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Patent Search

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Abstract:

The present disclosure envisages a computer-implemented elector-pneumatic projectile launching training system (1000) for real-time simulation, which is easily recon for a variety of indoor and outdoor applications. The training system (1000) is configured for training at least one trainee by at least one instructor which can also be ex train three sets of trainees and instructors. The training system (1000) comprises of a computer-implemented simulation system employing electro-optical sensors (230) networked in wired and wireless means. This system employs scaled model of target mounted on an automated battery operated vehicle (260) and/or remotely contro aerial simulated target system, a simulated projectile and a target, an electro-mechanically actuated motion simulator projectile launching mechanism (100), means for the projectile inside the launching mechanism, a control unit, a trigger, a sensor, a repository 250 and a performance monitoring module (310). The trigger releases the pneumatic lock thereby letting the hydraulically compressed spring, launching the dummy projectile. The control unit (200) in combination with the performance monitoring report generator module (310) is the nerve centre of the entire training system (1000), which is operable by one or more instructor(s) to generate any type of simulator visual indications including emergencies associated with the simulated launching of projectile at the said target system (260) and store the results in the repository for processing by the performance monitoring and report generator (310). The array of networked optical tracking sensors (230) capture an image/video of the target and transfer it over the wireless trans-receiver (240) module to the display unit (220) of the said control unit (200) which in turn transfers it to the performance monitoring and report generator (310) for analysis and report generation. The repository 250 stores the image and the video. The crossover range trans-receiver (280) transmits the positional data of the target including the programmable aerial target (270), to the digital control unit (200) which is combined with the inputs of standalone and integrated optical tracking module received via voice a wireless trans-receiver module (240). The Portable Indoor Training System (300) comprises of the Performance Monitoring and Report Generator Module (310) which is common to all the indoor and outdoor configurations, visor mounted display module (320) which can also be used in combination with motion simulator indoor display and audio visual components (330) and comparator and computing module (340) combine to impart indoor training based on the preloaded target parameters and the trainee's action with the specially configured launching tube and launching mechanism. The multisource power supply unit (400) comprises of conventional and renewable energy sources wherein this module also comprises of phase converter equipment also to cater for the need of 3-phase power supply for components of the motion simulator (100). The voice communication module (600) is integrated with the digital control unit (200) to enable one-way point-to-point communication from instructor to trainee. The Observer and Instructor Training Kit (700) are also part of the training system (1000) wherein the digital control unit and performance monitoring and report generator module (310) are used in conjunction with all types of target systems.

Complete Specification**DESC:FIELD**

The present disclosure relates to the field of training systems.

BACKGROUND

The background information herein below relates to the present disclosure but is not necessarily prior art.

Typically, a training system is a device or group of devices which provide realistic simulation of various scenarios in which an operator would function. A training system is generally used to provide simulated controls and operation of a system, equipment, platform, vehicle, aircraft or any other complex system. Particularly, training systems for air defense sensors and weapon systems are used by an organization like the air force to train the operators to handle various tricky situations. These training systems are generally built to train the operators and other concerned personnel to optimally use any particular type or group of equipment(s). As every equipment or system has its unique features, the training provided using a type specific training system would limit its utility to that particular equipment or system only. Further, most of the simulators are either indoor or outdoor simulators, which differ in their configuration and the training value imparted to the trainees. The conventional energy sources employed in the current simulators are cost intensive and entail stringent safety norms. Moreover, the type specific training systems are not easily modifiable to match specifications of other similar systems or any future upgradation.

Therefore, there is a need for a training system that overcomes the aforementioned drawbacks.

OBJECTS

Some of the objects of the present disclosure which at least one embodiment herein satisfies are as follows:

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