



Sole Source Document for Ti Training Simulation Products

Simulation for Law Enforcement has been around for more than 20 years; there have always been several companies offering some form of system. Ti Training has over 100 years of Law Enforcement Simulation manufacturing, sales and service experience within our Management team. We are all owners of the company and have a simple philosophy: Build a tool using the best, most reliable technology and then support our products and customers.

Use of Force Simulator

All simulators essentially have the same functionality of projecting stimulus onto a screen and allowing the trainee to interact with that stimulus. Differences occur in how that stimulus is projected, how the stimulus is created, how the scenario responds to different devices, the level to which the trainee can interact. Additional differences are in design architecture. For example, some systems do not provide the instructor with useful tools that aid in the teaching and learning process. The quality of user training, customer support and service and value also vary greatly among manufacturers. Here is a list of unique features that make the “Training Lab” Use of Force Simulator by Ti Training worthy of being sole sourced.

The Company

- The Company is employee owned small business.
- The company is in its Tenth year of business.
- The company has a D&B rating of 98% positive.
- There is no “Parent” corporation to direct, alter or mingle in our affairs.
- The Company markets and sells only to the Law Enforcement community.
- The President has 21 years of successful Law Enforcement simulation leadership.
- The VP of Operations has 34 years of Law Enforcement sales and 12 years in simulation.
- The VP of Training has 20 years for Law Enforcement Simulation Training experience.
- The VP of Business Development has 22 years in Law Enforcement simulation sales.
- The Director of Sales has 20 years of Training, Content Design & Sales of LE simulators.
- The entire management team has worked together for over a decade.

The Product “Training Lab” Ti used off the shelf products combined with proprietary software and lasers to create the most advanced simulation system for law enforcement today. Ti is the only manufacture of the Training Lab Simulation system to be used with

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proprietary configuration, lasers and scenarios. These “Sole Source” software features and components are highlighted below.

Computer

- Operating software is Windows for familiarity and reliability.
- The computer box is 100% commercially available off the shelf (COTS).
- All cables and connections are COTS.
- Optical Mouse for reliability and a backlit keyboard.
- 22” Flat panel monitor.

Audio System

- 5.1 surround sound speakers are standard.
- Sole Source Item- The Training Lab proprietary software uses the 5.1 surround sound speakers for 3D Audio controls allow the instructor to introduce, in real time, while the scenario is playing; sound effects to further stimulate the student. Sound effects files are accessible on the instructor’s screen and can be customized by the end user. Each sound effect can be played from any single speaker or from a combination of speakers in the room to provide directionality.

Projection System

- The projector is a High Definition (HD), 16.9 Native Resolution, and Widescreen High Definition 3D capable Home Cinema Projector. 5500; 1 Contrast Ratio with Smooth Screen Technology,
- The screen is a Da-Lite fast fold free standing screen. Comes with legs and a carrying case, standard. The screen is a 12” x 7’ screen (16 x 9 HD format) but if your training environment allows a 14’ or even a 16’ wide screen can be provided.

Hit detect and low light detection cameras

- Sole Source Item: The Hit detect camera is a “smart” camera. It has its own processing chip which helps in speeding up the calculations of the time of shot, location of shot, and it also reads the embedded code that distinguishes the laser device number.
- Sole Source Item: The calibration process is automated to include a line scan procedure. This scan of light on each pixel allows for the system to operate in various lighted situations. It eliminates the need for hand held calibration devices and darkened rooms. This is the most reliable and accurate calibration available in simulation and is only available on the Training Lab by Ti Training. Other simulators use a wand to locate spots on the screen. This is an antiquated calibration method that will result in less accurate shoot detection as well as light control issues.
- The low light detection camera will read a real flashlight with an IR filter and allows for the trainee to use a real flashlight and train in low light conditions.
- Sole Source Item: Any IR light designed for night vision use can be used unfiltered on the system.

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Low Light Training

- The Training Lab allows for the use of actual flashlights (covered by special filters). The instructor can set any lighting level for the scenario forcing the use of a flashlight to light up the portion of the screen that the student wants to see. Multiple flashlights can be used. This does not affect the use of any laser device and is not laser based.
- Sole Source Item: The light level can be controlled on the fly using a slider bar control at any time during a scenario to adjust the light level to any level of darkness. Other simulators only allow you to take the level of darks down to complete dark and this decision must be made at the start of the scenario.

