# Portable Joint Fires Trainer (PJFT)

The Portable Joint Fires Trainer (PJFT) brings mixed-reality Joint Fires simulation training to the tactical edge. Users train at the point of need using MVRsimulation's Virtual Reality Scene Generator® (VRSG®), Battlespace Simulation's Modern Air Combat Environment (MACE), Varjo mixed-reality headsets, and real-world Android Team Awareness Kit (ATAK) end user devices.

The PJFT consists of two portable training stations: one Instructor Operator Station (IOS) and one JTAC Backpack (OBS), each contained in a commercial airline carry-on approved backpack. Systems can be configured with multiple IOS or JTAC backpacks to match specific training goals.

The PJFT provides full-spectrum mission training as a stand-alone capability or as a portable component of the fully-accredited Deployable Joint Fires Trainer (DJFT) or similar JFS EFC accrediated simulators. The PJFT is directly interoperable with the current U.S. Air Force JTAC training program of record system, the Joint Terminal Control Training and Rehearsal System (JTC TRS).



*The PJFT is comprised of an IOS Backpack and a JTAC Backpack.*

## Designed to meet JFS ESC Accreditation

- Meets the Joint Fires Support Executive Steering Committee (JFS ESC) Memorandum of Agreement (MOA) accreditation for Type 1, 2, 3 Terminal Attack Control (TAC), Bomb on Coordinate (BOC), FixedWing (FW), Rotary-Wing (RW), Remote Observer (RO), Video Down-Link (VDL), Suppression of Enemy Air Defenses (SEAD), Urban, Forward Air Controller (Airborne) (FAC (A)), Night, IR, and Laser controls.
- 360° FOV throughout the entire mission including during the terminal phase of the control to assess the attack geometry
- Simulated laser target designator for laser accreditation
- Environmental sound and headset radios for communications
- Observer can read and write without needing to remove HMD
- Communicate via multi-channel PTT emulated radios
- Same software currently in-use in Programs of Record
- ATAK/WinTak integration ready for DACAS



*The JTAC Backpack provides an ultra-portable mixed reality training device that supports real-world video pass-thru. The observer can interact with real end user devices and stay immersed in the virtual environment.*

## SWAK Ready

The PJFT supports Digitally Aided Close Air Support (DACAS) as described in JFIRE Appendix E using real world datalink messages to execute both the Link16/SADL message flow and the VMF message flow. Using MACE's built in JREAP-C server or the raw VMF gateway, the DJFT can be integrated with live training scenarios. VRSG's video datalink contains KLV metadata compliant with the STANAG 4609 or MISB 0601 standard, enabling embedded sensor-points-of-interest and host platform track data within the video stream.

The PJFT is delivered with a Samsung S23 Tactical Edition device ready for the GOTS Special Warfare Assualt Kit (SWAK) software. The device allows the JTAC trainee to view the tactical picture on a real-world end user device, including geospatial information, MACE-generated 9-line targeting comms and Link 16 and VMF data. Implementation of SWAK is the customer's responsibility.



*Mixed-reality simulation allows the student to read and write without the need to remove the HMD.*

*The PJFT backpacks are commercial ariline carry-on approved.*

## IOS Backpack

The IOS backpack contains all equipment required to set-up, run, and have full dynamic control of training scenarios:
• 17" high-end laptop with additional portable monitor
• Scenarios run on Battlespace Simulations' MACE
• MVRsimulation VRSG with 4 viewports to support multiple sensor/rover feeds for Video Down Link (VDL) to conduct sensor pod talk-ons
• Control virtual fixed-wing, rotary-wing, RPAS, and ground and sea assets in the mission
• Controls for UAS pod, 9-lines, 5-lines and Call For Fire
• Record current scenario to play back for after-action review
• Headset simulated radios with PTT for communication with JTAC trainee

## JTAC Backpack

The JTAC backpack contains all equipment required for trainees to simulate full-spectrum JTAC/FO training missions:
• 16" touchscreen high-end laptop with interactive simulated Defence Advanced GPS Receiver (DAGR) and radios
• Mixed-reality Varjo head mounted display allows users to work with real-world devices and read and write without needing to remove the HMD
• 360 x 360 FOV displays, enabling a fully immersive training environment to conduct Type 1 controls
• Simulated laser target designator (LTD), laser range finder (LRF), IR pointer (IZLID), binoculars
• Head and pupil tracking for after action review
• GOTS SWAK-ready Samsung S23 TAK device
• Environmental sound
• Simulated radios with 4-channel PTT JTAC-inspired audio headsets for communications with instructor

## Low-cost commercial system

• Inclusive of all costs: US $190,000
   - Delivered with JTAC and IOS Backpacks (one each)
   -All software licenses and peripheral hardware needed
• Shipping charges, on-site setup, and two days of training by an MVRsimulation engineer is quoted separately
• PJFT configurations to meet your unit's specific needs can be built by purchasing individual stations at the rates below:
   - IOS Backpack: US $95,000
   - JTAC Backpack: US $95,000
• Deployable Joint Fires Trainer (optional): US $485,000
   - mvrsimulation.com/products/deployable-joint-fires-trainer.html

## Ultra Portable

The PJFT is contained in 5.11 Rush 72 2.0 Backpacks. The comfortable rucking style backpack enables reliable, extended-range travel, and fits within commercial airline carry-on bag size and weight limits. Custom-designed foam inserts protect the kit inside the backpacks.
• IOS Backpack - 23 lbs.
• JTAC Backpack - 25 lbs.
The modularity of the PJFT allows units to decide how they prefer to commercially ship their PJFT:
• Single case - An IOS and JTAC two-station core PJFT system in a single Pelican case weighing less that 70 lbs.
• Multi-case - Each backpack stored individually in its own Pelican case weighing approxiametaly 40 lbs.
The PJFT runs on 100-120 V and 200-240 V power at 50-60 hz and the power cord can be replaced with regional specific connectors. All components are air frieght shippable.



*JTAC student using simulated HUDs in the head-mounted display for the LTD and LRF to support a terminal attack. Correlated views of the impact can be seen in the HMD view and the sensor pod view.*

## Interoperability

The PJFT is a part of the Deployable Joint Firest Trainer (DJFT) ecosystem. The PJFT can be used as a stand alone JTAC trainer or as an optional add-on to the DJFT or another fielded JTAC simulator. Mission and content files used in current in-use Programs of Record like JTC TRS, AFSOC, and AJTS can be replicated on the PJFT and DJFT. This gives users full flexiblity to train using the same software they are already using wherever and whenever required. The PJFT can also be expanded with addtional backpack-based stations including; Tactile EMEs, Role Players, Virtual Sand Tables, and FPV UAV sims.



*The PJFT can connect to the Deployable Joint Fires Trainer as additional observer and instructor stations.*

*Pricing in effect for August 2024. Please send a request for a quote to sales@mvrsimulation.com.*