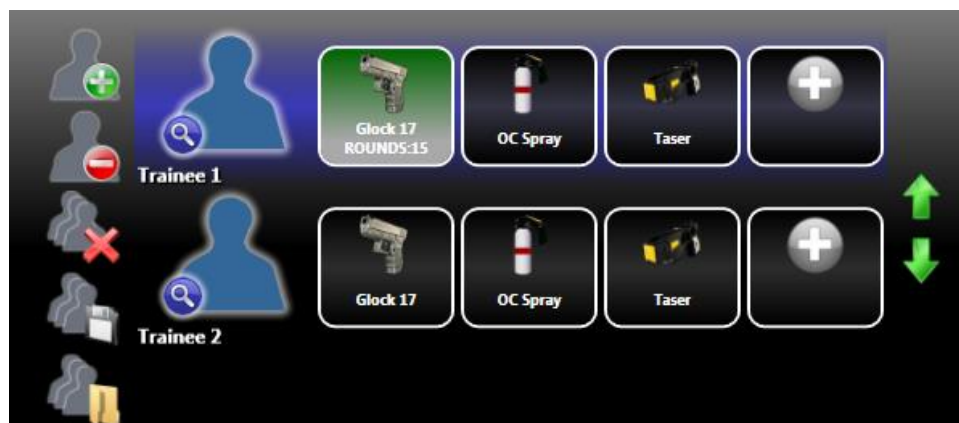
This will clear all trainees and weapon assignments and set the lineup to have only 1 trainee, with no weapons assigned.

### *Weapon Assignment*

In order for the MILO Range system to properly identify each weapon that will be used and associate that weapon with each trainee in the training session, the instructor must assign laser-based weapons to the trainees.

### *Assign Weapon/Zero Weapon*

To assign and zero the weapon to a trainee, click the image of the weapon. The trainee will be presented with a zeroing target, the message, zeroing 1/3 must be present at the top of the projected screen, and the trainee will fire three shots at the red dot. The trainee will then fire a fourth shot and this will confirm/show zero. If the weapon was successfully assigned/zeroed, the weapon will have a green background.



The Baton is the only weapon that is not assigned as described above. The Baton weapon will be automatically added and enabled to each trainee in the lineup, anytime a lesson has a Baton reaction possible. Therefore, the instructor does not need to manually assign Baton weapons.

If the system uses instructor indicated baton, during the training session, when the trainee motions to use their baton, the instructor will click the Baton icon to indicate that the baton was used.

### *Assign Alternate Weapon*

If you wish to assign a weapon other than what is displayed by default, right-click any unassigned weapon and choose the image of the desired weapon type from the pop-up window. The system will then prompt the trainee to fire the weapon at the projection screen.



### ***Assigned Weapon Options***

For each assigned weapon, there are several options you can select. Right-click on an assigned weapon to see the options menu for that weapon.



### ***Select Specific***

If you wish to assign a weapon model other than what is displayed by default, choose Select Specific. The system will present the weapon selection window. Choose the desired weapon and click OK.

### ***Reassign***

If you wish to assign an alternate laser weapon to this weapon icon, choose Reassign. The system will prompt the user to fire the new laser weapon at the projection screen.

### ***Zero***

This will allow you to zero the assigned laser weapon. Follow instructions for Zero Weapon shown above.

### ***Deactivate Weapon***

To deactivate an assigned weapon, right-click on the weapon and choose “deactivate” from the menu.

### ***Add Aimtrace***

If you wish to add the Aimtrace feature to an assigned weapon, right-click the assigned weapon and choose Add Aimtrace from the pop-up menu. The system will prompt you to fire the weapon laser and the Aimtrace in order to correlate the two and assign them to the trainee and weapon.

## Session Running Screen

The session running screen allows the instructor to view and interact with the scenario, select instructor branch options, control trainee weapons, play sound effects, adjust flashlight/lowlight settings and, for system enabled with TAC, view the TAC video, all in real-time.



## Instructor Preview

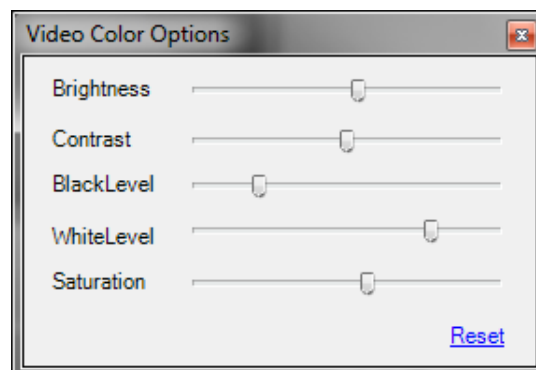
The instructor preview in the upper-left shows the video scenario, just as the trainee sees it. The instructor can interact with the scenario using keyboard and mouse clicks on the preview to simulate firearms, Taser and OC/Mace.

Shift + Mouse Click = Firearm

Ctrl + Mouse Click = OC (mace)

Ctrl + Shift + mouse Click = Taser

If the appropriate system advanced option is enabled ("Allow interactive color adjustment") is enabled, the user can right-click on the preview during the scenario to open the video color adjustment window. Changes made are reflected in real-time and affect all video lessons on the system. When done making adjustments, close the window with the "X".



## Branch Options

The Branching Options allows the instructor to control the direction and outcome of the session by selecting from the available list of branches. A single click on any item will highlight that branch option and set it as the next item (video



scene or slide) to play. Double-clicking on the Skip button at the right side of any branch option will cause the system to immediately jump to that item (video scene or slide).

### ***Session Controls***

Directly under the instructor preview, the user can pause and stop the session using the appropriate buttons.

### ***Remaining Time Indicator***

Directly above the instructor preview, the user can see how much time is remaining in the current scene or slide.

### ***Knowledgebase***

Directly below the instructor preview is the Knowledgebase button. Clicking the Knowledgebase button will pause the lesson. For further details about how to use Knowledgebase, see the Knowledgebase section under the session setup screen section of this user guide.

### ***Bookmark***

Directly below the lower-right corner of the instructor preview is the Bookmark button. Clicking this button will place a bookmark at the current point in time, which will appear in the debrief log for review. This is useful if the instructor observed something during the training session that he or she wants to review during debrief.

### ***Real-Time Sound Effects***

Directly below the lower-right corner of the instructor preview is the real-time Sound Effects button. Clicking this button will cause the sound effects pop-up to appear.

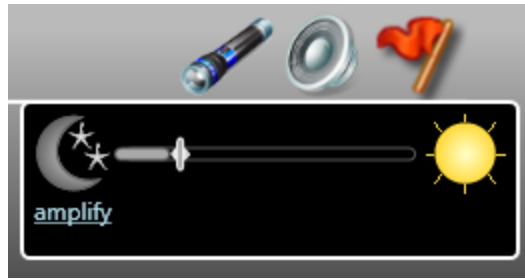


Double-click any audio file in the pop-up and it will play normally. Click and drag any audio file in the pop-up, to any speaker icon in the pop-up and the sound effect will only play out of that speaker, provided you have a 5.1 audio sound system. The pop-up will disappear immediately afterward.

### ***Flashlight Control***

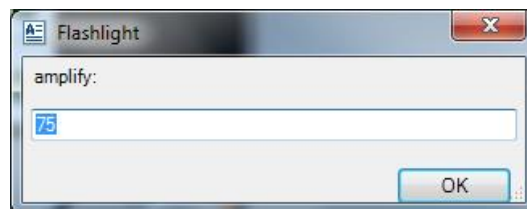
During the session, the instructor can control the simulated darkness of the video. Directly below the lower-right corner of the instructor preview is the Flashlight control button. Clicking this button will cause the flashlight pop-up to appear.





Click on the image of the moon to cause full darkness, click on the image of the sun to cause full light condition. Alternatively you can use the slider bar to adjust darkness to the desired level. The pop-up will disappear immediately afterward.

The amplify link located here will open another window in which you can enter a new value for flashlight amplification. This will increase/decrease the effectiveness and size of the flashlight during the scenario.



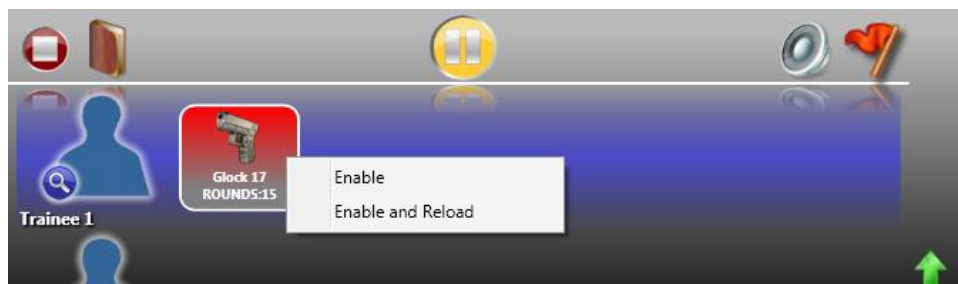
## Trainee Weapon Controls

During the training session, the instructor can interact with the trainee weapons to cause them to fail and/or to reload them when the trainee performs the appropriate drill.

When a weapon is empty, it will turn yellow. The instructor can simply click the weapon and it will be reloaded. Alternatively, he or she can right-click and choose reload or Force Fail.

