



Product Description and Factsheet

The VV Hexagon tool is a radar simulator-based platform designed to evaluate the suitability of candidates for Air Traffic Control recruitment and training. It also has applicability in the fostering of teamwork and radar skills for selected candidates.

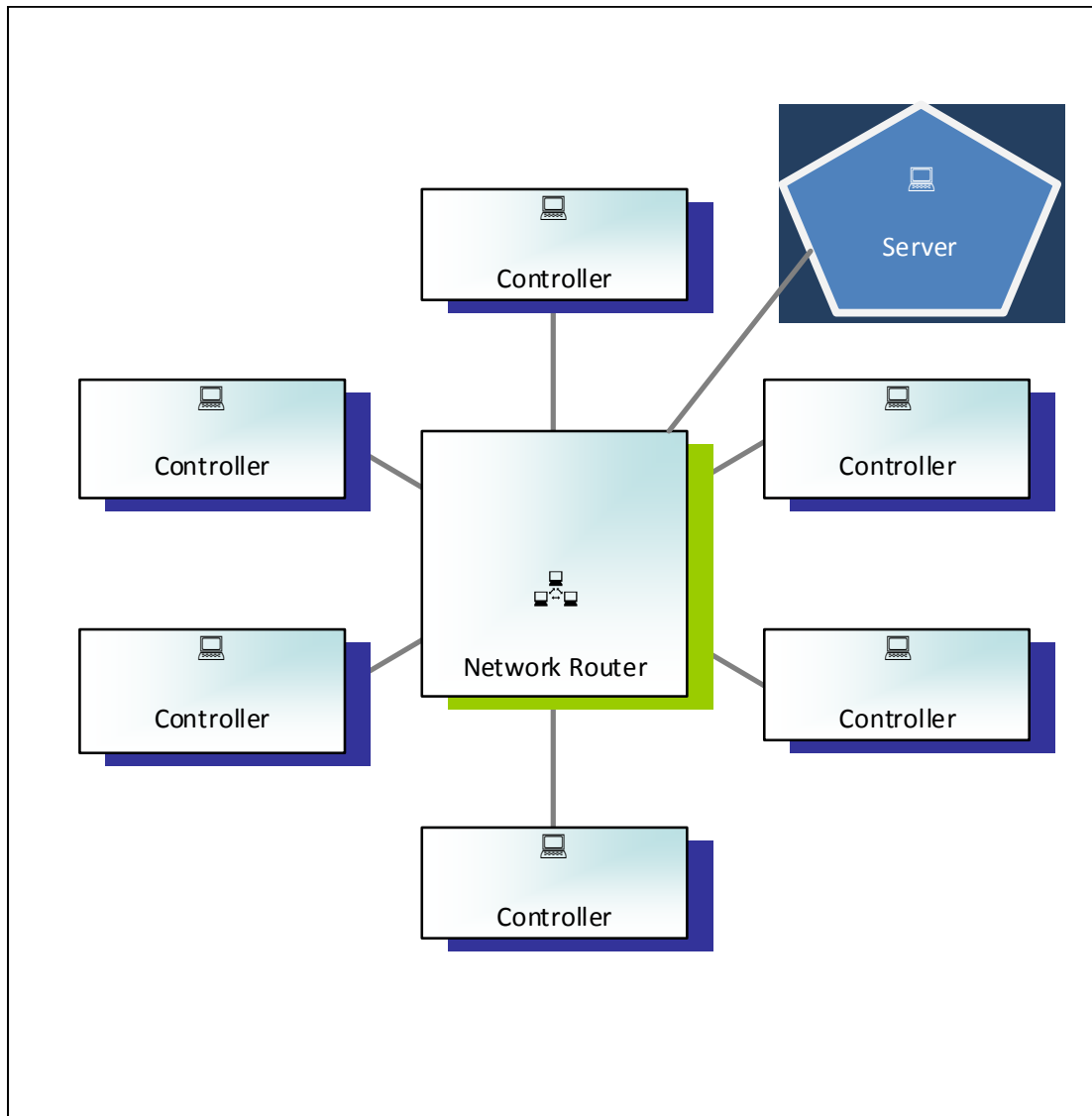


Figure 1: Network Setup

The platform consists of several operating/evaluation positions for the testing of up to six candidates at one time (figure 1).

