



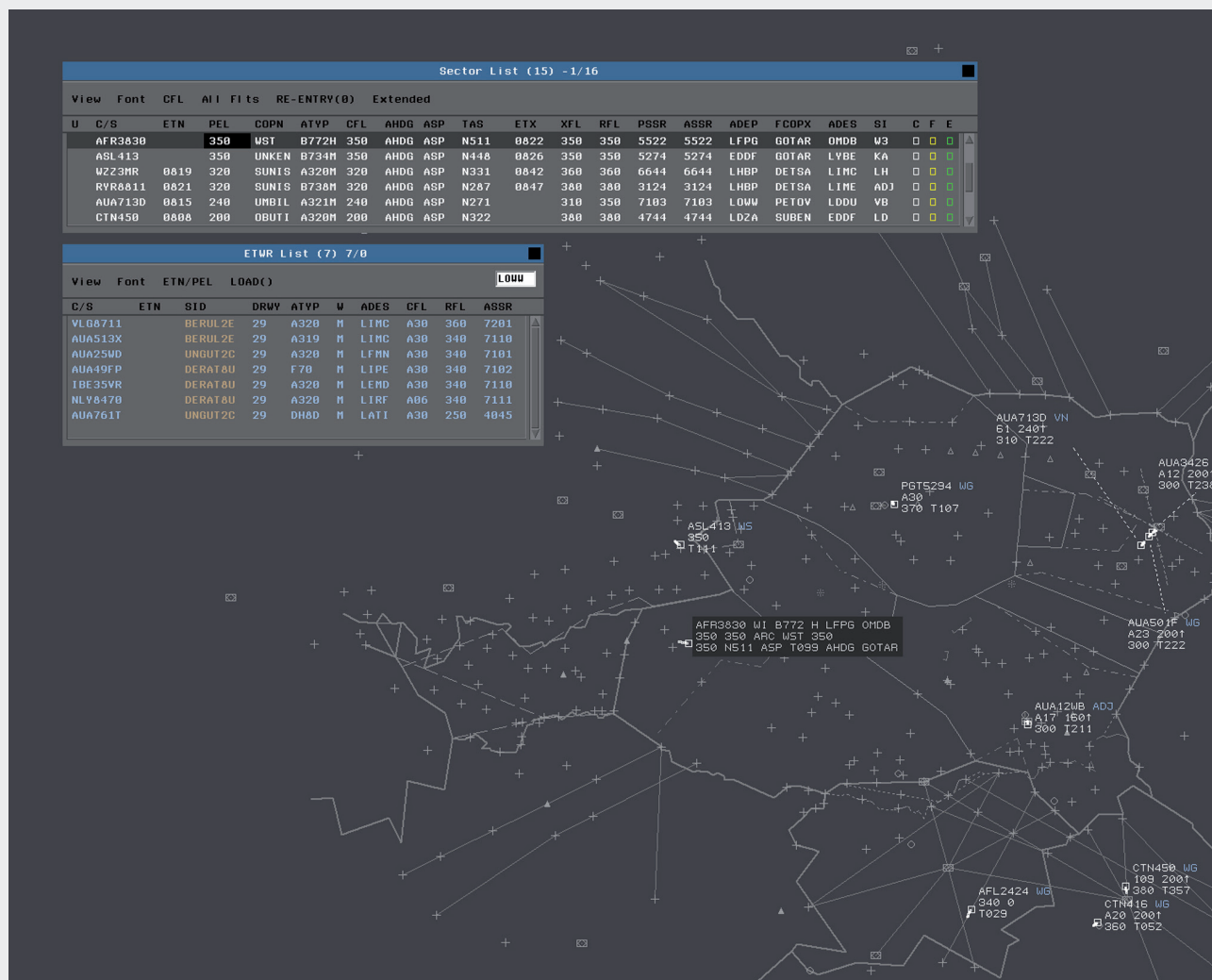
ROSE

Radar Operation Simulator & Editor



ROSE Simulation

INTRODUCING ROSE



To describe the radar simulator **ROSE** in a few words: Customizable, intuitive, high performance, scalable.

One of the main thoughts behind the development was to create a simulator that could be used flexibly: The quick change of a traffic situation, simple to use airspace modification and of course the independence of large and space consuming hardware were only a few action items.