Picture in Picture (PiP) –

- While running scenarios you have the ability to capture both color video and audio of the trainee. This video can then be played back in a picture in picture mode with the scenario. Key training points can be highlighted and with the use of the exclusive optical zoom feature dissected. This is critical to effective training since it provides an objective viewpoint for evaluation of performance by the student and the instructor.
- Sole Source Item: The PIP camera can pan and tilt and is controlled by the instructor in real time. Zoom and focus controls are also on the instructor's screen. This video can be played in the large projected view or swapped into the smaller view to go over key points as needed. The playback can also be located on the screen in any area the instructor desires and at any playback rate, slow motion, frame by frame, or scrolled to a specific point in the video. Other simulators offer a recorded view but only offer a straight play back of the video with no detailed functionality to actually dissect the video for proper debrief with the trainee.

Report Generation w/ Templates

- Reports as simple as Name, Time, Date and Scenario Title to intricate reports detailing time and location of shots can be created using this software. This software can output reports electronically, or into Microsoft Word. Format for immediate printing. All reports can be customized to fit the needs of the individual departments.
- Sole Source Item: Reports can be saved, sent and printed directly from the instructor's debrief screen. The report format can be any Microsoft product, such as Word or Excel. Other simulators only provide a proprietary file that must be reformatted and transferred into a useable document offsite of the simulator.

Debrief Magnification

- During the debriefing of a trainee the instructor has the ability to use the mouse and magnify any portion of the down range screen. Especial on shot placement you will be able to oversize a target or suspect to show in greater detail the point of impact.

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- Sole Source Item: The magnification area of interest can be manipulated and changed to show additional details of the area.

Scenario Editor

- Sole Source Item: The Ti Training Scenario Editing software allows you to take any video file footage (standard definition or High Definition) and create multiple branching scenarios for use on the system. It includes an easy to use and intuitive system for defining scenes, hit zones (for firearm, OC, TASER, etc.) and branching options. This software is standard with any purchase of the Training Lab system and training is provided on how to film and edit your custom scenarios easily.

Scenario Library

- Sole Source Item: The heart of any simulator is the content. The Training Lab comes with over 800+ fully branching scenarios. Since our inception we have filmed every scenario using High Definition cameras, we have not modified or stretched and standard definition video scenario to fit the 16 x 9 aspect ratio, they are ALL native HD. Other simulators only recently started to include HD video, and have opted to stretch old standard definition video to fit a 16x9 aspect ratio. This creates extremely distorted resolution and makes the scenarios very difficult to use, cutting the usable scenarios down to only the video filmed in HD. Beware of high scenario counts from other simulation companies. Ti training is the ONLY company providing all HD library of scenarios.
- Sole Source Item: All Scenarios filmed by Ti Training since June 2010 are filmed in 4K resolution. 4K is 4000 times clearer than standard HD. This gives the most realistic and clear video available today.
- Every scenario is filmed by a professional crew using professional actors for quality control. Specific scenarios have post production effects (e.g. blood splatter, sound effects, lighting controls, etc.). to enhance training objectives.
- Prior to filming scenarios, a user group of Law Enforcement trainers are gathered to assist in the writing of each scenario for accuracy and realism. Each calendar quarter, additional scenarios are filmed and are shipped to the end user automatically. These scenarios are created with input from our customers and are free of charge.

3D Scenarios

- Sole Source Item: When a use of force decision is made, relative distances may be the most important factor in deciding if, when and what type of force should be used. The distance from the officer to a subject, the distance between a subject and weapons of

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opportunity, distances between multiple subjects and other officers or innocents, the size and location of objects between the officer and the subject, etc., are all critically important when determining what force option is most appropriate at a given moment.

In a two-dimensional environment we are programmed to perceive larger objects as closer and smaller objects as further away. This rudimentary method of evaluating distance is often inaccurate and has been shown to contribute to the process of “adverse training” which is the development of habits that are inconsistent with true-life applications. In airplane, vehicle and use of force simulation: this is always the challenge for virtual reality designers, to design systems that appear real so that response can be accurately tested and evaluated.