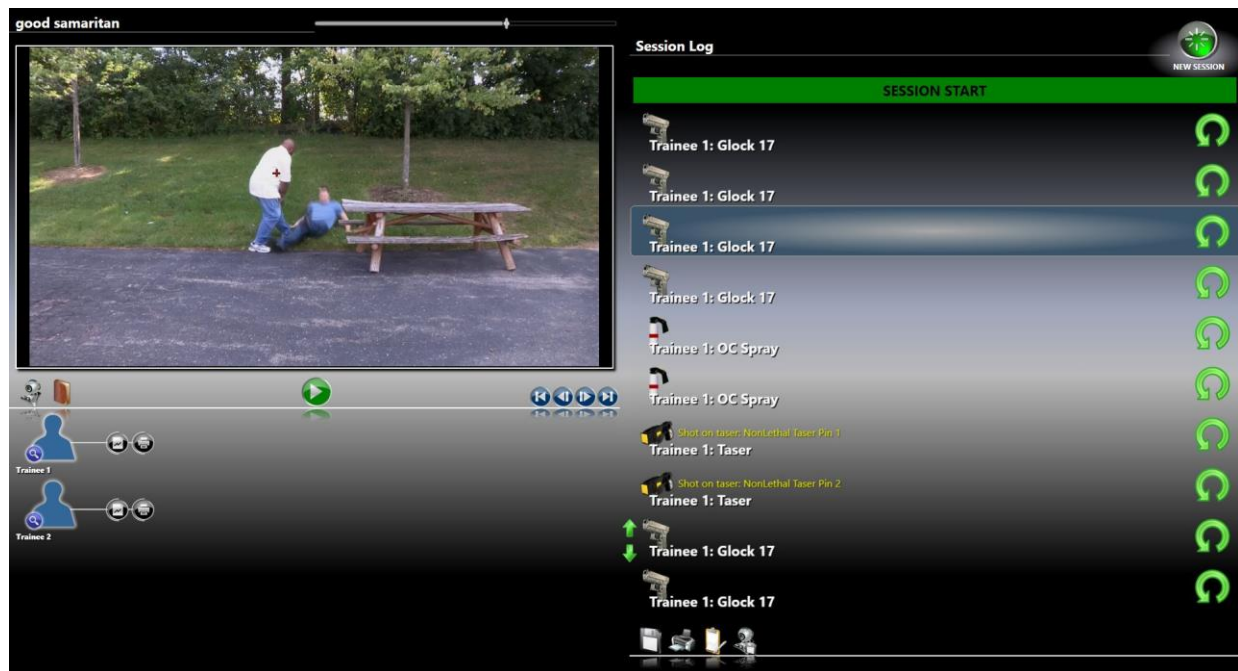


When a weapon is failed (by instructor's action) it will turn red. The instructor can right-click a disabled weapon and choose to Enable or Enable and Reload the weapon.



## Session Debrief Screen

The session debrief screen allows the instructor to replay and review the outcomes and events of the training session. In addition, Knowledgebase can be used to reinforce missed training objectives, reports can be generated, and a record of the training can be saved.



## Instructor Preview

The instructor preview in the upper-left shows the video scenario, just as the trainee sees it. The instructor can interact with the scenario using keyboard and mouse clicks on the preview to simulate firearms, Taser and OC/Mace.

In debrief, the instructor can draw on the preview by using the mouse. Click and drag on the preview to draw an illustration on top of paused video or slides. The drawing is not saved, and will be erased once any other item in the Session Log is clicked or video playback is started again.

## Session Replay Controls

By default, the replay is paused when the session debrief screen opens. The instructor can play/pause the replay at any time using the button directly below the instructor preview.

In addition, directly below the right-hand corner of the instructor preview, buttons for skipping forward and back by individual video frames and for skipping ahead and back are provided.

## Session Log

The Session Log contains a chronological record of all items, events and actions that occurred during a session. Clicking on any item in the log will immediately jump to that position in time in the session.

## Replay Up To Shot

For each shot that was fired in the log, there will be a replay icon on the far right. Clicking this icon will begin replay of the scenario starting from 5 seconds prior to this shot.



### Timeline Scroll

Using the scroll control above the instructor preview, the instructor can scroll to any position in the session quickly.

### Knowledgebase

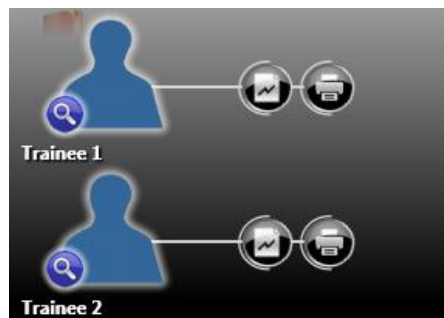
Clicking the Knowledgebase button will pause the playback of the session. For further details about Knowledgebase, see the Knowledgebase section under the session setup screen section of this user guide.

### Trainee Action Capture (TAC) View

If the system is equipped with the TAC feature, an icon of a web camera will be shown directly below the left-hand corner of the instructor preview. Clicking this button will cause the projected screen to display the capture TAC video and audio, with the scenario video inset in picture-in-picture format. Replay can be shown at any time in either TAC or normal scenario view.

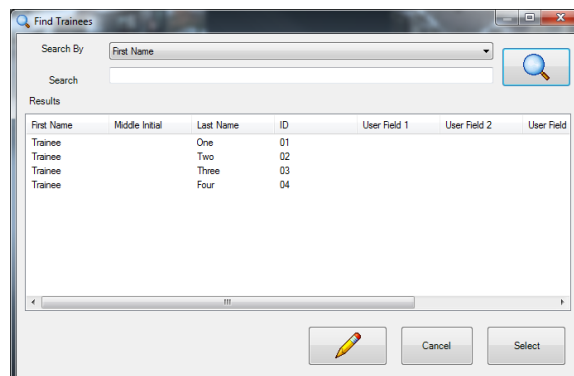
### Trainee Controls

There are several features to define trainees, set scoring and reporting comments, and generate reports.



### Select Database Trainee

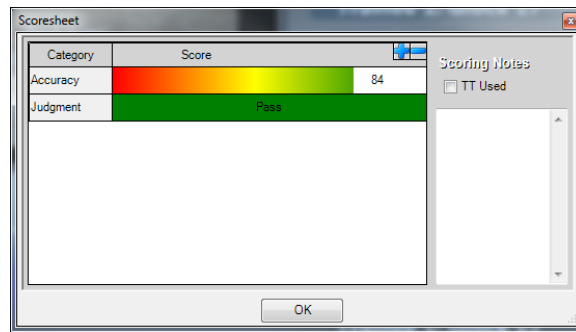
To assign a trainee from the session as one from the system's database, click the blue silhouette of the trainee. The trainee search window will open.



Select a trainee from the search results or type a search string to filter the trainees. Once selected, the name on the trainee in the trainee lineup will be updated with the selected trainee's name.

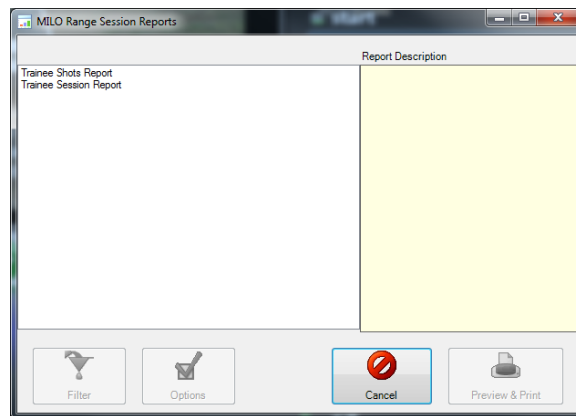
### Trainee Score Sheet

The instructor can enter scoring and performance information on the trainee Score Sheet, accessed by clicking the first icon to the right of the trainee silhouette.



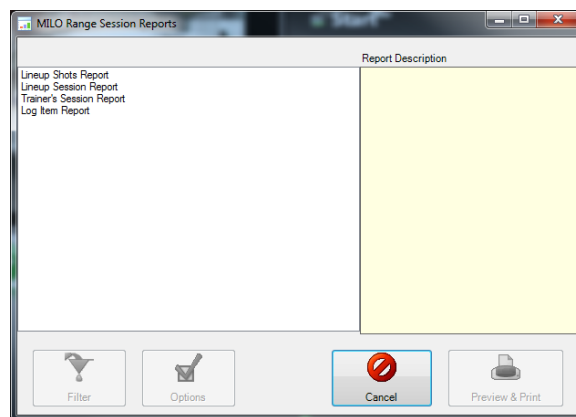
### *Trainee Report*

The instructor can print trainee reports for this session by clicking on the printer icon to the right of the trainee silhouette.



### *Session Reports*

In addition to trainee specific reports, the instructor can generate session and lineup reports using the general reports button located in the lower right-hand corner of the screen.



### *Save Session*

The entire training session can be saved for later review and/or record keeping. Click the save button in the lower center area of the screen to be prompted to enter a name and location to save the session file. Note, if you do not save the session, no record of this training event will be kept and it will be lost once the New Session button is clicked.

### *Instructor Comments*

The feature allows instructors to communicate opinions and directions about a given scenario to other instructors, without editing the lesson file itself.

### *Export TAC*

The feature allows instructors to export a Picture-in-Picture video of the video scenario with TAC video as a new WMV video file for archiving or later review. Click the Export TAC button and choose a filename and location to save the video.

### *Debrief TAC*

The debrief TAC feature allows the instructor to record video and audio of the debrief given to the trainee, so that it can be exported and reviewed by the trainee later. Click the button to start recording, click the Stop Recording button that appears to stop the debrief recording. You will automatically be prompted to save the new video on the system.

