

## L-39 Simulator (PTT)

The L-39 flight simulator of the "Part Task Trainer (PTT)" category is designed for individual training of L-39 aircraft pilots.

It is a flight simulator equipped with specific mathematical model, that enables to train operating, handling and using of on-board systems of the aircraft.

The simulator is ready to work in the tactics training mode using DIS/HLA protocols.

### Training focus:

Training is focused on training and practicing of both standard and emergency procedures on the ground and in flight, including the practice of using the navigation, radio communication and weapon systems.

### Training options:

#### Individual training

- basic and advanced training

#### Developed skills:

- practising of flight procedures
- emergency procedures training
- managing of the on-board systems
- practising of the navigation flights

### Key benefits

- Cost-effective solution comparing to full mission simulators for individual training
- Simple upgrade using off-the-shelf hardware
- Details - specific simulation of all aircraft systems
- High detail geo-specific terrain databases



## Technical description

The L-39 simulator is designed as a modular system and uses as much as possible off-the shelf hardware.

### Contents

#### Pilot navigator workplace (simulator cabin)

- The L-39 simulator cabin is designed with respect to dimensions and proportions of a real aircraft. All controls and displays are simulated by means of touch screens with the same ergonomics as in the actual aircraft.

The cabin is equipped with fully functional replicas of the control stick, the engine control lever and the pedals.

The stick is equipped with a electronic control load system ensuring that simulated forces are very similar to the actual aircraft in a whole flight envelope.

#### Instructor Operating Station (IOS)

- IOS manages the L-39 simulator control, i.e. switch-on, switch-off, diagnostics and setting of the exercise parameters. IOS enables to pause and restart simulation during a simulation task.

#### Computing system

- standard personal computers and other off-the-shelf - hardware

#### Visual system

- The visual system of the L-39 simulator consists of one-channel visual system ensuring realistic visualization of surrounding environment during all phases of the training tasks execution.

The visual system consist of LCD display located in a front part of a cabin and a software image generator.

The software image generator ensures visualization of surrounding terrain, atmospheric effects and simulation entities.

### Software

- synthetic environment
- aerodynamic model
- propulsion model
- aircraft systems model
- navigation system model
- CGF model
- DIS/HLA interface

### Workplaces equipment:

#### Pilot navigator workplace (simulator cabin)

- welded steel construction of cabin deck
- three touch screens
- replicas of a control stick, engine control lever and pedals with electro-mechanical control loading system
- pilot seat

#### Instructor Operating Station (IOS)

- configuration notebook for preparation, monitoring and evaluation of a training task

### Technical parameters

#### Dimensions: (mm)

height 1320 x length 860 x depth 1400

#### Weight:

- 180 kg

#### Software

- platform: PC
- operating system: Microsoft Windows

#### Hardware

- power supply: 3 x 400V, protection 3 x 16A class B

#### Standards support

- HLA (IEEE 1516) protocol
- DIS (IEEE 1278) protocol