



多武器訓練模擬系統

Multiple Arms Training System

主要特色

- 直射武器模擬器可同時提供15個學員執行射擊模擬訓練。
- 曲射武器模擬器可同時提供6組學員執行射擊訓練。
- 前進觀測模擬器提供不同火砲種類之射擊觀測訓練。
- 具備曲射與前進觀測聯網功能，可執行砲兵射擊聯合演訓模擬。
- 提供不同的環境變化(能見度、天候、風速、晨昏)等模擬環境，並提供5.1聲道環場立體音效模擬戰場環境。
- 模擬武器裝備之外觀、重量及操作方式與真實武器相仿。
- 中英文視窗人機操作界面，系統操作簡便。
- 採用開放式系統架構，利於未來系統擴充或構型提升。

Key Features

- Direct weapon simulators provide 15 students shooting simulation training simultaneously.
- Indirect weapon simulators provide 6 teams shooting simulation training simultaneously.
- Forward observer simulator under variant types of fire and ammunition expenditure provides observation simulation training.
- Provides network capability to support joint exercise with Indirect weapon simulator and forward observer simulator.
- Provides variant environment simulation such as visibility, rain, wind, day/night, etc., and provides 3D stereo sound simulation.
- Weapon simulators are the same as the real equipments in size, weight, operation, and recoil.
- The Chinese/English windows user interface is convenient for users.
- Open architecture, designed for system extension with minimal effort and cost.



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主計算機分系統

- 負責直射/曲射各型武器彈道模擬計算、目標物控制模擬、碰撞射擊結果評分及系統網路資料控制。
- 提供系統監控畫面以確定系統及網路封包資料是否正常運作。
- Windows作業系統，設計具可擴充性。

視效分系統

- 直射武器模擬系統提供六部單槍DLP影像投射器投射於20米×3米平面銀幕，影像解析度為1400×1050，並負責6組射擊場景視效資料庫及各型射擊靶紙顯示功能。
- 曲射武器模擬系統提供四部單槍DLP影像投射器投射於12米×3米平面銀幕，影像解析度為1400×1050，並負責5組射擊場視效資料庫、各型固定/活動目標物及爆炸影像顯示功能。
- 前進觀測模擬系統提供兩部單槍DLP影像投射器投射於7米×3米平面銀幕，影像解析度為1400×1050，並負責5組射擊場視效資料庫、各型固定/活動目標物及爆炸影像顯示功能。

音效通訊分系統

- 提供高功率擴大機及5.1聲道喇叭，負責模擬環境音效、射擊音效、爆炸音效及目標物音效。
- 提供曲射武器、前進觀測及射擊指揮所無線通訊模擬功能。
- 提供直射武器/曲射武器主動式射擊靶席喇叭模擬功能，以增加臨場感。

HOST Computer System

- The host computer is responsible for direct weapon bullets and indirect weapon shells trajectory calculation, targets control, collision detection, shooting result scoring, and system network control.
- Provides system monitor mode to make sure the system is running normally and the network data packet is correct.
- Windows Operation System, upgradeable for the future.

Visual System

- Direct weapon simulator provides 6 DPL projectors to project on 20m×3m display flat screen with 1400×1050 pixels image resolution, and provides 6 game areas display and target sheets for different guns.
- Indirect weapon simulator provides 4 DPL projectors to project on 12m×3m display flat screen with 1400×1050 pixels image resolution, and provides 5 game areas display, fixing targets, moving targets, and explosion effects.
- Forward observer simulator provides 2 DPL projectors to project on 7m×3m display flat screen with 1400×1050 pixels image resolution, and provides 5 game areas display, fixing targets, moving targets, and explosion effects.

Sound and communication system

- Provides the amplifier and 5 speakers and is responsible for simulating sound effect of environment, shooting, explosion, and moving targets.
- Provides the radio communication between Indirect weapon simulator, Forward observer simulator, and Fire direction center simulator.
- Provides active speakers for shooting sound effect for Direct/weapon simulator, and 6 active speakers for firing sound effect for Indirect weapon simulator.

