



RATPAC™
RECONFIGURABLE FORCE OPTION TRAINING SYSTEM

Less-Lethal Weapons and Training System to Improve Urban/Tactical Close Quarter Combat Proficiency and Safety

Combat operations in Afghanistan and Iraq have recently affirmed the difficulties of fighting in an urban setting. To combat the global war on terror and address threats from increasing fire power and sophistication used by current-day criminals, urban / tactical close-quarter combat techniques must evolve to better prepare military and law enforcement personnel. Training personnel to effectively react to the constant changes of an urban environment is often difficult. The key to successful urban combat training is to discipline each agent, officer or soldier to build an established standard given the latest tactics, techniques and procedures. In addition, emerging training methodology must focus on stress inoculation to immerse trainees in an environment that generates feelings of vulnerability and produces a fight, flight, or freeze response. Through proper stress inoculation, identification, and indoctrination, soldiers and law enforcement personnel can be taught to recognize positive actions and develop the tools to overcome the negative responses. This methodology lends itself well to force-on-force training using simulated environments and less-lethal weapons.



Tactical Skill Building and Critical Decision Making

Educational tools that make reality-based less-lethal training successful include replica weapons requiring the same skills to operate as the actual weapons used in the field. In addition to simulated weapon training, a new resource called the Reconfigurable Armored Tactical Personnel and Collective (RATPAC) training system can play a vital role in training military soldiers and law enforcement personnel in instinctive, critical, decision making during stress encounters. Some examples could consist of dealing with unarmed assailants and who are possibly emotionally disturbed or have combative instincts to want to fight with the soldier or officer. The RATPAC™ training system brings to life the ability to replicate real-time critical-thinking scenarios for the operators and provides for stronger re-enforcement of instinctive response methods as well as better decision making under the use-of-force paradigm. Overall, there are large varieties of training tools that are utilized in the RATPAC™ training system, such as training mats, protective combative gear, training pepper spray and other chemical agents used in training along with training batons, handcuffing training, and overall room entry operations.

The Importance of Force-Option Tactical Training and the Use of RATPAC

Whether it is the global war on terrorism (GWOT) or the war on drugs and guns in the streets, the RATPAC™ Training System is a three-dimensional solution that covers 360 degrees of skill building and education for military soldiers, law enforcement officers, correction officers, and advanced security agents. By combining firearms training with simulated munitions including airsoft, RAPAIR Systems™, or other commercially available dye marking paint rounds with the RATPAC, trainees receive an unmatched real-world experience in firearms weapon development.

The current line of virtual, simulation, paint, dye-marking / less-lethal rifles and pistols, as well as pyrotechnics, are much more effective than training weapons of the past. However, many of the traditional training weapons, such as “blue” or “red” guns, are consistently used in demonstration procedures from the instructor’s standpoint to emphasize a technique or set of techniques. In summary, the totality of force option training in the RATPAC can be achieved by all levels of personnel in both military and law enforcement training operations. Agencies can now enhance both firearms weapons proficiencies as well as multiple levels of force option methods using a variety of required agency tactical response gear. To ensure proficiency common critical points of these tools require:

- the use and handling of the training weapon is identical to the fine motor skill applied in handling a real weapon;
- weight, loading, and rate of fire of the replica weapon equates to the user as if the real weapon were in their hands; and
- role-player rules are in place and the actual scenario is documented for instructional purposes.

The scripted scenario then comes to life in an immersive environment incorporating the weapon handling elements above. The ability to review and analyze the live training runs on a real-time basis is critical to maximizing training effectiveness. The RATPAC™ system includes capabilities for thorough After Action Review (AAR), which helps the students and the instructors in all aspects of the use of force ladder from verbal commands all the way up deadly force situations.

Putting a Price on Training?

In these critical times where decisions in combat situations are made within a blink of an eye, is there a price tag that we should place on our training programs that would limit the ability of the operator in the field to produce full capacity training to replicate real-life situations? With the RATPAC™ training system full capacity can now be reached in every training scenario pushing those in the training to the tactical limits.

Reconfigurable Training Structure

Today’s training facility needs realism and should incorporate “fatal funnels,” stairwells, doors, windows, and long narrow halls or lanes which can be used to build strong entrapment points. Training facilities should also engage the trainees’ five physical senses (touch, sight, sound, smell, taste). Modularity is also a key requirement of a training system in order to maintain a fresh training environment to allow for continued stress inoculation.



UXB International teamed with DoD and Federal Agency veterans to address these training needs in the development of a system that would easily adapt to the changes in urban settings and tactics. A modular building system was designed exclusively for use in less-lethal training in urban environments. Unlike other products, the U.S. patent-pending RATPAC™ training system was developed not only to provide modularity, but also to easily accommodate commercial off the shelf (COTS) instrumentation and special effects packages to enhance realism.