The Ti Training Lab™ system now offers a proprietary module that includes fully branching, high definition (HD 1080i) 3-Dimensional video. The video not only represents true-life proportional height and width accuracy but also adds the element of depth, giving the viewer a fully immersed experience. This type of 3-Dimensional training provides a realistic simulation and forces the brain to process the perceived information consistent with a real world event.

All 3D is not created equal. When evaluating video quality HD is the set standard. When evaluating adding 3D to that HD video the creation of the 3D effect is paramount. In order to have a true 3D effect you must film the video with 2 camera lens in perfect sync this gives the right and left eye aspect ratio. Each “eye” video is then edited separately to insure the highest quality is achieved then the 2 videos are overlapped. This overlapping creates a realistic depth when viewed with 3D eyewear. This type of 3D is Stereoscopic. Then the eyewear is important. Ti Training provides Active Eyewear that preform and undetectable shutter at 120th of a second but seem to the wearer to be just a polarized lens. The effect with our 3D videos is the trainee believes the action from the video is in the room with them.

Other simulators use very old and outdated Anaglyph 3D that utilized colored lens (red & blue) to skew the viewer’s color perception. The scenarios are given a “color” treatment instead of using the 2 camera views. This is not realistic for simulation training whenever the trainees are required to use all of their senses to make true judgments. This skewing of the view is more of a confusion and actually takes away from the training value rather than enhance and make it more realistic.

50+ 3D scenarios come with the system and will be updated for free as we grow the library, every 4 months.

- 3D CGI graphical background and Live video 3D green screen drills (Hogan’s Ally) available.
- Sole Source Item: Upgrades to True Distance 3D are available. The upgrade includes a 3D Projector, Upgraded video card and 2 pairs of Active Eyewear.

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Graphic Scenarios and Targets

- Sole Source Item: The Training Lab has a group of custom made graphical shooting target programs for skill building and target recognition. i.e. Plate rack, Pepper poppers, Courses of Fire.
- Using CGI imagery and Green screen video mixed the Training Lab can represent any environment realistically and simply.

Custom Course of Fire Software

- Sole Source Item: The Training Lab comes with the software to build any course of fire. You have the ability to photograph your background, load your targets, score and manipulate the range or COF in any manner.
- Sole Source Item: Upgrades to The Firing Line Marksmanship software are available. This would include features such as, windage and ballistics for long guns.

Weapons and Devices

The Training Lab has the capability to track up to 12 laser devices simultaneously. The individual tracking allows the instructor to show who shot what device, when that device was fired and the location of impact for that device.

- Sole Source Item: All Laser devices for use on the Training Lab are proprietary and can only be purchased through Ti Training.
- Ti Training Handgun laser insert for dry fire. The laser insert slides into the breach end of the barrel and operates off standard watch batteries. The lasers are individually lane specific. The laser is activated by the firing pin and vibration. The laser is native 9mm but with sizing end caps the same laser can fit a .40 or .45.
- Handgun recoil Kits. This is a recoil kit for handgun. It is a drop in kit with no modifications required of the weapon (the weapon is not included). The recoil cycles the weapon and is powered by CO2 canisters in the magazine.
- Sole Source Item: The TI Training Lock Back Recoil Kit counts rounds and locks the slide back when the weapon is empty. Force Fail drills can also be induces at any time by the instructor. This is not a permanent modification to the handgun and is completely tether less.
- AR-15 Recoil Weapon, CO2 Recoil kit w/Laser. This is a recoil kit by Dvorak. It is a drop in kit with no modifications required of the weapon (the weapon is not included). The recoil cycles the weapon and is powered by CO2 canisters in the magazine.
- Sole Source Item: Shot Gun Drop in Laser. This is a drop in shell with laser that makes your shotgun interactive with the system. No modifications to your weapon

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needed. (Weapon not included). Notches are cut from the sides to eliminate the ejection process so that only 1 laser is needed for multiple reloads.

The Shotgun Drop in Laser is a multipurpose laser. It can be used for a multi round shotgun blast, a slug, or any less lethal round shotgun launched round, such as a bean bag or Taser Xrep.