教官台分系統

- 全系統之控制中心，可控制各分系統之開關機以及執行射擊訓練時之各項功能設定，包括學員/教官資料、天候環境、訓練場景、目標物、彈藥數等。
- 直射武器模擬系統提供15射擊靶位彈著點顯示、瞄準軌跡線顯示、射擊成績顯示及列印功能。
- 曲射武器及前進觀測模擬系統提供2D戰場顯示、目標物顯示、觀測所顯示、砲陣地顯示及彈著點顯示功能。

輸出入界面擷取分系統

- 負責處理各型模擬裝備數位/類比輸出入訊號。
- 紅外線影像擷取裝置負責擷取槍枝模擬器之瞄準點。

模擬武器分系統

- 直射武器模擬系統提供15把T91模擬步槍，15把65K2模擬步槍，15挺T75模擬班用機槍，15挺T74模擬排用機槍，15挺50模擬機槍及4挺40模擬榴彈槍，一台空氣壓縮機以提供射擊後座力模擬。
- 曲射武器模擬系統提供6門60模擬迫砲，4門81模擬迫砲及4門120模擬迫砲，每門迫砲配備瞄準具以提供觀測調整功能。
- 前進觀測模擬系統提供14具模擬觀測望遠鏡及2具模擬雷觀機。



Instructor/Operator Station

- It is responsible for the system training operation control, including trainer/teacher information, environment, training battles, targets, bullets, and artillery shells.
- Direct weapon simulator displays the points of impact, aiming trajectories, scoring, and printing shooting results.
- Indirect weapon and Forward observer simulators display the 2D battle map, targets, forward observation posts, batteries, and points of impact.

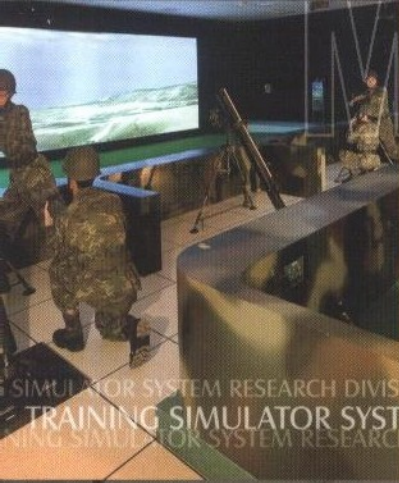
I/O interface and IR image capture system

- It is responsible for handling the digital and analog I/O signals, for weapon simulators.
- IR image capture devices are responsible for acquiring the IR signals for the gunnery simulators.

Simulated rifle, machine gun, and mortar System

- Direct weapon simulator provides fifteen T91 rifle, fifteen 65K2 rifle, fifteen T75 machine gun, fifteen T74 machine gun, fifteen 50 machine gun, and four 40 rifle grenade gunnery simulators, and provides 1 air compressor to simulate shooting recoil.
- Indirect weapon simulator provides six 60 mortar, four 81 mortar, and four 120 mortar simulators, and provides mortar sight for each mortar to simulate observation and adjustment.
- Forward observer simulator provides fourteen field glasses simulators, and two laser range finder simulators.





Multiple Arms

廠房設施分系統

- 射擊靶席後方提供階梯座椅，以提供其他學員觀摩及教學使用。
- 提供室內採光及照明。
- 提供室內通風及空調系統。
- 提供避雷及接地系統。
- 提供消防安全及廣播系統。
- 提供保全監視系統。
- 提供模擬槍/迫榴以收存模擬裝備。
- 提供不斷電以避免臨時跳電對系統造成損壞。

Facility System

- Provides ladder seats for the students to inspect and learn from the others.
- Provides illumination.
- Provides air conditioners and ventilation system.
- Provides lightning conductor and grounding system.
- Provides fire control detectors and broadcasting system.
- Provides security and monitor system.
- Provides cabinets for safekeeping the rifle gunnery simulators, machine gun simulators, and mortar simulators.
- Provides UPS to protect the system equipments for power supply temporary cut off.



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