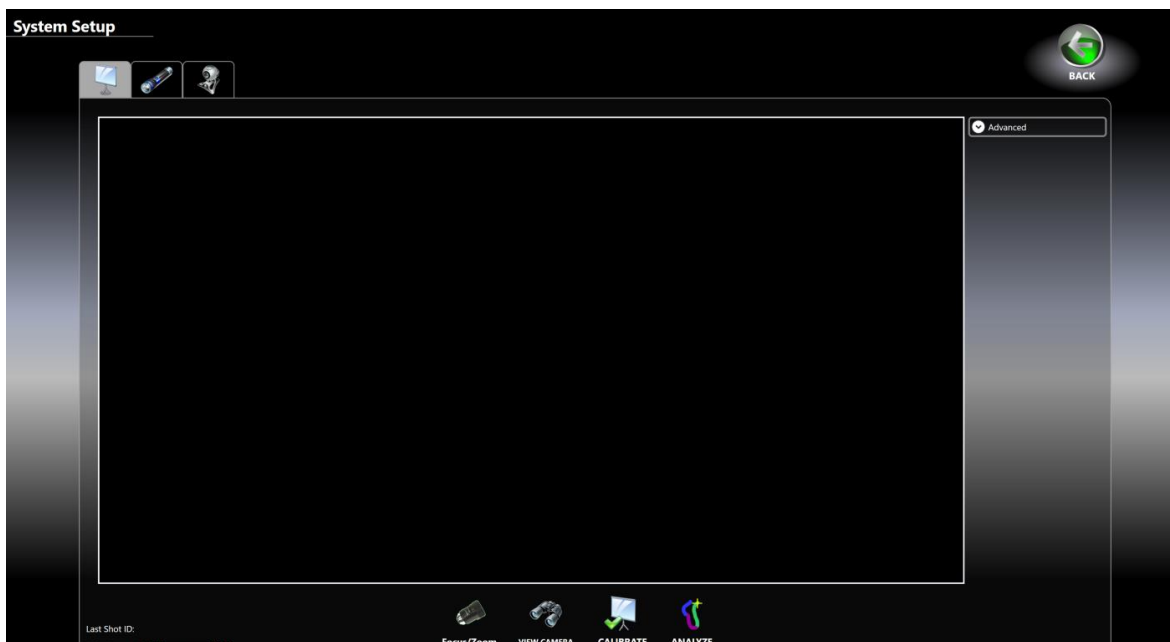
## Setup Screen

The system Setup screen allows you to perform setup and verification of all system features that utilize cameras and other external devices. You also perform system calibration here.

### System Calibration

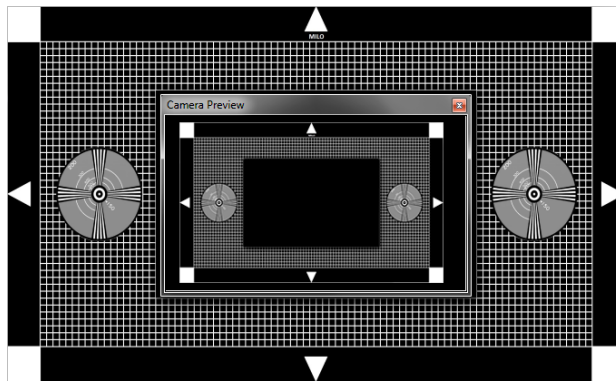
The MILO Range system utilizes a special camera and software to detect the location of laser and live fire weapons. In order to ensure accuracy of shot detection, you must calibrate the system anytime the hit detect camera or the projector has moved. The calibration process will take less than 5 minutes.

System calibration is the process of aligning the shot detection camera to the projection screen and adjusting the camera's lens so that the focus and zoom provide a clear picture of the entire projection screen, then using the MILO Range calibration wand to mark a series of crosshairs that are displayed on the projection screen. Detailed instructions for system calibration can be found in the appropriate system setup guide provided with the MILO Range system.

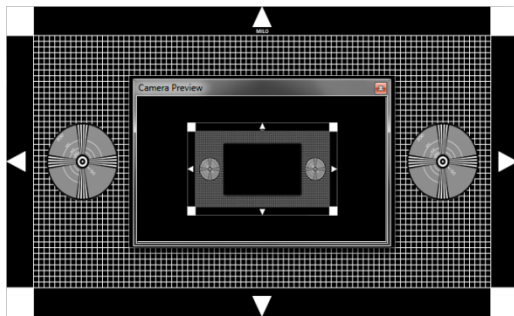


### ***Focus/Zoom***

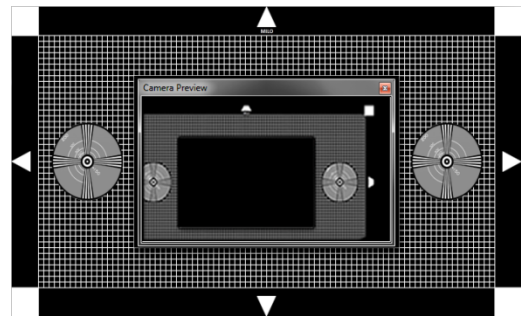
This button is used to allow aiming, focusing and zooming the hit detection camera to properly see the entire projection screen. When clicked, the projected view will display a pattern (shown below) within the yellow calibration box area, with a live video preview of the hit detect camera in the center of the pattern. The user will remove the IR filter from the front of the hit detect camera lens, adjust the aim of the camera so that the 4 outer-most white boxes of the projected pattern can be seen inside the camera preview window. This ensures that the hit detect camera can see the entire projection screen. The camera's aim as well as the lens's focus and zoom should be adjusted to get the proper picture.



Hit Detection camera is correctly focused and zoomed



Camera is zoomed too far out



Camera is zoomed too far in AND  
Camera is not aimed properly

### ***View Camera***

This button provides a live video preview (on the instructor's screen) of what the shot detection camera sees.

### ***Calibrate***

This button will begin the calibration process. If you need to cancel calibration for any reason, you will need to return and complete the calibration process again before conducting training sessions.

### ***Close Holes***

If your system is equipped with Live Fire, this button will be visible. When clicked, it will cause the live fire screen to roll the screen paper surface until all detected holes are closed or the maximum time for closing holes has been reached. You can use this button multiple times if necessary to close all screen holes.

### ***Analyze Shots***

The Analyze Shots will display a test screen and produce a multi-colored line or spot for lasers fired on the screen. This mode allows critical analysis of laser detection information, and is typically only needed when consulting with Technical Support. This tool can help you identify faulty lasers and/or improper camera focus and iris settings.

### ***Last Shot ID***

The information provided here indicates the laser ID (“lane”) of the last detected laser weapon fired at the projection screen. If the Detection Mode is set to Live Fire, the information displayed here is “pixels\*holes” which is the total number of camera pixels illuminated by IR light and the number of shots the system is detecting these holes as.

### ***Driver Status***

The status displayed here indicates whether the hit detection software is OK, loading, or has a failure. If there is anything other than “ok” displayed here, you should contact Technical Support.

### ***Advanced***

These settings should only be used or altered under the guidance of technical support.

Detection Setup: This button opens the hit detection capture source setup screen. This button and the resulting screen should not be used except under direct guidance from Technical Support.

Configure Live Fire Screen: If the system is equipped with Live Fire, this button will be visible on screen. When clicked, this button will open a new window in which you can change the software driver used to control the live fire screen, as well as toggle screen lights and screen motors on and off.

Calibration Area: This slider controls the size of the area (yellow box on projector screen) the system will calibrate.

Calibration Resolution: This is the number of grid points to use for calibration. Higher numbers will produce more accurate calibration, particularly with auto calibration and for live fire systems.

Output Ratio: This setting defines the ratio the output screen. In most cases, it should be “Fit to Screen”. When Custom Subset is selected, an additional button “Setup custom subset” will appear. This is used only for multi-screen systems.

Detection Mode: This set of radio buttons sets the type of shot detection currently used in the system calibration screen. This setting does not affect the system’s detection during training sessions. By default this setting will be on Laser. If your system is equipped with Live Fire, changing this setting accordingly will allow you to view live fire shot detection results in real-time in this setup window by placing a crosshair on each detected hole in the live fire screen.

Auto-Calibration: Checking this option will allow auto-calibration, avoiding the need for the calibration wand. When enabled, an additional box for “Points Size” will be displayed. The default value of 6 is appropriate for most cases.

Advanced shots details: Checking this box will provide advanced diagnostic information for laser detection. This box should be checked by default.

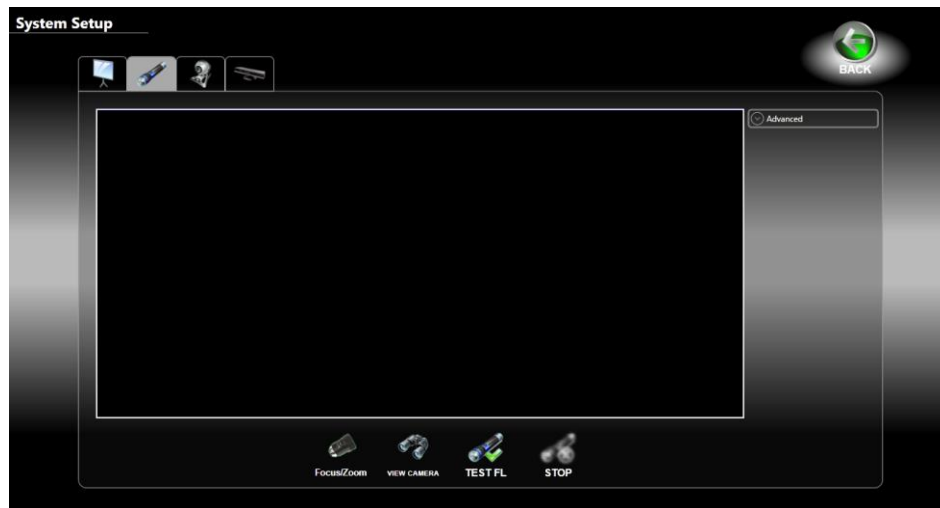
Calibrate Live Fire / Laser: Check these boxes to control which detection features will be calibrated in the next calibration process. For systems with both laser and live fire, both boxes should be checked. You will still be prompted to select Laser, Live Fire or Both when calibrating a system with both features checked here.