Each candidate is required to:

- Vector (direct) aircraft on a radar screen around a restrictive flight path (figure 2), using a mouse as the control entry device. Speech recognition is also available.
- Move the aircraft toward a destination that may be located within another area of responsibility. Each aircraft may need to transit several positions to reach its destination.
- Verbally communicate and negotiate with the adjoining candidate for handover of control of each aircraft as it nears the boundary of responsibility.

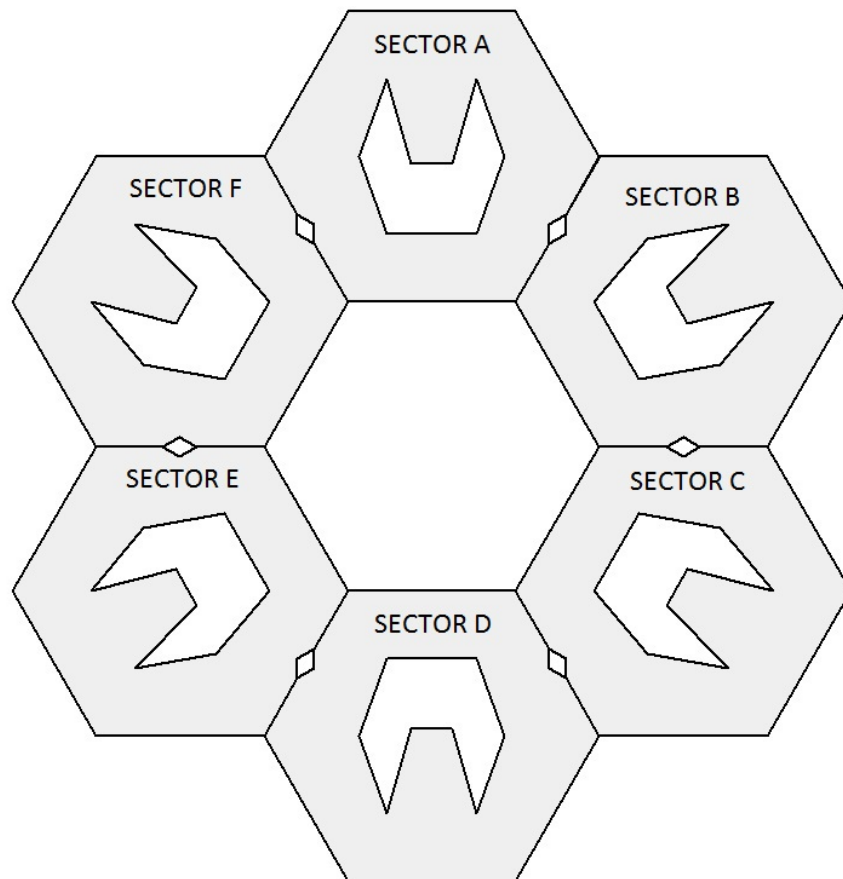


Figure 2: Airspace Arrangement

An Operating Position provides:

- A laptop or desktop computer loaded with a version of the *VV Simulator* and the *VV Hexagon* program.
- Realistic simulation of a modern Operational Radar Station.
- Aircraft display identical to operational systems, with the exception that a simplified aircraft callsign system may be used: Alpha one, Delta seven etc.
- Networking of the six Operating Positions, so aircraft can be passed from one to the next in a hexagon configuration. Electronic handover of an aircraft's radar track is performed by the candidate.

Supervision:

The testing setup will be configured and managed by a central computer, on which the candidates' performance may be viewed. In addition, two to three other assessment staff will make qualitative observations on the interactions between the candidates.

Modes of use:

Complexity of simulation is controlled by the spacing of addition of new aircraft to a sector and the speed of the master simulator clock.

In **Familiarization Mode** the clock is run at reduced speed and aircraft added at wide spacing intervals, to allow candidates to accustom themselves with the testing platform.

In **Evaluation Mode** the clock speed and number of aircraft are varied by the software, dictated by the ability of the group to perform the required tasks. Additional parameters include the range of levels available to be used and the combination of commencement and destination points. Acceptable settings for these parameters will become apparent with the first few groups of candidates and used for subsequent evaluations.