- **TASER® Device, X -26 or M-26, X2 (Sole Source Item), X3 Laser firing Training Weapon.** TASER weapon is manufactured by TASER, Intl. for Ti Training. It is a non-firing, safe weapon. The weapon has the real Laser sight and countdown timer. The cartridges have 2 lasers at an 8 degree spread. A real TASER cartridge can NOT be fired by this “Safe” weapon. **TI Training is the ONLY Simulation Company Authorized by TASER International to provide TASER Trainer Simulation.**

- **Ti Training OC Spray Canister,** realistically sized and shaped, pulsing laser canister that fits into standard duty gear OC holsters.

- **Baton Branching,** Instructor driven branching that shows the appropriate on screen reaction to a baton strike should the student feel that the baton was the correct force option.

- **Pepper ball,** an adaptor t fits over the end of the actual Pepper ball gun and accepts your current laser insert. The air pressure (No Projectile) hits the laser and activates it by vibration.

- **Sole Source Item: 37/40mm Less Lethal Laser.** This is a drop in shell that houses a dry fire laser that makes you launcher interactive with the system. No modifications to your weapon needed. (weapon not included)

- **Sole Source Item: Vibration Vest Hostile Fire**
The Vibration Vest is worn during Simulation training while the scenario is playing. When the suspect on the screen uses lethal force or when the suspect strikes at the officer, a laser floods the room and if the trainee is not behind cover the vest is activated by a bright light going off, an audible alarm sounding and an extreme vibration.

Advantages: The Vibration Vest can simulate multiple suspect actions such as punches, kicks and use of lethal force against the trainee. Additionally, it allows for simulated return fire without the need to protect trainee and room from projectiles.

- **Simulation Package Includes:** 1 Vest, 1 Auxiliary Control Box, and 1 Room Laser
- **Force on Force Package Includes:** 2 Vests and 2 Gun Lasers

Telemetry

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The Training Lab has the ability to track different functions of the trainee. Each of the following devices records information and plays back in real time while debriefing a trainee inside the Training Lab software.

- Sole Source Item: Heart rate – An optional wireless heart rate monitor is worn on the trainee and the graph of the trainees heart rate will play back after the scenario in debrief as a graph at the bottom of the screen.
- Sole Source Item: Respiratory rate – An optional respiratory belt is worn around the chest of the trainee and the graph of the trainees breathing will play back after the scenario in debrief as a graph at the bottom of the screen.
- Sole Source Item: Trigger graph – An optional device is placed on the rails of a handgun and in real time with the scenario in debrief you will see the trigger pressure applied at any given point.

Environmental Controls

Sole Source Item: Auxiliary Control Box With this option the Training Lab has the ability to control on/off switches of devices in the room wirelessly from the instructor monitor. Some examples of devices that can be controlled are:

- Light bar – Any light source like a full light bar, a strobe or just room lighting can be controlled by the training Lab instructor for the instructor screen.
- Smoke or Fog machine.
- Wind or fan
- Stress Vest
- Any device with an on-off switch can be added to this environmental control.

Video Productions

- Sole Source Item: Ti Training is the only simulation company with a full time video crew and state of the art video production studio. Our production crew has been professionally filming scenarios, training DVD's and promotional videos for the past 7 years. All of the video equipment is High Definition/4K (Red cameras). Our editing suite allows for computer generated imagery and post scenario effects to enhance the training objectives. The 2500 sq. foot studio has a 60 x 20 green screen and a fully enclosed sound booth. New CGI mixed with real video makes the possibilities endless. The studio and camera are now 3D ready and moving forward all scenarios will be filmed in 4K 3D. Both 2D and 3D version of each scenario will be available and provided free of charge every 4moths on a self-loading disk. Usually around 25 new scenarios are provided.
- Ti Training also provides our Studio Productions to agencies who would like to produce custom scenarios. We off a link to provide scenario ideas on our website as well as can come onsite with your agency to film any objective and location.

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Live Fire

- Sole Source Item: The Training Lab is fully equipped to have the system operate in live fire mode. With the addition of a live fire laser you will have the ability to shoot live round in scenario based training. The scenarios branch and all of the instructor functions remain the same. In debrief you will see shot placement just like in laser mode. There is no need for large, expensive, specialized screen for hit detection. A true breakthrough for live fire judgmental training.

