VIRTUAL REALITY (VR) TRAINER

A GAME-CHANGER FOR PILOT TRAINING

The Collins Virtual Reality (VR) Trainer is a next-generation training solution built to enhance today's flight instruction programs. Using a suite of Collins Aerospace systems and top-of-the-line virtual reality technology, the Collins VR Trainer is an immersive tool for enriching the pilot education process.

Hand-tracking for a direct interface

Hand-tracking technology allows users to interface directly with the virtual cockpit without the need for traditional hand controllers. No buttons, no batteries, just reach out and grab the controls. The hand-tracking software automatically detects hand presence and positioning, allowing users to manipulate elements in the cockpit without having to become familiar with a controller. Alternatively, physical controls, such as yokes, rudders

and throttles, can be seamlessly swapped in and out for a higher fidelity experience while still staying synced in the virtual environment. Users can interact with virtually any element of the cockpit.

Realistic flight deck immersion

By combining effortless hand-tracked interactions and the Collins CORESIM flight simulation software, the VR Trainer gives students a sense of being fully immersed within a real flight deck. Time

KEY FEATURES & BENEFITS

- Full cockpit familiarization, including procedure training
- Hand-tracking without hand controls
- Eye-tracking to detect the pilot's gaze for verification tasks
- Cost-effective proficiency training
- Worldwide set of airports and runways
- Rehosted HUD and avionics software for certain platforms
- Provides out-the-window visuals
- Develops pilot proficiency through an immersive experience
- Multi-platform: PCVR, stand-alone VR and iPad

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The VR Trainer offers a broad range of training tools for both the instructor and the student, including a virtual instructor operating station that students can access through the headset by simply looking at their hand. The virtual instructor operating station can be used to adjust airports, runways, time of day, weather conditions and more. In addition to custom flight scenarios, students can review procedures training with a variety of educational modes and tools.

The procedure training prompts provided by the VR Trainer guide students through complex checklists utilizing simple to follow flows using a combination of educational prompts, hand-tracking and eye-tracking. Eye-tracking allows the VR Trainer to track the user's gaze, assisting the student in identifying the appropriate elements in the cockpit. The immersive nature of VR allows the student to develop appropriate muscle memory to enhance performance in the full flight simulator.

The future of aviation training is virtual

At Collins, we know the impact VR will make on the future of aviation training. The Collins VR Trainer helps maximize essential simulator time by increasing proficiency in a virtual environment. Versatile and intuitive, and capable of fitting an entire flight deck into a carry-on, the Collins VR Trainer sets the standard for VR aviation training.

SYSTEM HARDWARE:

Gaming computer, VR headset with hand- and eye-tracking.

SYSTEM SOFTWARE:

Collins virtual-reality training environment, Collins EP®2 /EP®-80 Desktop Image Generator, global terrain database.

spent inside the VR Trainer can help offload valuable time in the full flight simulator by reducing the effort spent on pilot familiarization while increasing pilot proficiency.

Basic controls, such as knobs, switches and buttons, all function as you would expect from the real thing. Haptic gloves can be optionally used to deliver an even more tactile experience. Additionally, new or customized cockpit models and interactive controls can be added to the VR Trainer when required.

The VR Trainer is built with the flexibility to rehost various aviation systems based on your needs. For example, the Collins Head-up Display (HUD) system, in conjunction with the Collins EP image generator, can be used as an effective tool for HUD familiarization and training, eliminating expensive time spent in the full flight simulator.

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