

Tactical Data Set for MANPADS battery

MLV3213
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Mission:

Tactical Data Set of the MANPADS battery commander consists of hardware and software package in order to fulfil following tasks:

- Improvement of combat capabilities and fire control effectiveness
- Data exchange between the commander and higher echelon within a battlefield tactical range
- Voice communication
- Display of air situation within the area of interest
- Increased probability of target acquisition
- MANPADS position determining and reporting to higher echelon
- MANPADS azimuth determination

Commander equipment consists of:

- Commander Tactical Data Terminal (TDT) of GETAC CA35 series, ruggedized control computer with touch-screen display designed for operation in adverse weather conditions and withstanding the worst shocks and vibrations
- GPS receiver with RS232 interface connected to TDT
- VHV radiostation (RF 13)
- Radio modem (MD 13) with RS232 interface for data transfer to TDT
- VHF/UHF hand-held radiostation (GP 300 MOTOROLA)
- Support equipment (e.g. storage battery chargers for TDT and GPS)

Commander equipment allows for:

- MANPADS positioning via GPS
- MANPADS position data transfer to higher echelon
- Real-time data receipt, processing and display of:
 - Air picture within the area of interest
 - Target assigned
 - Orders and messages
- Calculation of predicted target position and firing parameters
- Data exchange between MANPADS commander and higher echelon
- Support to commander decision-making process
- Maps and supplementary information display at TDT
- Log files creation with record of:
 - assigned targets
 - messages/orders
 - MANPADS status changes
- Log/history files handling for
 - replay in electronic form
 - hardcopy printing

TDT major parameters:

- | | |
|-----------------------|------------------------------|
| ■ Resolution | 800 x 600 |
| ■ Dimensions (cm) | 33,1 x 29,3 x 4,7 |
| ■ Weight | 3,7 kg |
| ■ Temperature range: | |
| - operational | -20°C to 50°C |
| - storage | -40°C to 70°C |
| ■ Relative humidity | 5 % to 95 % (non-condensing) |
| ■ Shock load | |
| - in operation | 15g for 11 ms |
| - out of operation | 70g for 11 ms, 0.5 sine |
| ■ Fall withstanding | up to 0,915 m height |
| ■ Class of protection | IP 51 |



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RF 13 Radio Station:

- Coverage for
 - voice mode up to 8 km
 - data mode up to 5 km
- Frequency band 30,000 to 87,975 MHz
- Operation time period
 - using vehicle power supply unlimited
 - using NiCd battery pack at least 14 hrs (Tx:Rx:standby ratio = 1:1:10)
- Operation temperatures -30°C to + 60°C
- Signalling rate >2400 bit/s

GP 300 Hand-Held Radiostation:

- Range 500 m to 3000 m
- Band VHF/UHF

GPS:

- Position accuracy <10 m (WGS 84)

System parameters:

- System starting
 - 1st initialization up to 5 min
 - re-initialization up to 2 min
- No. of displayed targets up to 10
- Radar data update rate <15s

Employment:

The MANPADS battery commander (of SA 16 GIMLET, SA 18 GROUSE missiles) is equipped with TDS for cooperation with ASTRA AD mobile command post (MCP). MANPADS battery represents a component of GBAD system consisting of a commander and 2 (3) gunners. ASTRA AD MCP is capable to control up to 9 fire units. TDS equipment (portable version) can optionally be mounted on an armoured vehicle. The TDS, incl. external battery pack has been installed in the OT-90 armoured vehicle for increasing the commander operational capabilities within the ASTRA AD system. The OT-90 missile pod can hold up to 10 SAMs.

References

Development of Tactical Data Set of the MANPADS battery commander for the Slovak Armed Forces was completed in 2001.