

# Simulated Fallout Radiation Training Set



## Radiac RAS 100

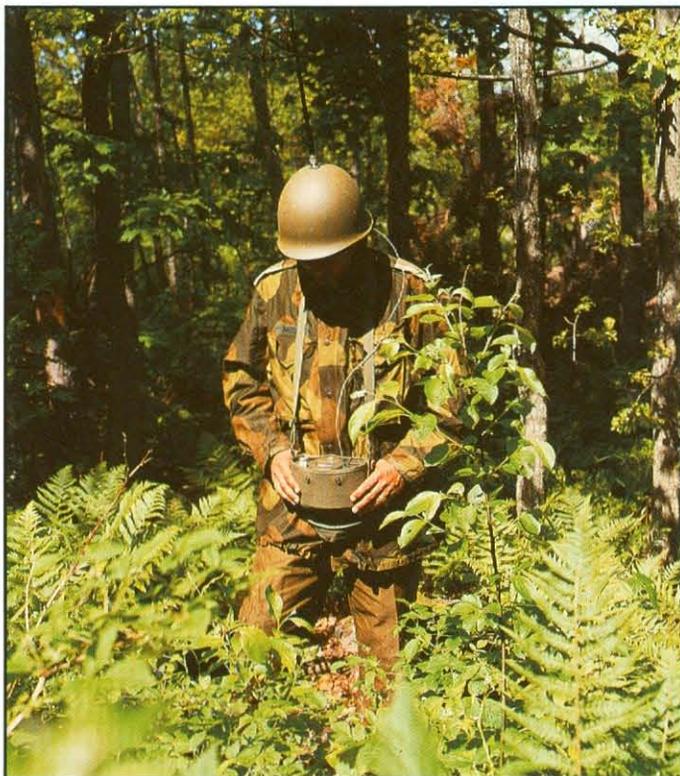


**ame**  
HORTEN NORWAY

# Realistic NBC warfare training with advanced simulation equipment

GAUSDAL / FYKSE

Radiac RAS 100 provides realistic training for NBC personnel by using the same equipment, working exactly as it would during a military nuclear attack or a radiation leak from a nuclear power station.



Training is sometimes impossible to accomplish in peacetime because of the need to measure radioactive fallout. However, Radiac RAS 100, developed and manufactured by AME, simulates this activity very realistically, including: evaluation of «clean» areas suitable for military as well as civilian evacuation, training of warning procedures, and the training of personnel and operator emergency procedures at nuclear power plants.

## Features include:

- ★ A microprocessor-based system.
- ★ Stationary or man portable.
- ★ Adaptable to most radiacmeters.
- ★ 24V DC or 110/220V AC power supply.
- ★ Adapted to DEF-133 in vital functions.
- ★ Easy to operate.
- ★ Adaptable to a variety operational concepts.
- ★ May be used for biological and chemical warfare training by adapting certain sensors.
- ★ Prepared for helicopter, training aircraft and naval mounting.
- ★ Rugged construction, lightweight and small.
- ★ Wireless system.