Task Training Functionality:

As part of the Familiarization mode, the VV Simulator allows candidates to learn the interface functions with the use of a Task-Trainer (figure 3). This tool provides instructions on the functions of the simulator and allows the candidate to practice using them.



Figure 3: Task Trainer Pane in Individual Training

Scenario Settings:

To adjust the difficult of the scenario, a range of settings (figure 4) is available to the supervisor. These include:

- Number of aircraft added
- How often they are added
- Aircraft speed
- Climb/descent rate
- Available levels in the maze
- Level for exiting the maze
- Relative disposition of aircraft start heading
- Magnetic variation
- Aircraft destination patterns

The settings may be saved for future use so that performance may be compared between groups of candidates. In this way, a standard assessment may be developed.

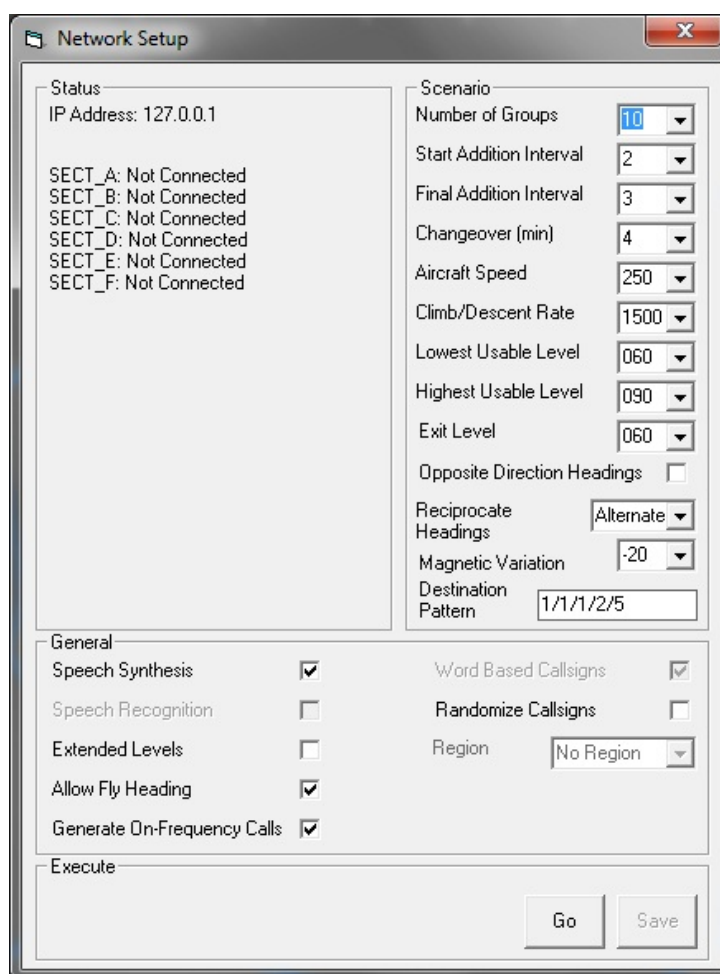


Figure 4: Network Setup Window

Performance Parameters:

The VV Hexagon tool is designed to evaluate a range of performance capabilities including:

- Ability to move aircraft geometrically on a radar screen within confined geographical limitations.
- Perception and projection of traffic movement in three dimensions.
- Keyboard and mouse skills.
- Ability to perform typical ATC tasks under pressure.
- Capacity to interact with adjoining candidates for the handover and acceptance of aircraft.
- Ability to work in a team environment.
- Ability to quickly adjust to a novel operating environment

Electronic Evaluation Metrics:

The VV Hexagon tool will automatically measure and record the following information electronically:

- Efficiency of aircraft movement – number of miles inside and outside the defined flight paths and level constraints; number of vectors and level changes effected
- Separation Performance – how many conflicts incurred

Manual Evaluation Metrics:

A pro forma will be constructed to enable invigilators to record the performance in interpersonal interaction between the candidates. This will enable the collection of evidence for observed behavior in:

- Cooperation and teamwork
- Clear communication
- Goal-oriented/task-oriented strategies

Continuous Improvement:

The VV Hexagon is designed to contain a range of settable parameters to alter the complexity and presentation of the simulation. Over time, this will improve the validity and consistency of the evaluation of aptitude and teamwork skills.

Contact Us:

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