Operational Training

- Sole Source Item: Ti Training Corp. is committed to providing the best, most advanced and effective training to our customers. It is critical that our customers not only know how to operate the Training Lab™ system and its components, but also how to safely and effectively provide training in the simulated environment. All of this not only provides your agency's officers with the best possible training, it also can reduce agency liability due to the depth of the training received by your instructors
- Ti Training Corp.'s course of simulation instruction is designed to train selected students in the set-up, function, operation, and maintenance of the Training Lab™ and Training Room™ interactive simulation systems, manufactured by Ti Training Corp. These systems utilize the latest advances video, laser, RF and programming technology to provide an intuitive, easy to maintain training tools. These tools are designed to aid in teaching Public Safety Personnel to effectively and safely perform their duties. This course begins with classroom theory and progresses to "hands on", proficiency based exercises. We at Ti Training Corp recognize that even the most advanced technology is useless in the hands of someone who cannot effectively operate and maintain that technology.
- In addition to setup, operation and troubleshooting of the simulator, this course includes an Instructor development block entitled "Effective Simulation Training." Developed in conjunction with an accredited college and backed by scientific research, this portion of the course contains the latest training techniques and methodologies for providing effective training in a simulated environment.
- Successful completion of the entire course of instruction provided by Ti Training Corp. certifies the attendees as "Master Simulation Instructors." As such they can not only provide training to members of your agency but they are also able to certify others within your agency as "Simulation Instructors."
- Training is on set up, basic operation, running students through simulation, filming and editing of custom scenarios, recoil gun care and maintenance, troubleshooting, customizing your simulator to your needs and policies and on the Classroom keypad system.

Classroom Simulation Training System

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- Classroom keypad system that integrates into the Ti Training Lab or can be freestanding on any computer with Power Point loaded. The software license is free to allow for multiple users and can track up to 1000 response cards per receiver.
- Sole Source Item: Interactive turnkey courses are available for use with the training Room package. Titles cover a wide variety of subjects delivered by the world's leading Law Enforcement trainers.

Ti Pad Remote Instructor Control Tablet

- The entire Training Lab can be operated from a remote, wireless, handheld tablet, iPad. This is especially useful in live fire simulation training and when an instructor wants to move in closer to the trainee while going through scenarios. All instructor monitor functions can be controlled by this remote TiPad.
- Sole Source Item: Interactive turnkey courses are available for use with the training Room package. Titles cover a wide variety of subjects delivered by the world's leading Law Enforcement trainers.

Titanium Lock Back Recoil Kit

- The Titanium Lock Back Recoil Kit is a recoil kit that is exclusively offered by Ti. The kit drops into any Glock without any permanent modifications. Recoil is powered by CO2 in the magazine and the kit counts rounds fired until empty and will lock back forcing a reload drill. This kit can also induce a force failure drill.
- Sole Source Item: TI Training is the ONLY Source for this recoil kit for use with LIVE gun without permanent modifications allowing a lock back function without tethers.

• Sole Source Item

The Training Lab EX* projects up to 33' wide and incorporates our 180-degree mobile screen system. No matter what your training objectives are, your Training Lab EX system can accommodate them. The Virtual Marksmanship Mode supports up to 12 individual lanes. With a quick and easy adjustment, you can switch to a 180-degree judgment scenario training in a completely immersive environment.

With the Gullwing configuration, you simply close the sides to maximize your training objectives, from flat configuration to 180 degrees - the system stays completely calibrated and can be moved easily and instantly to seamlessly incorporate a vastly expanded array of virtual training options. *Patent pending

Ultra-World- Virtual Shoot House

- Ti Training offers a multi room simulation experience that is completely Customizable and Mobile. The Ultra World is an innovative fabricated architectural structure that has 4 different configuration options and incorporates 4 separate projected surfaces (combined in 1 room or spread into separate rooms) all from 1 computer source.

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- Sole Source Item: TI Training is the ONLY Source for this Ultra World multi-screen / multi room simulation configuration. Exclusive content is designed for use in each of the mobile wall configurations. All of the screens operate off of a single computer source.

Sincerely,

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