ASTRA - AIR DEFENCE SYSTEM of GBAD forces for SAM, AAA, MANPADS systems

ASTRA is a ground based air defence system designed for SHORAD SAM, AAA and MANPADS forces. GBAD forces and weapon systems are controlled from ASTRA mobile command post (MCP) located on a tracked vehicle and equipped with hardware and LETVIS AD software designed for C³I systems applications. ASTRA C³I system provides the commander with accurate and timely information required for effective control/employment of short range SAM (optionally medium range SAM through modification of SW and communication equipment), MANPADS, and AAA weapon systems.

System configuration:

ASTRA system consists of:

- ❏ MCP ASTRA
- ❏ Upgraded PSR (P19)
- ❏ Upgraded SAM of SA 13 series
- ❏ BRAMS, self-propelled AA system
- ❏ Man-portable tactical data terminal for IGLA (SA 16) commander, or
- ❏ IGLA (SA 16) tactical data terminal optionally fielded in tracked armoured personnel carrier (APC) of OT-90 series.

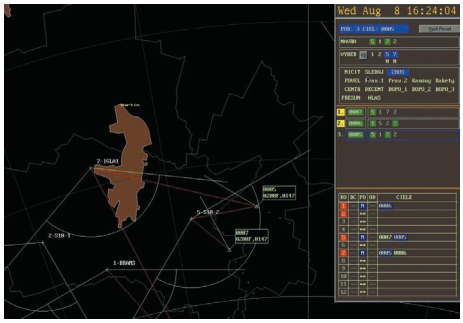
Workplaces and modules:

MCP ASTRA is fitted with:

- ❏ Commander workstation
- ❏ Deputy commander workstation
- ❏ Supervisor workstation
- ❏ Communication computer
- ❏ Communication and support equipment
- ❏ Data/voice recording device

MCP ASTRA capabilities:

- track data receipt from PSR
- ASTRA fire units position/status data transfer to MCP ASTRA - for system database reconfiguration
- ASTRA fire units positioning via GPS
- processing of radar data received from higher command level
- continuous air situation analysis for air threat assessment, establishing air defence priorities and flexible countering air attacks
- support to commander decision-making process for timely employment of most suited weapon system in terms of its capabilities, location and sustainability
- recognized air picture dissemination to MCP workstations for air defence operations
- fire units tasking within the GBAD cluster
- co-ordination with Air Force for tasking of AD aircraft
- operation control and monitoring of workstations and associated equipment, weapon systems status as well as continuous supervision of data links
- monitoring and record/archiving of operator activities during each mission, creation of documentation in electronic form
- combat simulation and operator training



Radio communication equipment integrated into MCP ASTRA shelter provides for:

- data/voice communication with subordinated fire units
- data/voice communication with local radar network
- data/voice communication with higher command level
- fixed telecommunication network connection
- intercom and LAN communication

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Input information processing:

- Radar data received from local radar equipped with radar data extractor
- Multiradar data from higher command level
- Status and configuration of firing devices
- Reports from subordinated command level

Input data processing results in fire units tasking.

Basic tactical parameters:

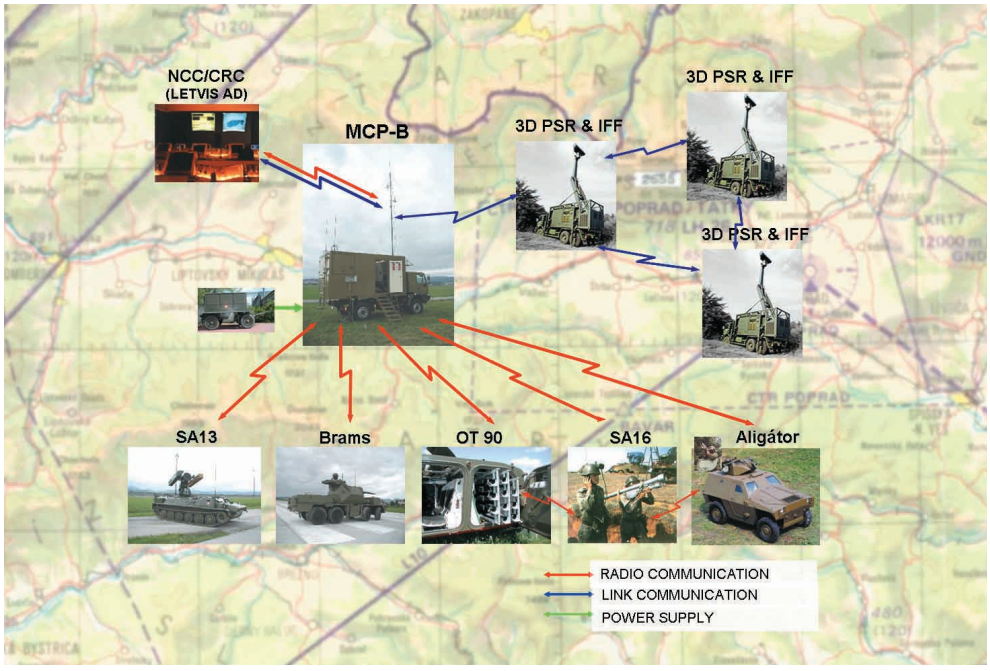
No. of firing devices controlled in real time	12 (single/mixed weapon configuration)
Reaction time	within 2 sec
Local radars connected	2
Data communication coverage	5 to 20km, line-of-sight
Preset firing devices	3

Operation modes:

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

Both BRAMS and SA 13 SAM control is provided in fully automated operation mode.

System configuration



References

Development of MCP ASTRA was completed in 2001.

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