Stuck Pixels: This utility has two options, “Find” and “Clear”. Find will guide you through the process of recording stuck pixels on the detection camera and ignoring them. Clear will reset the any previous stuck pixels that were recorded.

### **Flashlight Setup**

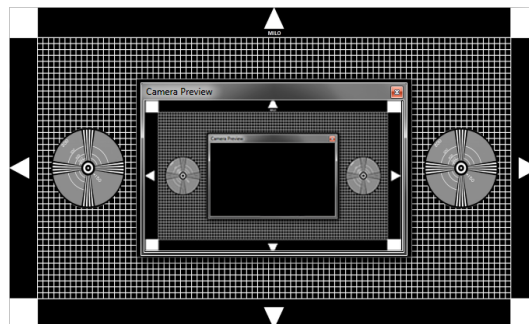
The MILO Range system utilizes a special camera and flashlight fitted with IR filters to simulate lowlight and flashlight. In order to ensure proper appearance and performance of the flashlight, you should re-align the camera to the projection screen anytime the flashlight camera, the projector, or the projection screen has moved. Detailed instructions for setting up the flashlight camera can be found in the appropriate system setup guide provided with the MILO Range system.



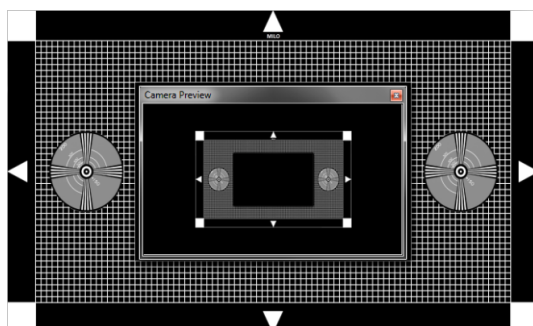


### *Focus/Zoom*

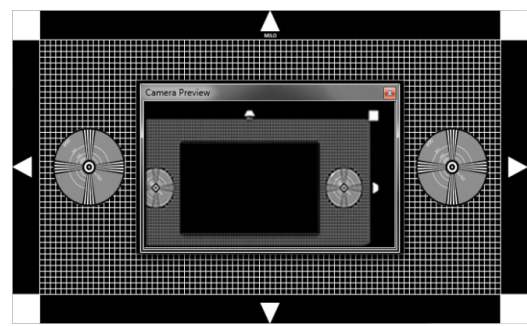
This button is used to allow aiming, focusing and zooming the flashlight camera to properly see the entire projection screen. When clicked, the projected view will display a pattern (see patterns displayed in hit detect setup above), with a live video preview of the flashlight camera in the center of the pattern. The user will remove the IR filter from the front of the flashlight camera lens, adjust the aim of the camera so that the 4 outer-most white boxes are just barely seen inside the camera preview window. This ensures that the flashlight camera sees only the projection screen and not the area outside the projection screen. The camera's aim as well as the lens's focus and zoom should be adjusted to get the proper picture.



Flashlight camera is correctly focused and zoomed



Camera is zoomed too far out



Camera is zoomed too far in AND  
Camera is not aimed properly

### *View Camera*

This button provides a live video preview (on the instructor's screen) of what the flashlight detection camera sees.



### *Test Flashlight*

In order to test flashlight before running sessions, you can run a training video file from this screen and test the flashlight feature. When clicked, you will be prompted to select a video file from the movies drive of the system. It will immediately begin playing on the preview window.

### *Stop*

To stop testing flashlight, click here.

### *Advanced*

These settings should only be used or altered under the guidance of MILO technical support.

Flashlight Setup: This button and resulting window should only be accessed or altered under the guidance of MILO technical support.

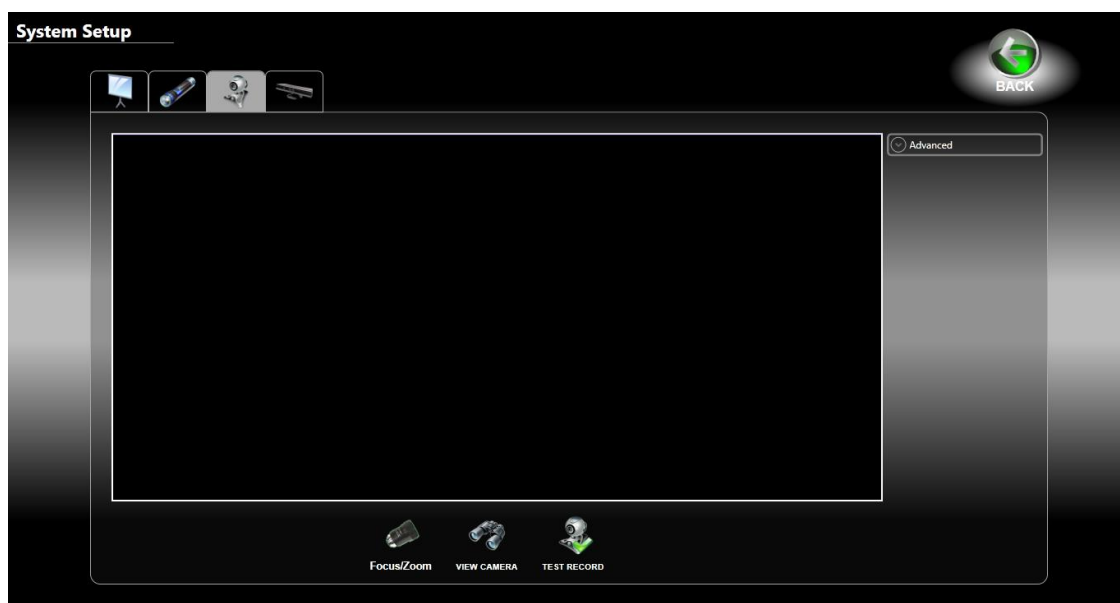
Enable in GraphX: Checking this box will allow the Flashlight feature to be loaded and available in the GraphX applications that are designed to support it.

Signal Amp: In order to provide a larger, or cleaner, flashlight spot size, use the Signal Amp setting (0 to 200) to increase the flashlight spot clarity and size. This same setting can be adjusted during the session using the amplify link on the flashlight pop-up.

Calibrate Flashlight: This feature is used to set the parameters for your flashlight when using a short throw projector, or theater system.

### *Trainee Action Capture (TAC) Setup*

The MILO Range system utilizes video cameras to film trainees during training sessions and allows that video to be replayed in-sync with the training scenario video in debrief on the projected screen. In addition the video can be saved as part of the training record and/or exported to viewing on external video-capable systems and computers. If not saved or exported, the TAC video will be erased and overwritten with the next training session. Detailed instructions for setting up the TAC camera can be found in the appropriate system setup guide provided with the MILO Range system.



### ***Focus/Zoom***

This button is used to allow aiming, focusing and zooming the TAC camera to see the entire training area. When clicked, the projected view will display a live preview of the TAC camera. The user can adjust the TAC camera using the preview as a reference for point of aim, focus and zoom.

### ***View Camera***

This button provides a live video preview (on the instructor's screen) of what the TAC camera sees..

### ***Test Record***

Use this button to verify that the system can capture TAC video to a file on the system.

### ***Advanced***

These settings should only be used or altered under the guidance of MILO technical support.

TAC Setup: This button and resulting window should only be accessed or altered under the guidance of MILO technical support.

Capture in Session: This option will set the system to record TAC video for all training sessions.

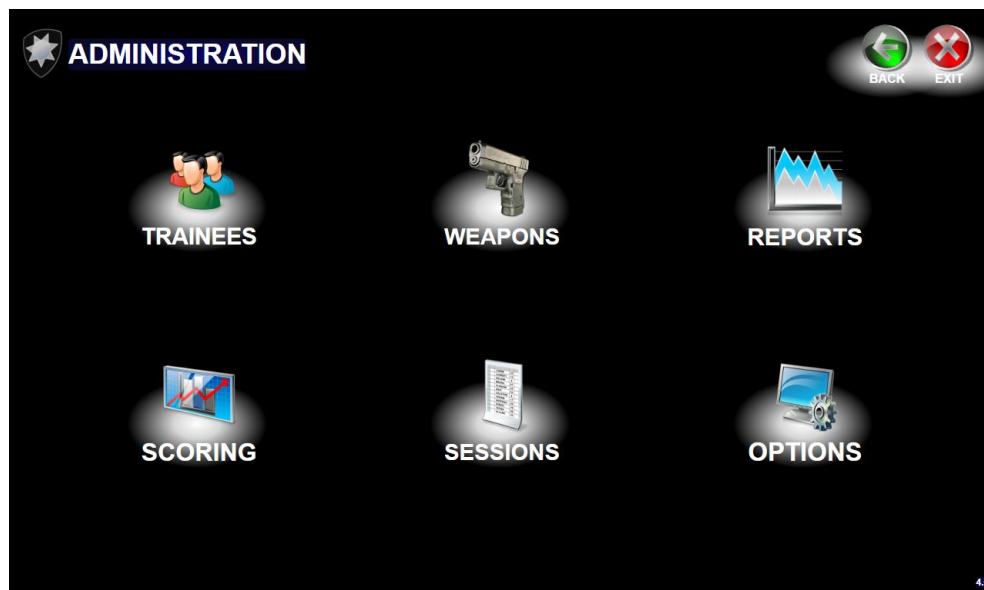
Preview in Session: This option will allow the TAC video to be shown on the instructor's screen during the session.

Wide video ratio: This option will allow the TAC video to be recorded and displayed in a wide video ratio.