ROSE offers the possibility to generate or import new traffic scenarios and airspace data within a short time.

Fields of use

The simulator is already used for example

- ▶ in complex networked simulations
- ▶ as a procedure planning tool
- ▶ as a basic radar skills trainer
- ▶ as a demonstration tool
- ▶ for classroom teaching
- ▶ as a training platform in CBT studios

User interface

The innovative **ROSE** user interface has been developed in close collaboration with active controllers - this is why it is an appreciated tool for trainers and operators. Debriefing, developing and testing have never been that simple.

Aircraft performance

The aircraft performance model within **ROSE** is highly realistic. A number of parameters are used to describe individual aircraft types, e.g. horizontal and vertical speed, engine performance (accelerate /decelerate), speed on final approach etc.

Label input options, 4D trajectory, 3D airspace modelling and a flexible role concept prove that **ROSE** simulation is state-of-the-art.

FIELDS OF USE

ROSE has proven its range of use in the following contexts:

Multi-sector rating training

„Are you looking for a smart solution with an outstanding cost-benefit ratio for your rating training?“

ROSE allows to connect up to 33 stations onto one exercise - with a flexible role model of pilot and radar positions. Communication functionality like the integrated text messaging system support the multi-sector training.

Classroom teaching

„Would you like to demonstrate ATC procedures and traffic situations in the classroom? Are you tired of using a million PowerPoint slides to illustrate aircraft movement?“

It has always been an important aim to create ROSE as a simulator that is flexible in use: quick changes of traffic situations, simple to use airspace modification, run exercises as soon as they have been designed, the independence of large and room consuming hardware...

All of these features make ROSE an essential tool for classroom teaching.

Briefing and debriefing

„Would you like to discuss the performance with your trainee after finishing 45 min of simulation? Wouldn't it be great to not just tell, but more show the trainee within the simulator at which point something went wrong?“

ROSE offers the unique possibility to rewind and fast forward within the whole process of a driven exercise - in a networked environment of course this runs independently on every single working position.

Combined tower and radar training

„Would you like to do a combined training for your tower and radar staff to practice certain scenarios with all involved units?“

The simulators AMOS (for tower) and ROSE (for radar) are highly interconnectable. They offer features that make writing a combined exercise an easy task. With the existing interfaces between the two simulators, it is possible to prepare and run joint exercises for radar and tower procedures with low effort, for example in project simulations.

Basic training

„Do you need a simple exercise to train headings or demonstrate flight climbing and descending behaviour?“

ROSE includes helpful functionality to set up basic exercises which can support your students to get into the learning matter hands-on.

Airspace design

„Do you plan to change certain routes in order to achieve an optimized traffic flow? Might it be necessary to revise the STARs/SIDs of an airport due to noise prevention?“

ROSE offers a wide range of airspace and procedure design as well as the opportunity to import your real life data. This options allow to simulate the impact of an adapted airspace or procedure.

CBT exercises

„Do you plan to develop learning units for self-study that shall be available on your company's LMS?“

ROSE offers export functionalities for airspace data as well as for exercise content. Using these files, traffic situations can be imported into a format conform to web standards very easily and even be enriched with a didactic level.

As driver for radar systems

„Would you like to simulate an airspace or procedure change within your ATC unit by using your real radar system? Or train your staff in the use of a new update of your present radar system?“

In collaboration with SkySoft-ATM we have developed the ATC trainer SKYSIM, which is a combination of real-life radar display and supporting applications and our simulator ROSE.

ROSE acts as traffic generator & preparation module for the Skyguide radar system. The user interface displayed in a SKYSIM simulation is the same that is used for traffic control within Swiss airspace. ROSE is able to send OLDI, FPL, CPL and several Asterix messages according to the EUROCONTROL standard. In the same way ROSE is ready to feed other radar systems and thus provide an environment to

- prepare simulations to be conducted with the real HMI of an ATC service provider
- test software releases of a radar system with the simplicity of simulator exercise preparation.

Since ROSE provides the technology to send and receive data in a professional format used within operational radar systems, the software can easily be adopted to any operational system in order to generate realistic track data for any simulation within your real live environment.