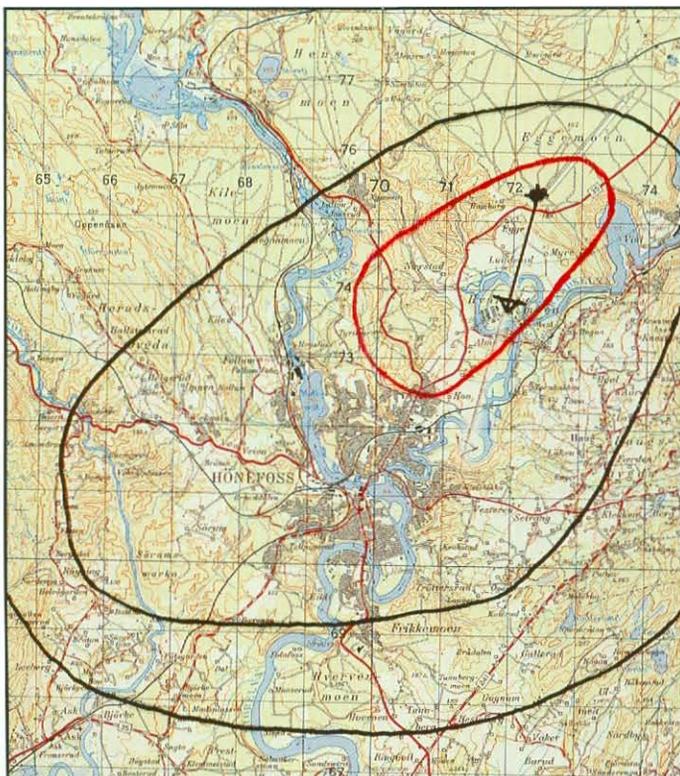
## System description

The Radiac RAS 100 Simulated Fallout Radiation Training Set was developed in a joint programme between AME, FFI (National Defence Research Institute) and HFK (Norwegian Army Material Command).

The training system consists of:

- ★ A Control Unit (transmitter)
- ★ Receivers (simulated sensors)
- ★ «Hot Spot» transmitters
- ★ Helmets with receiving antennas (wire connection to the sensor)
- ★ Directive transmitting antenna

A typical training system may consist of one Control Unit with Directive antenna, three–five Hot Spot transmitters, 5-8 Sensors and the same number of Helmets with receiving antennas.