Enable in GraphX: Checking this box will cause the TAC feature to record video once the Play button on the GraphX windows is clicked. Recording will stop when the Stop button is clicked or the GraphX application ends naturally. A window will then appear to allow playback and saving of the recorded TAC video.

## **Admin Home Screen**

The Admin home screen provide access to all the system features for administering trainees, weapons, score categories, system and student reports, saved training sessions, and system options.



## Trainees

The trainee screen is provided to allow a user to manually add, edit or remove trainees from the system database. Each trainee must have a First Name, Last Name and ID assigned to him or her in order to be saved into the database. Beyond that all other fields are optional. Several buttons exist on the screen to allow you to add, edit and remove trainees.

The Files menu at the top of the screen allows you to import and export large batches of trainees to and from the database. Before importing, it is a good idea to first export trainees so that you have an example of the format (columns and order) of the Microsoft Excel file required for import. Your import Excel file must match the format shown when exporting, or the import will produce unexpected results.

The screenshot shows the 'Trainee Table' application window. On the left is a vertical sidebar with a police badge icon and the title 'Trainees'. The main area is titled 'Files' and shows '1 of 5' records. At the top of the main area are six icons: a left arrow, a plus sign, a pencil, a red X, a magnifying glass, and a right arrow. Below these are input fields for 'First Name' (containing 'Trainee'), 'Middle Initial' (empty), 'Last Name' (containing 'One'), and 'ID' (containing '01'). There is a 'Default Firearm' dropdown menu set to 'Glock 22', followed by five 'User Field' dropdown menus (all empty). To the right of these fields is a 'Notes' text area. At the bottom right are 'Cancel' and 'OK' buttons.

## Weapons

The weapon screen is provided to allow a user to manually add, edit or remove weapons from the system database. Each weapon must have a Name and a Type in order to be saved into the database. Beyond that all other fields are supplemental. Several buttons exist on the screen to allow you to add, edit and remove weapons.

The screenshot shows the 'Weapons Table' application window. On the left is a vertical sidebar with a handgun icon and the title 'Weapons'. The main area is titled 'Files' and shows '1 of 14' records. At the top of the main area are six icons: a left arrow, a plus sign, a pencil, a red X, a magnifying glass, and a right arrow. Below these are input fields for 'Name' (containing 'Shotgun (Lethal)'), 'Manufacturer' (empty), 'Model' (empty), 'Type' (dropdown set to 'Shotgun'), 'Caliber' (containing '12 Gauge'), 'Default Ammunition' (dropdown set to 'Buckshot'), and 'Magazine Size' (containing '5'). To the right of these fields are 'Shot Graphics' and 'Shot Effect' sections, each with a file path (C:\Program Files\VES\Range EST\shotgun.bmp and C:\Program Files\VES\Range EST\shotgun.wav respectively) and a magnifying glass icon. At the bottom right are 'Cancel' and 'OK' buttons.

## Reports

The Reports feature of the MILO system provides reporting for trainees, trainers and system usage. When the Reports button is clicked from the Admin screen, the user will be prompted to select which category of reports they wish to generate (Figure A). A list of all possible reports (Figure B) for the selected category will then be displayed. You can further filter the information used for each report using the report filter button.

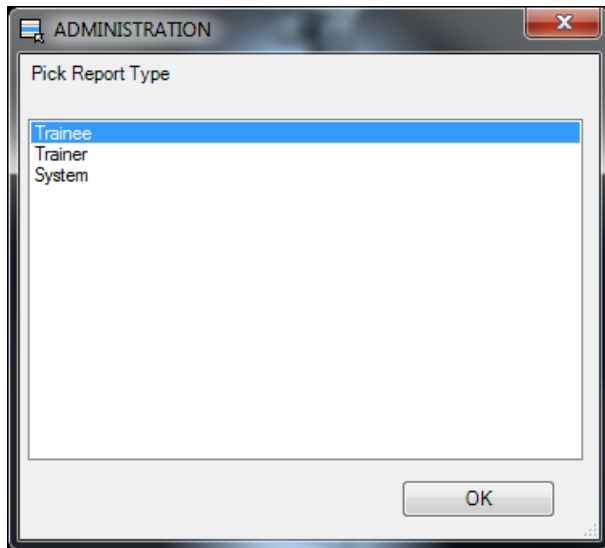


Figure A

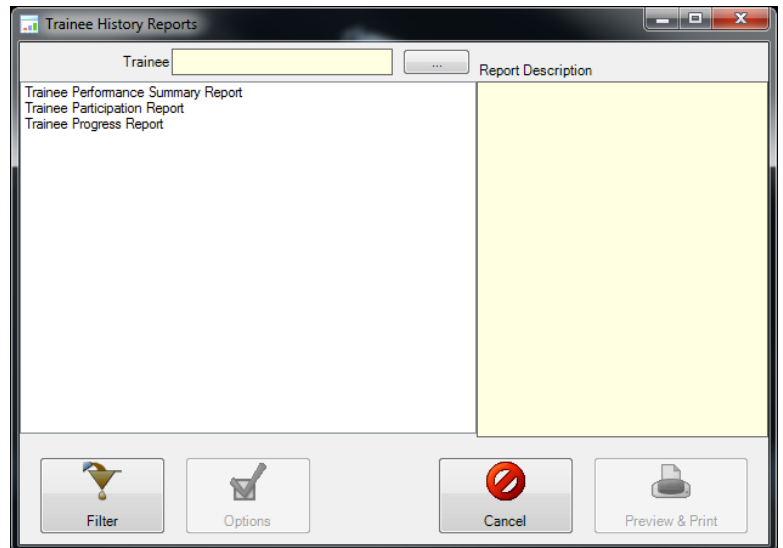


Figure B

### Trainer Reports

There is only one Trainer report. This report provides information about a specific trainer's use of the system including number of sessions run and students trained.

### Trainee Reports

There are a variety of trainee reports available that range from basic participation information to complex trainee performance over time or multiple sessions.

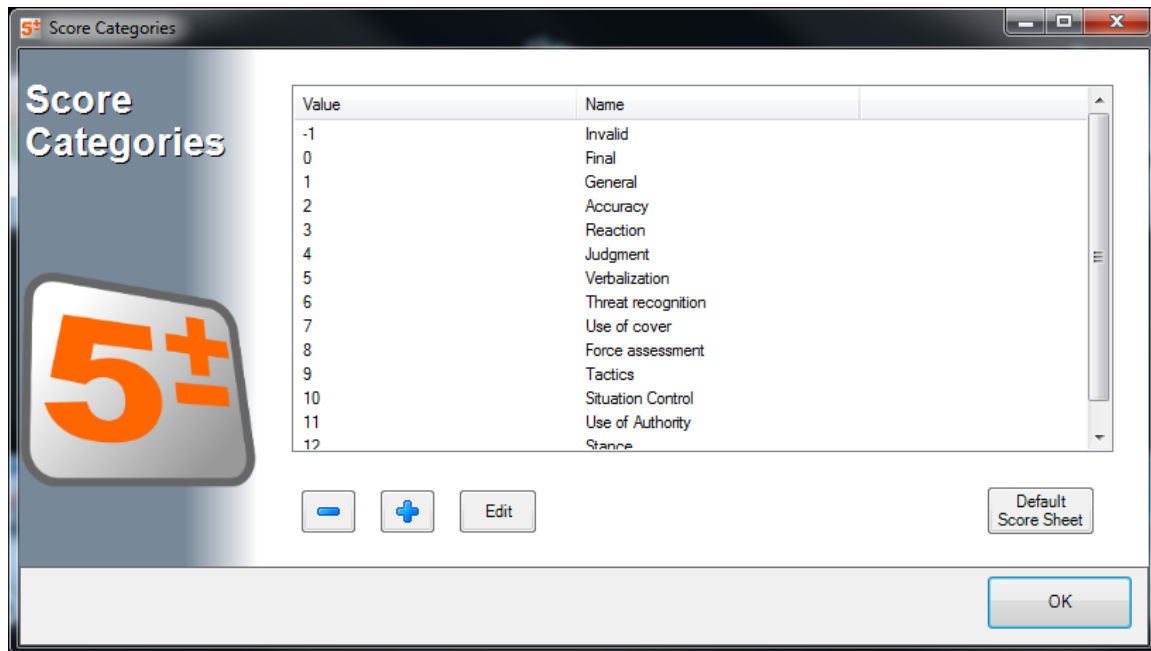
### System Report

There is only one system report. This report provides information about system software versions and system usage, such as number of sessions run and the number of times creation key features have been used.

## Scoring (Score Categories)

Scoring in all MILO products, including the MILO Range allows for scoring based on multiple categories rather than just a single flat score. Additionally any score can be converted from a percentage based score to Pass/Fail. For those users who do not wish to maintain scoring information, scoring can be left unedited and/or ignored all together with no affect on system reporting capabilities and trainee records.

The score categories screen is designed to allow you to setup the score categories you will use in the system. It is a simple list with an index value. This index value is used only for compatibility between systems. In single system situations, the index values can be ignored. In cases where multiple MILO systems exist, it is best to synchronize score categories and their names using the index values to avoid overwriting a system's categories. You can add or edit the categories and the index values to meet your requirements.



### Default Score Sheet

The possible score categories is normally defined in the lesson editing process, or manually at the end of each session. However, if you would like to set the same scoring criteria for all session run on this system, you can do so with the Default Score sheet. Click the Default Score Sheet button and select the categories you want available for the instructor to enter Pass/Fail or Percentage scores for, in every session run on the system.

