MORAD-L - 2D PSR

MORAD-L is transportable 2D primary surveillance radar representing the upgraded version of RL4/RL5 radar systems. The upgrade consists in radar overhaul including out-of-date components replacement for advanced ones. Antenna system and transmitter unit are excluded from refurbishment. Supplier guarantees the below specifications and MORAD-L service life for at least 10 years.

Upgrade purpose:

- ❏ Improvement of radar parameters
- ❏ Increase of system stability
- ❏ Fully digital radar signal processing
- ❏ Digital output of radar data
- ❏ Service life extension for more than 10 years
- ❏ SSR and IFF integration capability

Designed for:

- ❏ Air traffic control at airports
- ❏ Air Defence applications

System features:

- Isothermal container incl. air conditioning based on environment-friendly filling agent
- Computer aided diagnostics and maintenance system provided by central processing unit
- Receivers with low-noise amplifiers
- AMTI signal processing
- Angle information circuits with electronic alignment of antenna
- Supervisor display of PSR data, SP/EXT control and diagnostics
- Digital output of radar data
- Remote control

Basic characteristics - Radar Unit

Band	S
Transmitter	2x800kW pulse peak power, magnetron type
PRF	600Hz (stagger 9:10:11)
Pulse Width	2μs
Range	200 km
Accuracy	
- range	120m
- azimuth	360°/10240
Plot resolution	
- range	300m
- azimuth	1°
AMTI ground clutter suppression	>32dB
Plot time delay	max. 100ms
Track time delay	max. 300ms
Primary data output	digital (synthetic raw video compression format)
Plot/track data output	digital (ASTERIX format)
Local tracker capacity	256 tracks
Data interface	LAN and link modem (optionally wireless comm.)
Voice communication	telephone AUT, intercom
Power supply	3x230/400V/50Hz max input power 10kW
UPS	10 min / standby mode without RF emission
Environmental conditions	-35°C to 50°C

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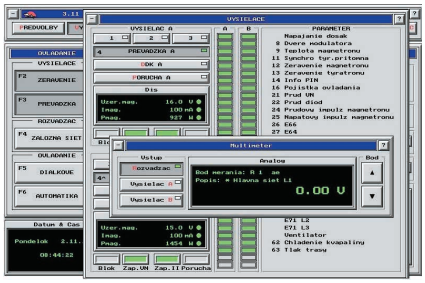
Basic characteristics - Antenna unit

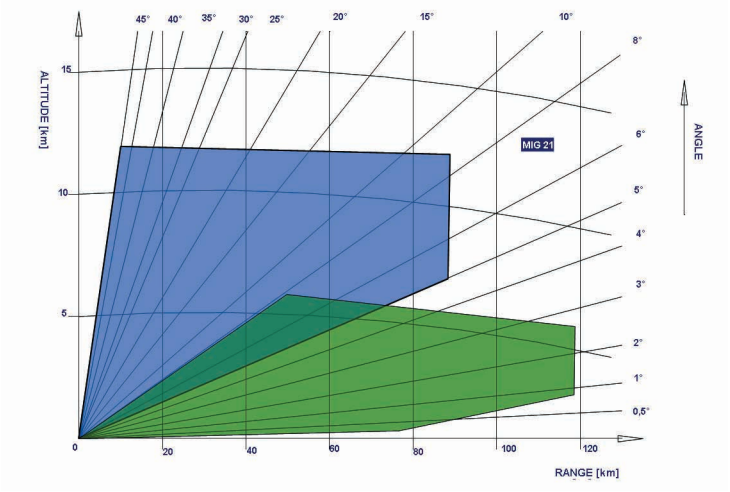
- Parabolic reflector antenna unit
- Circular/Elliptic EMW polarization
- Electronic alignment system
- Rotation rate 7,5 or 15 r.p.m.
- Beamwidth 1,3° to 1,5°
- Elevation scanning up to 45°
- Gain 33 dB

SSR integration

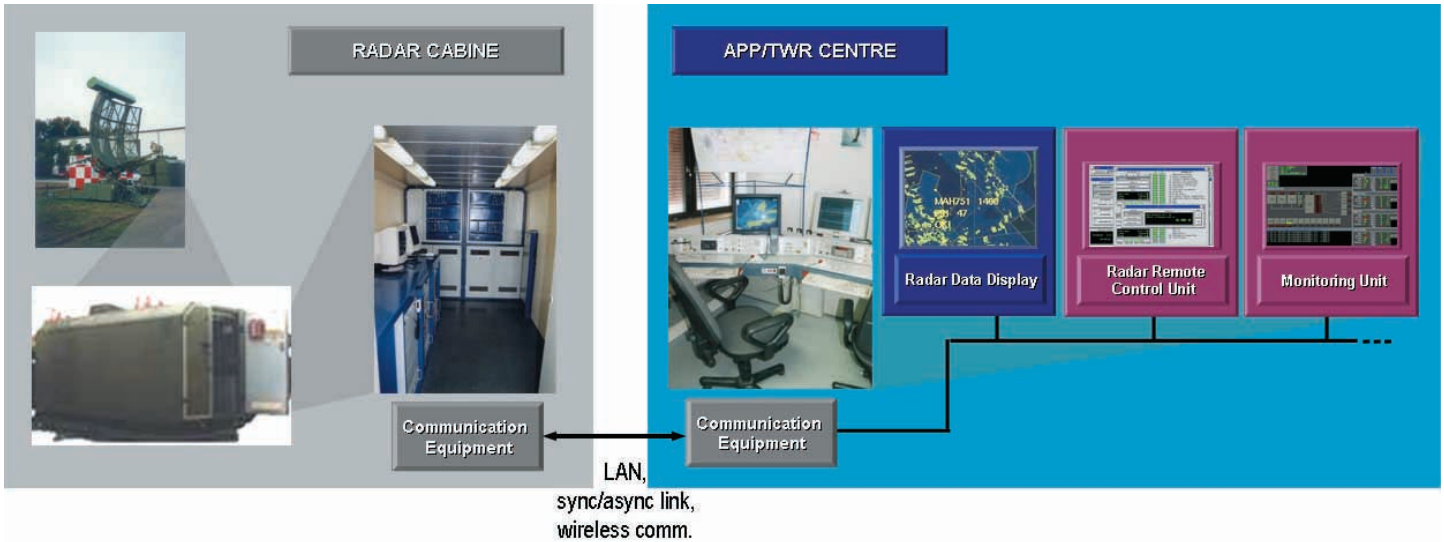
- SSR interrogator MARK X, MARK XII compatible, mode 3A/C, 1, 2 (4,5,S optionally)
- Peak pulse power >1100 W
- Receiver sensitivity >82,0 dBm
- Operating frequency 1030 or 1090MHz
- Antenna type AFF-400 monopulse planar array antenna
- Beam width ≤ 6°
- Elevation scanning up to35°
- PRF 50-2700 Hz
- Range 340 km

Coverage diagram





Typical configuration



References

Seven systems of MORAD-L were delivered for Slovak Armed Forces by the end of 2001.

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