PARTS OF THE SYSTEM

The “SE” in ROSE:

Radar Operation Simulator AND Editor

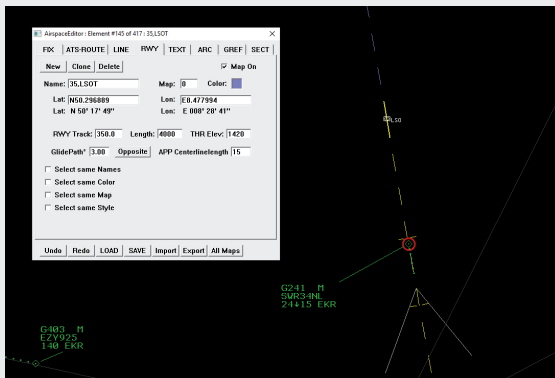
An innovative concept within ROSE is the idea to have all editors and the simulator itself within one single application. This provides the opportunity to evaluate and see any change in the data preparation at the very moment the change was made. There is no need to compile and transfer any editor data before using it within the simulator.

Experienced simulator administrators know about the resource saving benefit of this unique option.

Just to name a few ROSE editors (and more):

► Airspace

The Airspace Editor is used to create new navigational aids, runways, airways, lines, etc. with a single mouse click. All airspace elements can be used right after creation: You can build a new runway on your airport and directly advise any flight to select it for departure or landing. To position fixes, airway etc. precisely, the Airspace Editor uses LAT/LONG data (WGS84).



► Exercise

To prepare different exercises, the Exercise Editor offers to save and reuse single flight plans. These flight plans may include a route, specific clearances as well as prepared reactions, that are triggered by certain events. You can choose any aircraft type available in ROSE for each flight plan of course. Furthermore it is possible to select different statuses for each flight (long range, short range, medium range), which influence the climb performance.

► Text Information Exchange

With the TIP (Text Information Processor) you can let all participants know the dramaturgy of an exercise by preparing „stage directions“ for any position (pilot, radar, other). The prepared information will be displayed on the respective screen depending on a given time or any specific situation or event. The same TIP window can be used by all participants of a networked exercise to interchange information via the included messaging system during the exercise.

Flight Data processing systems

Within ROSE different FDP-systems have already been emulated, providing the real touch and feel analogue to the system used in a specific ATM environment. ROSE keeps adapting to new systems and their HMI.

Radar Display

The ROSE main radar screen is flexible in many ways. Starting from different appearances of all types of airspace elements to a growing number of interactive label types, units adapt the ROSE configuration to be close to their live radar systems.

Debriefulator

The highly innovative and straight away useable tool for briefings, debriefings, presentations, backups and furthermore provides a modern and sustainable way to fulfil tasks in training, cooperation or public presentations. The Debriefulator offers the option to export the progress of any exercise (e.g. an exam) in order to save it for later review or to fulfil the legal obligation to archive test results.

OLDI / ASTERIX messaging

ROSE is able to send and read a number of EUROCONTROL standardized messages, such as ASTERIX62, ACT, CPL. This way ROSE can act as a traffic generator for an operational radar system. This has been successfully used in simulations with the Skyguide radar HMI (Skyvisu) and for system evaluation.

G464 spd FA50/M
NJE532
380MOR 38 fx
F38 h

KL0

LNK48TC
380 LUL30 fx
LION

NJE532 F35 L10

F40 ▲	35 ▲	Vect	L25 ▲	245	HDC	hs	K330 ▲	M. 83
F39	30		L20	250	MOROK		K320	M. 82
F38	25	WX	L15	255	GIVRI	+	K310	M. 81
F37	20		L10	260	TINIL	-	K300	M. 80
F36	15	DCT	L05	265	TRO		K290	M. 79
F35	12		HDG	270			K280	M. 78
F34	10 ▼	SPA	R05	275		mc	K270	M. 77
F33			R10	280			K260	M. 76
F32		HLD	R15	285		os	K250	M. 75
F31		--	R20	290			K240	M. 74
F30 ▼		Ld	R25 ▼	295			K230 ▼	M. 73

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If you have any questions
about our products
AMOS, IRIS, ROSE or ELSA
please get in touch.

We are glad to assist you.

info@rose-simulation.de
www.rose-simulation.de
Phone: +49 171 17 29 657