## Sessions

The Session feature of the MILO system provides instructors the ability to review previously run, and saved, training sessions. When the Sessions button is clicked from the Admin screen, the user will be prompted to select which type of session records to view (Figure A). The session lookup window (Figure B) will then appear and allow you to search with or without a filter for the results. Selecting a session in the result list will immediately open that saved session in the Session Debrief screen and allow replay of the session.

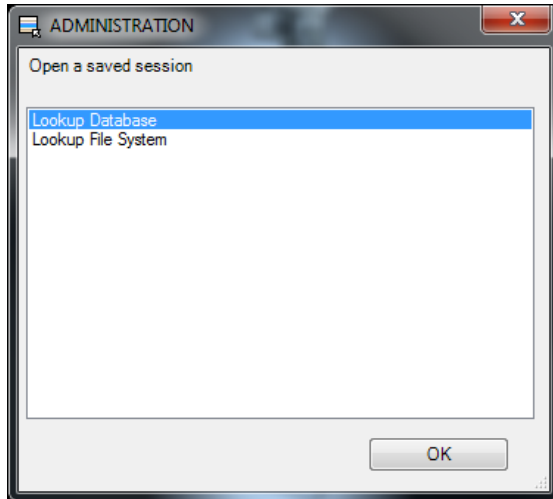


Figure A

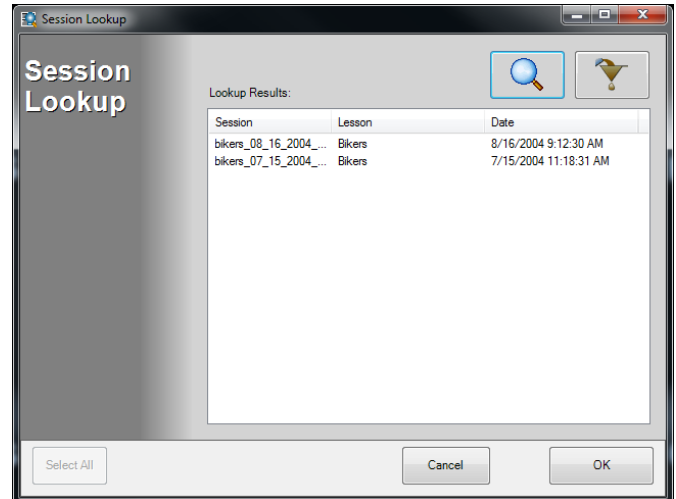


Figure B

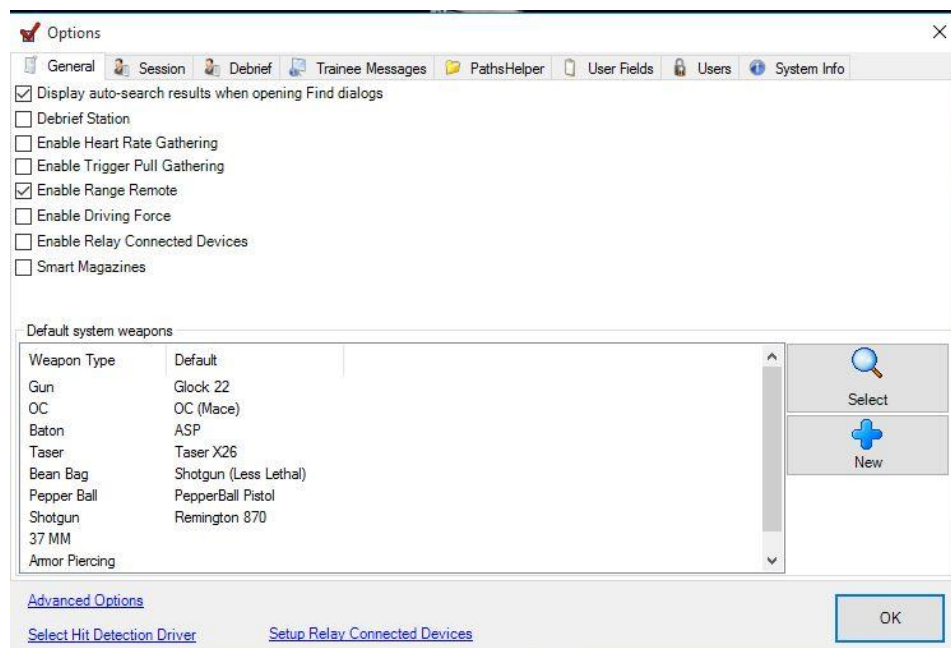
## System Options

There are many systems options available in the MILO Range software. Most of the default option settings are appropriate for immediate system use.

**NOTE:** There are Advanced Options, Select Hit Detection Driver and Setup Relay Connected Devices links at the bottom of the Options window. These links and the resulting windows should only be accessed or altered under the guidance of technical support or by expert users.

## General

The general options include the ability to enable/disable system features and assign default weapon types.



Display auto-search results when opening Find dialogs: Automatically display all the results in the database for weapons or trainees, depending on the desired type of database object.

Debrief station: Operate MILO Range in debrief station mode, which will disable most features of the software, except those necessary for opening and reviewing existing session files.

Enable Heart Rate Gathering: Capture heart rate data and display it in a graph in real-time and in the debrief screen. This option should only be enabled if you have a compatible heart rate monitor system from MILO.

Enable Trigger Pull Gathering: Capture trigger pull data and displays it in a graph in real-time and in the debrief screen. This option should only be enabled if you have a compatible trigger monitor system from MILO.

Enable Range Remote: Allow controlling the system from a wireless computer such as a MILO Range Anywhere tablet. This option is license controlled and only available if purchased from MILO.

Enable Driving Force: Allow interaction with FAAC driving simulators and scenarios. This option is license controlled and only available if purchased from MILO.

Enable Relay Connected Devices: Allow the system to interact with relay controllers for external devices through pre-programmed scenario events. This option requires specific external hardware and scenarios with triggering events for the hardware in order to function.

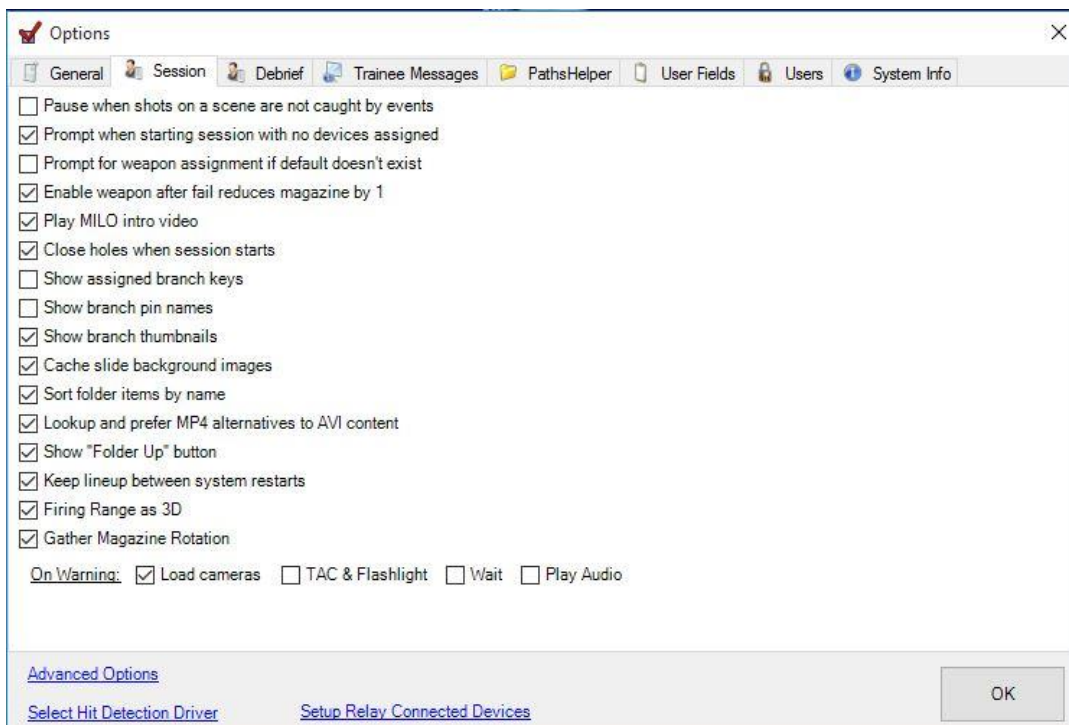
Smart Magazines: Allow the use of smart magazines with MILO Range

### **Default System Weapons**

There are several categories of weapons on the system. Here you can choose the default weapon for each weapons type. Select the appropriate type and click the Select button to select a specific weapon for that type from the database. Alternatively, you can click the new button and create a new weapon in the database.

### **Session**

The session options include only those settings that affect session setup or session running screens.



Pause when shots on a scene are not caught by events: Pause the session if shots are fired when the scenario does not expect the trainee to shot, such as during an introduction scene.

Prompt when starting session with no devices assigned: Prompt the user to assign devices (laser mode only) when the play button is clicked, if there are no weapons assigned for the session.

Prompt for weapon assignment if default doesn't exist: Prompt the user to select a specific weapon from the database if no default exists.

Enable weapon after fail reduces magazine by 1: When the instructor disables and enables a weapon during the session, the magazine count will be reduced by 1 round to simulate the round lost by clearing the firearm.

Play MILO intro video: Play the MILO intro video when the software is launched.

Play audio when warning screen is displayed: Play the audio warning along with the visual warning prior to entering the session screen. If checked, the user must wait for the audio warning to complete before proceeding.

Close holes when session starts: Close existing holes in the live fire target screen at the start of each live fire session.

Show assigned branch keys: Display the keyboard keys assigned to each branch option.

Cache coverflow thumbnails: Store the thumbnail image of each scenario in order to speed up the preview of the scenario thumbnails. It is recommended to leave this option enabled at all times.