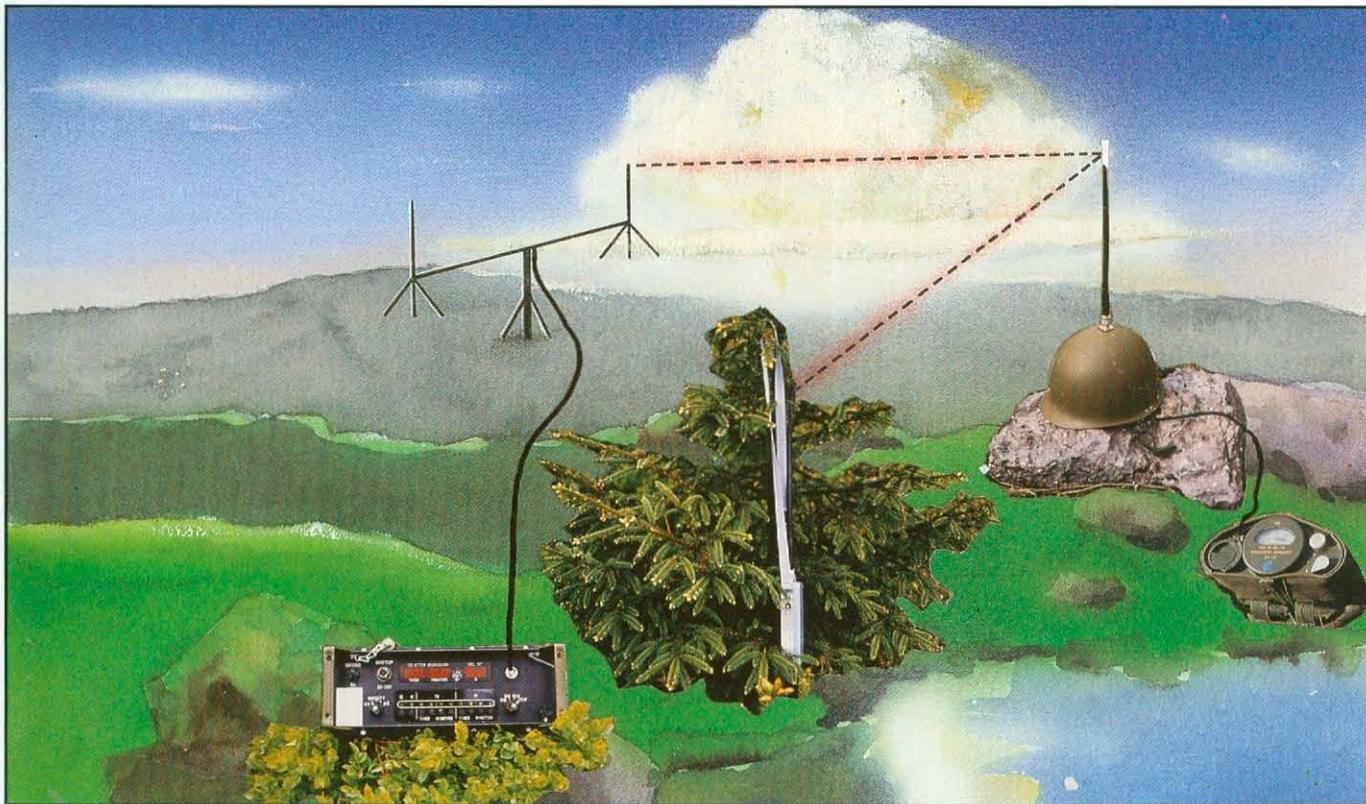


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# RADIAC RAS 100 is a completely mobile set for field training

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Radiac RAS 100, which is field and topographically adaptable to provide realism in training, is worked by directional radio signals from a microprocessor-based control unit.



## Technical Specifications:

### Control Unit

Frequency: 29,5 MHz (10M Band)  
Frequency stability:  $>+/- 3\text{ppm}$   
Output: 0W, 5W, 12W, 25W by 100% relative intensity  
2. and 3. harmonic: 50dB down  
Operational area: 15-20 km  
Power Supply: 20-24V  
Current drain by 24V (25W output):  $>4,5\text{A}$   
Temp.range:  $-20/+40^{\circ}\text{C}$   
Dimensions:  $300 \times 115 \times 230\text{ mm}$   
Waterproof cabinet  
Weight: 3.7 kg excl antenna

### Sensor/Receiver

Setting accuracy at fixed modulation:  
1c Gray at  $-100\text{dBm} +/- 2,5\text{dB}$   
1000c Gray at  $-65\text{dBm} +/- 1\text{dB}$   
Dynamic:  $>70\text{dB}$   
Channel width:  $+/- 3,5\text{KHz}$

### Hot Spot Transmitter

Output at 9V: 20-30mW  
Current drain:  $>20\text{mA}$

## Function Description:

The Radiac system will simulate a real situation in an operational area after a nuclear explosion. The Control Unit and the directive antenna represent the point of the explosion. The simulation system may be operated in «real time» but this can be increased for training purposes, in 9 steps.

Before operating, the following parameters must be set: decay rate; simulation speed; time after explosion and time for accumulation of fallout.

The Hot Spot transmitters will simulate increased radioactivity, and should be placed at given points where such concentrations due to topography, are likely to occur.

Within the operational area the «real life» equipment will be used to make the training realistic.

The programming of the simulation equipment allows breaks for instruction, comments, meal breaks and even a night's sleep. It can be started again, continuing the training session, with its parameters unchanged.

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## AME a.s micro electronics

AME, a.s micro electronics was established in Horten in 1965, and has, for number of years, played a central part in the development of Norwegian electronics industry.

The company has a significant level of technological expertise within its field of operation, based on product development for the Norwegian National Defence as well as custom designed product development, for other high-rel applications.

The company has a wide area of expertise through its involvement in these different product sectors. A feature of the company is the ability to apply different technologies into custom designed products. AME is the only Norwegian company with a command of Silicon Technology, and through our subsidiary – ame space a.s, the only Norwegian space qualified supplier of payload components for satellite projects.

In the field of circuits and components ame concentrate on specialties that are not in direct competition with standard products.

AME is mainly engaged in the development and production of microelectronic components, such as:

- ★ **Thick film and thin film hybrid integrated circuits.**
- ★ **Custom designed bipolar integrated circuits for use where no standard products are available.**
- ★ **Photo detectors and other opto-electronic components.**
- ★ **Radio communication and digital data transmission systems. Within this sector, the company is supplying end-user products such as military man-pack HF-radio sets for mobile communication.**



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