TATRAPAN AD - MOBILE COMMAND CENTER

TATRAPAN AD is a mobile AD system designed for command and control of SAM units in real time as replacement of the original K1 system for SAM control of SA-6 series.

System configuration:

TATRAPAN AD consists of a hardware set mounted into armoured container located on a chassis of TATRA 815 6x6 vehicle and equipped with:

❏ Communication equipment for
   - data/voice communication with higher command level
   - data/voice communication with subordinated firing units
   - data/voice communication with local radar network
   - air/ground voice communication
❏ Air conditioning
❏ NBC protection
❏ Power generator
❏ Shelter resistant to antipersonnel gun penetration

TATRAPAN AD was designed as a joint project of several companies. Following description refers to TATRAPAN AD capabilities provided by ALES.

Workplaces and modules:

TARAPAN AD is fitted with:

❏ Commander workstation
❏ Chief of Staff workstation (commander back-up workstation)
❏ Air Force liaison officer workstation
❏ Multiradar data processing equipment
❏ Supervisor workplace with communication and other equipment
❏ Data/voice recording device.

System capabilities:

- plot/track data receipt from PSR / SSR and/or Air Defence multi-radar network
- secondary and tertiary (multiradar) processing of radar data
- recognized air picture display at commander/chief of staff workstations
- display of weapon locations positioned by GPS
- weapon status data processing - system database reconfiguration
- round-the-clock air situation evaluation - for timely employment of most suited weapon system - support to commander decision-making process
- fire units tasking
- missions co-ordination with Air Force
- mission planning support
- monitoring/archiving of equipment operational status, weapon systems, and data communication
- monitoring and record/archiving of operator activities
- combat simulation and operator training

Input information processing:

- radar data received from local radars equipped with data extractors
- data of AD multiradar network
- orders from higher command level
- weapon status/location messages
- reports coming from coordinated centers

Basic tactical parameters:

Weapon systems controlled in real time	up to 6	
Reaction time	within 2 sec	
Local radars	up to 8	
Radio data communication coverage	up to 20 km, line-of-sight	
Weapons database	user defined	
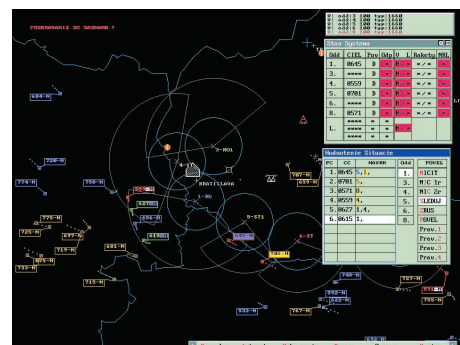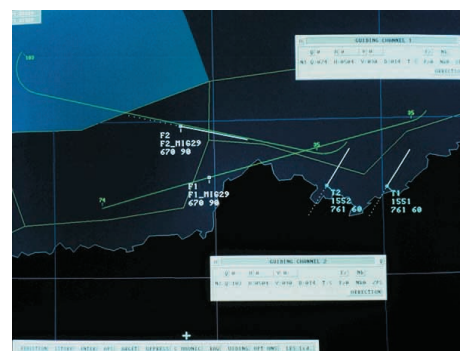
Operation modes:

- Real combat activities
- Combat simulation
- Combat analysis / replay

K1 upgrade purpose:

TATRAPAN AD was designed to replace the original K1 system for SAM control of SA-6 series. K1 system was fitted with a large set of equipment located on several vehicles. Commander decisions and/or orders (of his responsibility) issued were based on analogue radar data display. System failed to provide options for threat countering, other equipment (KPC) provided partial calculations for correct target assignment and information transfer to SA-6 missiles. Both K1 and KPC systems capabilities (complemented by decision-making process capability and others) were entirely provided by TATRAPAN AD. Radars netted to K1 system were equipped with data extractors, and wire/wireless comm equipment for radar data exchange or voice communication. All information on targets (after multiradar proccessing) is distributed to workstations for decision-making process.

Along with replacement of K1 system a control and communication subsystem upgrade of 1S91 missile guidance system was required. Upgraded 1S91 equipment consists of:

- radio modem
- control cmputer
- electronic selsyns
- control panel interface module (CPIM)
- target display module
- radar signals emulator (option)

1S91 upgrade allows for:

- information receipt on assigned target
- homing guidance mode - without PSR radiation
- graphical data display on 9" plasma panel
- status messages transfer using CPIM into TATRAPAN AD
- GPS data processing and distribution to TATRAPAN AD

System configuration
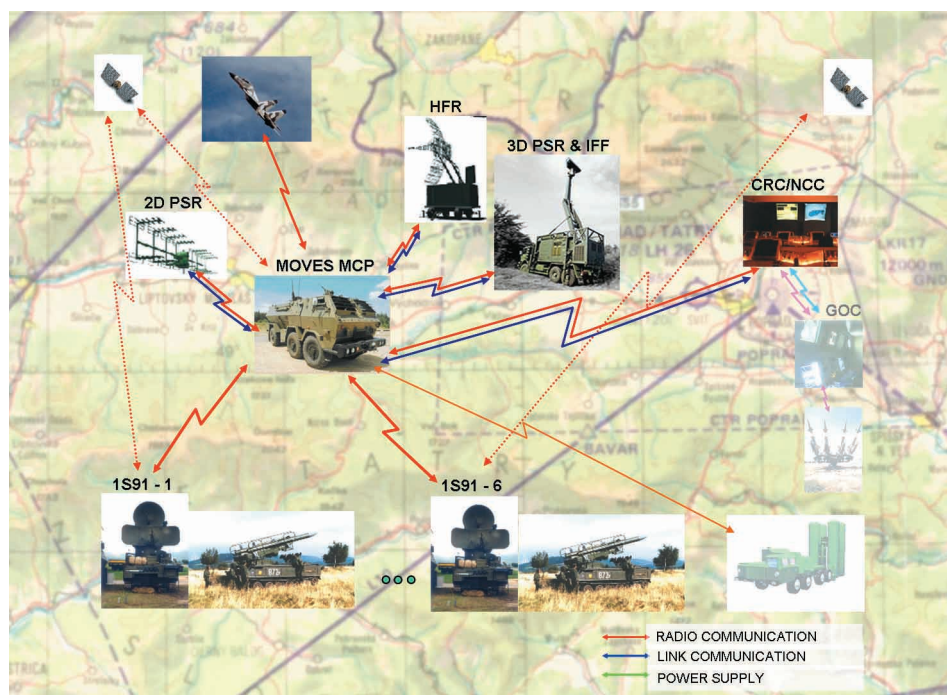
References

ALES delivered TATRAPAN-AD for the Slovak Armed Forces by the end of 1998.