Hit detect run at external process: This option should always be unchecked unless advised otherwise by MILO.

Show branch pin names: Display the names of the pins for each branch option.

Show branch thumbnails: Display preview images on each branch option that is a scene.

Sort folder items by name: Sort the session setup screen lesson browser by name.

Lookup and prefer MP4 to AVI content: Prefer MP4 content when AVI also exists.

Show Folder up button: Display the Folder Up button in the session setup screen.

On Warning: This option enables MILO Range software to load various system resources during the Laser Warning Screen

Keep lineup between system restarts: This will allow range to "remember" lineups and laser assignments when Range is closed and reopened

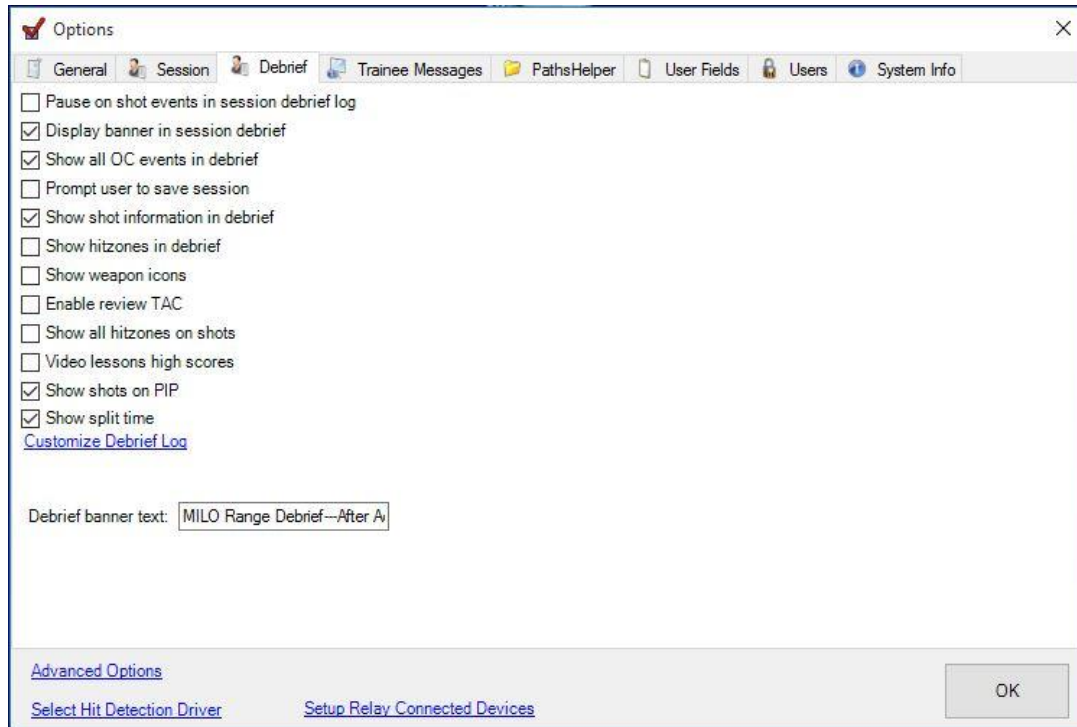
Firing Range as 3D: This is a default setting and should always be enabled on new systems

Gather Magazine Rotation: This is a feature of our smart magazines, and it allows the system to detect the position of the weapon during a scenario.



## Debrief

The debrief options include only those settings that affect session debrief screens.



Pause on shot events in session debrief log: Pause debrief playback as each shot is reached in the debrief log.

Display banner in session debrief: Display the yellow banner on the projected screen during debrief.

Show all OC events in debrief: Display all OC events in debrief, not just those that cause a reaction.

Prompt user to save session: Prompt user to save the session when clicking New Session, if the session was not saved.

Show shot information in debrief: When a shot is clicked in the debrief log, display the weapon name, reaction time, event remark, hitzone/target info and score on the projector view during debrief.

Show hitzones in debrief: When a shot is clicked in the debrief log, display the hitzone (if any) that was hit.

Show weapon icons: When a weapon log item is clicked in the debrief log, display an icon of the weapon type next to each crosshair on the projected screen.

Enable review TAC: Show the review TAC button. When shown, the instructor can capture additional TAC video of the debrief process and save/export that additional video for offline review by the trainee or the user.

Show all hitzones on shots: When a shot is clicked in the debrief log, display any hitzone that exists at that point in time, even if the shot was no within the hitzone.

Show shots on PIP: Display shots in the scenario view when the TAC (PIP) view is shown on the projected screen.

Customize debrief log: Opens a window to allow selection of event types to include in the debrief log.

Debrief banner text: Enter the text to display on the debrief banner (i.e. 'DEBRIEF' or 'AAR', etc.)

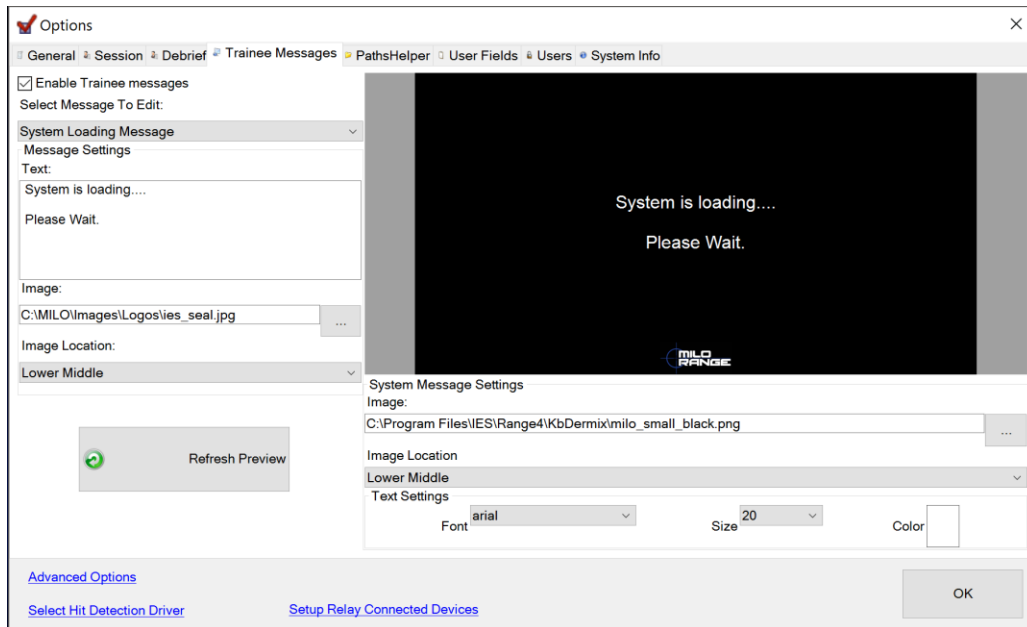
Video lessons high scores: When available in a scenario this feature will show the high score saved to the computer

Show split time: This will show the time between shots for the available trainees

## Trainee Messages

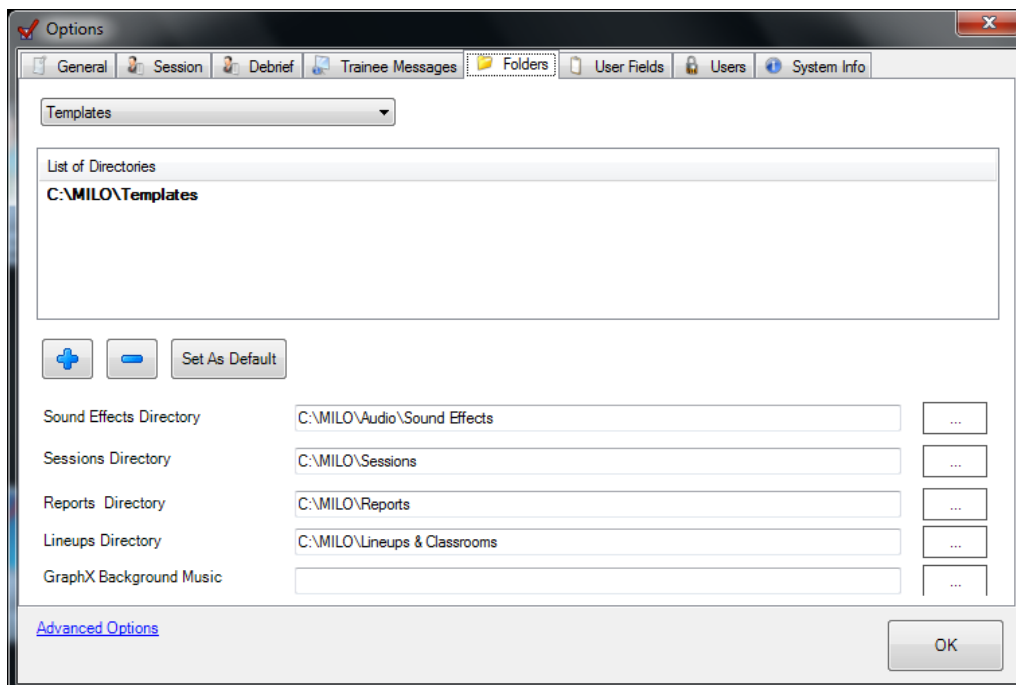
The Trainee Messages allow the user to define their own messages to be displayed on the projected screen, as well as to set the image to be displayed with the messages.

There are message-specific text and image setting on the left. The system settings allow selection of an image that is displayed at all times regardless of which message is being displayed.



## Folders

The folder options define the folders on the computer where MILO Range will look for the various types of files it uses to conduct training sessions. The default settings are set for the user by MILO. Changes to these settings should only be done under the guidance of MILO Technical Support.