The RATPAC™ training system is a commercially available modular purpose-build frame and panel system designed specifically for tactical training needs. Unique features include shoot-through walls, stairs, ladders and hatches; provisions for COTS-breach systems; tracking and related instrumentation; and special effects equipment. RATPAC can be used as an individual structure assembled to form large/multiple buildings, or it can be combined with container structures to enhance existing container villages. By combining the RATPAC with less-lethal weapons, true train-as-you-fight capabilities are realized.

RATPAC meets ISO-1496-1 Hi-Cube dimension and ISO-3874 connector standards to enable handling and assembly without requiring specialty equipment. The system is available as a standard 8' x 20' kit, vertical access 8' x 20' kit, frame-only kit, and After Action Review (AAR) kit. For larger structures, complete kits are combined with frame-only modules to reduce overall project cost.

By design, the non-metallic skins minimize RF interference and enable enhanced through-wall tracking capabilities not previously possible through the walls of steel container structures. The composite structure is strong but lightweight and corrosion resistant. The system is simple to clean after force-on-force training that uses dye-marking paint cartridges. The panels are available in solid wall; shoot-through wall, window, and door configurations; as well as COTS breach windows and doors.

Endless building layout options feature open floor plans with large rooms, as well as scalable architecture capable of multi-story buildings. Interior and exterior features can be easily modified for mission rehearsal or to keep training challenging. The RATPAC™ system is flexible both in physical layout and in system control, which enables future growth of the training environment while meeting the needs of the evolving training methodology. The RATPAC can be used as a single structure to provide basic skills training at the individual level or integrated into urban villages consisting of multiple structures to train at the squad level. The structures



After Action Review (AAR) capability using camera and other automation



The RATPAC can be “flat-packed” and shipped eight to a truck or shipped fully assembled. The RATPAC module, shown above in the blue frame, is flat-packed and staged on a standard 20 ft container.

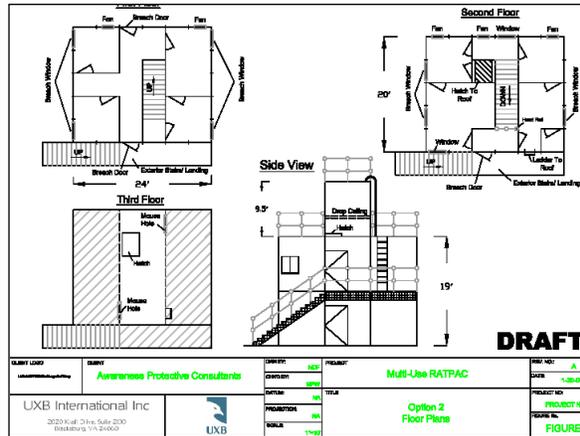


Assembling several RATPAC modules for a training system. Assembled RATPAC system with AAR unit.

can be configured to present urban street scenarios to enable convoy, escort and checkpoint training. Options can also be configured to provide a watch over a rooftop.

While container-based urban village scenarios have been in service for several years in the U.S., military and law enforcement trainers are finding limitations to their use from both their lack of similarity to urban settings (rooms are 40' by 8' feet) and lack of flexibility (modules are not easily reconfigured and are seldom changed).

The RATPAC offers the ability to conduct full throttle force-on-force tactical scenarios for military and law enforcement training. The system can quickly reconfigure to allow OEM First Responder and fire/rescue training without downtime. The RATPAC is based on a durable design that allows for hard use with minimal maintenance.



RATPAC can be easily reconfigured to various floor plans to keep the training fresh and to fit specific needs.

Summary

The RATPAC™ training modules are frame and panel construction, with reconfigurable and interchangeable interior and exterior wall panels on a nominal four-foot grid. The panels are constructed of fiber-reinforced plastic (FRP) skins with a structural foam core, and can be reconfigured in minutes without tools. Unique features that set the RATPAC apart from container-based training systems include:

- modular frame and panel system with reconfigurable interior and exterior wall panels;

- integral gaskets for weather-tight seal in all panels / modules;
- open floor-plan capability and scalability to meet virtually any requirement;
- flexible, modular “plug-and-play” approach to structure configuration with true rehearsal capability;
- cost-effective basic modules, with optional special effects and AAR capabilities to provide both realism and effectiveness;
- non-metallic panels to minimize RF interference and enhance tracking / instrumentation performance; and
- flat-pack shipping eight (8) to a truck

RATPAC™ systems are currently staged in the following locations to allow continued testing in a real-world environment.

- Forham Park Police Department, New Jersey;
- Fort Dix, a major Army training center located in New Jersey;
- The Homeland Defense Technology Center at Picatinny Arsenal in New Jersey; and,
- Cubic Corporation’s Simulation Systems facility in Orlando, FL.



Smoke generator option



Top floor has a flat rappelling platform that integrates to the top RATPAC module

See training scenarios in the RATPAC through the online video at www.ratpac.com.

For additional information, or to arrange a demonstration, contact Mike Warminsky by email at mike.warminsky@uxb.com or phone 1.908.237.4592.