



Micro Boom Operator Simulation System



The Micro Boom Operator Simulation System ("Micro-BOSS") was designed by QuantaDyn Corporation as a table top training simulator for KC-135 Boom Operators. It is compatible with all the software features and functionality of the Air National Guard (ANG) Boom Operator Simulation System (BOSS) as well as the Air Education Training Command (AETC) Boom Operator Weapon System Trainer (BOWST). The MicroBOSS utilizes selective-fidelity concepts in the hardware design to provide a realistic yet extremely cost effective training environment. Through the use of photo-realistic graphical displays, touch screens, a realistic aural cueing system, a high-definition out-the-window display, and representative joystick controls, the MicroBOSS provides the functional equivalent of a complete KC-135 boom pod.

The basic MicroBOSS configuration includes features making it a highly versatile aerial refueling training device. It can provide training on Air Force, Navy, and NATO receiver aircraft, utilizing the highest detail visual models available on any training simulator. It can also be used to augment the training from a fully immersive boom pod trainer such as ANG BOSS or AETC BOWST by acting as a debrief station, allowing completed mission scenarios to be replayed, debriefed, and critiqued in a representative environment.

Unlike current Computer Based Training stations, the MicroBOSS enables boom operators to perform training events in a realistic environment supplementing ground, flight line and in-flight training events. By utilizing a high fidelity training environment



that mimics the KC-135 boom pod with representative instrument panels, control levers, and high fidelity aural cues—the operator can maintain their training requirements within a dynamic virtual flight environment, providing a significant enhancement over traditional Computer Based Training systems.

Training flight personnel can adapt MicroBOSS scenarios to support each Unit's unique mission profiles, or concentrate on high interest training items from operational lessons learned. Mission preparation for Boom Drogue Adaptor (BDA), as well as other air refueling profiles, enables the aircrew to be more mission ready. The optional Distributed Mission Operations (DMO) interface allows full Aerial Refueling over DMO training events to be accomplished with high detailed modeling of physical contact and fuel transfer between the entities over the DMO network.



PROVEN

RELIABLE

INTEROPERABLE

SCALABLE

MODULAR

About QuantaDyn Corporation

QuantaDyn supplies simulation and training systems to the U.S. military and coalition partners around the world. Our goal is to provide modern, innovative answers to training needs, while taking full advantage of commercial-off-the-shelf (COTS) technology. Our experience includes virtually all phases of training device development for Joint Fires as well as both fixed and rotary wing aircraft for use on military and commercial programs.

Basic MicroBOSS Features

Fully functional boom pod training system

- Photo-realistic touch screen displays of all boom pod controls
- High fidelity aural cueing system
- Reproduction control grips for rudder control stick and telescope lever

High fidelity out-the-window image generator

- 22 ultra-high fidelity receiver visual models
- Multiple articulated parts and damage states on each receiver
- High fidelity receiver surface scratch and dent simulation
- Display of shadows generated from 4 different light sources simultaneously
- High definition out-the-window display system

High fidelity boom aerodynamics and receiver bow wave models

- Receiver bow wave model validated and approved by U. S. Air Force Boom Subject Matter Experts
- Boom flying qualities equal to ANG BOSS and AETC BOWST
- High detail Boom Drogue Adaptor (BDA) model

6 degree of freedom tanker and receiver flight models

- Multi-ship receiver formations
- Rendezvous – Alpha, Delta, Echo
- Quickflow, Toboggan, & Breakaway Maneuvers

On-ground, flight-line, and in-flight training events

- Extensive Instructor Operator Station (IOS) capabilities
- 12 standard KBTD mission scenarios with intuitive scenario generation capabilities to generate new training scenarios
- 49 available training malfunctions
- Pre-flight, refuel, and post-flight checklists with automatic procedure monitor
- EMCON signals
- Scenario record/replay capability

Portable turn-key system includes all computers, monitors, table, display mounting system, cables, software, setup, and utilization training

Facility friendly for easy of installation and use

- No unique component cooling required
- No specialized electrical power requirements
- Operates in office environment

Optional DMO interface