## User Fields

The user fields options all users to define custom fields that are attached to each trainee's record. Examples of User Fields could be "Rank", "Age", and "Years of Service". The fields can then be set on each trainee using the Trainee management screen. The fields will appear on trainee reports as well.

Options

General Session Debrief Trainee Messages Folders User Fields Users System Info

Set caption for user fields

User Field 1: User Field 1

User Field 2: User Field 2

User Field 3: User Field 3

User Field 4: User Field 4

User Field 5: User Field 5

[Advanced Options](#) OK

## Users (Security)

You can protect the system's settings and data by enabling the user security features of MILO Range. By default, MILO range does not require a login. In this case anyone who uses the software can access all of the features.

If you wish to restrict access to specific users, or make some users less-privileged, you must check the Enable Login box and then define the user, passwords and roles as desired.

There are two roles available on the system, Trainer and Administrator. Trainers can only conduct training sessions and perform system setup functions. Administrators can access all system features.

Options

General Session Debrief Trainee Messages Folders User Fields Users System Info

☐ Enable Login

New Delete Set Password Toggle Role

UserName	Role
Administrator	Administrator

[Advanced Options](#) OK

## System Info

The system info page displays useful information about the system's software, install date and warranty, as well as the usage of the system.

**Options**

General Session Debrief Trainee Messages PathsHelper User Fields Users **System Info**

Install Date: 1/7/2016 1:12 PM

Warranty: 1/7/2017 1:12 PM [Show License Details](#)

File Name	Version	Date
AxisTacServ.exe	5.0.0.15	1/7/2016
fr.exe	4.7.0.102...	1/7/2016
GetSupportFiles.exe	1.0.0.0	1/7/2016
GuiBaslerConfig.exe	5.0.0.15	1/7/2016
HitdetServ.exe	5.0.0.15	1/7/2016
IESCamerConfigNET.e...	5.0.0.15	1/7/2016
IESProjControl.exe	5.0.0.15	1/7/2016
NewLicense.exe	5.0.0.15	1/7/2016
nircmd.exe	2.75	1/7/2016
OutputScreenManager....	1.0.0.0	1/7/2016
procdump.exe	6.00	1/7/2016

System Usage

Number of sessions run on system: 0

Number of shots fired: 0

Number of participating trainees: 0

[Advanced Options](#)

[Select Hit Detection Driver](#) [Setup Relay Connected Devices](#)

Reset All

OK

## MILO Range Server

The MILO Range Server application provides essentially the exact same features and functions as the normal MILO Range software, but does so without any instructor interface on the screen. All of the video Lessons, GraphX and Firing Range applications are available and can only be run and controlled remotely, using either the MILO Range Anywhere or MILO Range ShootHouse software applications.

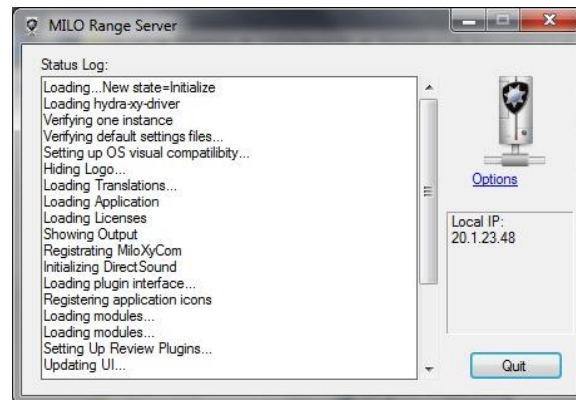
The MILO Range Server application is included in the MILO Range software installer and made available on the start menu accordingly. However, MILO Ranger Server software is licensed separately from the standard MILO Range software and therefore the MILO system license will need to be updated in order to access and utilize MILO Range Server software.

MILO Range Server and MILO Range software run from the same installed and therefore share the configuration and setup files. Once either MILO Range or MILO Range Server software is setup, configured and functioning correctly, the other shall also be. It is not possible (or necessary) to run both MILO Range and MILO Range Server at the same time. If a user tries to run one while the other is running, the newly launched software will cause the other software to close. However, a user can switch between the two software application when and if needed.

For MILO Range ShootHouse systems, the MILO Range Server software should be used on each ShootRoom computer and should be in the Windows startup folder.

## MILO Range Server – Status Window

When MILO Range Server is initially launched, the status window appears.



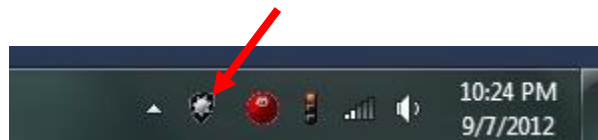
MILO Range Server – Status Window

The MILO Range Server status window provides a status log indicating success or errors in the startup process of the software, as well as status messages related to sessions that started, paused, stopped, etc. In addition, the user can see the IP address of the system that is used by the MILO Range Server software. Typically this should be something like 192.168.1.1 or 192.168.2.1, but this may vary depending on the system configuration.

To access the system options for the MILO Range Server software, the user can click the Options link. This will open the same system options screens found in the standard MILO Range software, which can be reviewed in other sections of this user guide.

To close and quit the MILO Range Server software, click the Quit button. This will terminate any training sessions and any remote connections to the MILO Range Server software, such as those from MILO Range Anywhere and MILO Range ShootHouse software.

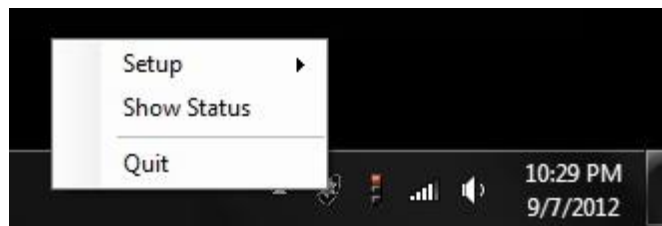
Once the MILO Range Server finishes launching, the window will automatically minimize to the Windows system tray after a few seconds.



MILO Range Server – Windows Tray Icon

## MILO Range Server – Tray Icon Menu

To access additional MILO Range Server setup features, there is a context menu that can be accessed by right-clicking on the MILO Range Server tray icon.

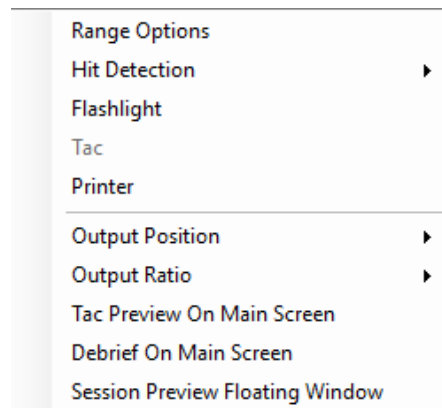


MILO Range Server – Right-Click Menu

Setup: Will open a second-level menu described in detail below.

Show Status: Will open the status window shown when the software initially loaded. The user will need to manually minimize the window afterward in order to reduce it to the tray icon again.

Quit: Will terminate any training sessions and any remote connections to the MILO Range Server software, such as those from MILO Range Anywhere and MILO Range ShootHouse software.



MILO Range Server – Right-Click Setup Menu

Range Options: Opens the same system options screens found in the standard MILO Range software, which can be reviewed in other sections of this user guide.

Hit Detection: Shows the available options that can be adjusted for hit detection, see system calibration section for details.

Flashlight: Opens a flashlight video source setup window. It is not recommended to change any settings in this window without first consulting Technical support. Rather than using this window, it is recommended to perform flashlight setup via the standard MILO Range software's Setup screen, described in another section of this user guide.

TAC: Opens a TAC video source setup window. It is not recommended to change any settings in this window without first consulting Technical support. Rather than using this window, it is recommended to perform TAC setup via the standard MILO Range software's Setup screen, described in another section of this user guide.

Printer: Prompts the user to select a printer that will be used by default for the MILO Range Server software.

Output Position: Will open a second-level menu to define where the output screen will be for training sessions. In most all cases, it should be Secondary Screen. However, other configurations are possible. It is not recommended to change this setting without first consulting MILO Technical support.

Output Ratio: Will open a second-level menu to choose the ratio of the output screen. In most all cases, it should be Fit To Screen. However, other configurations are possible. It is not recommended to change this setting without first consulting MILO Technical support.

Tac Preview On Main Screen: When enabled, this option provides a full-screen live view of the TAC camera via the primary graphics card output, while the scenarios and GraphX are output on the secondary graphics card output. Provides a convenient way for the instructor to view trainees in real-time during training sessions. This is useful for MILO Range ShootHouse systems where the primary graphics card output goes to an LCD monitor at the instructor station that would otherwise show only the windows desktop, or a mirror of the training room projected screen. This is a check-box menu item. When enabled, a check will be present directly on the menu next to the text.

Debrief On main Screen: When enabled, this option will cause the session debrief to be displayed on the primary graphics card output, regardless of the setup of the output screen for the training session. This provides a convenient way for MILO Range ShootHouse systems to conduct debrief at the instructor's station screens, rather than moving through each ShootRoom to perform debrief on each room's lesson. When the next training session is run, the output screen will be moved back to the original, system defined output position. This is a check-box menu item. When enabled, a check will be present directly on the menu next to the text.

Session Preview Floating Window: When enabled, this option will provide a view of the scenario in real-time during the session in a small but resizable window on the main screen, the primary graphics card output. This is in addition to the scenario (and GraphX) output on the secondary graphics card output, typically connected to the projector. This is useful for MILO Range ShootHouse systems where the primary graphics card output goes to an LCD monitor at the instructor station that would otherwise show only the windows desktop, or a mirror of the training room projected screen. This is a check-box menu item. When enabled, a check will be present directly on the menu next to the text.