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VNIIRA.

AIR TRAFFIC MANAGEMENT
SYSTEMS AND AIDS

Complexes of Air Traffic Control Automation Aids

Air Surveillance Aids

Navigation and Landing Radio Systems

Weather Radar Systems

Airborne Navigation and Landing Equipment

Antenna and Feeder Systems and Devices

Automated Flight Test System (ASLK)

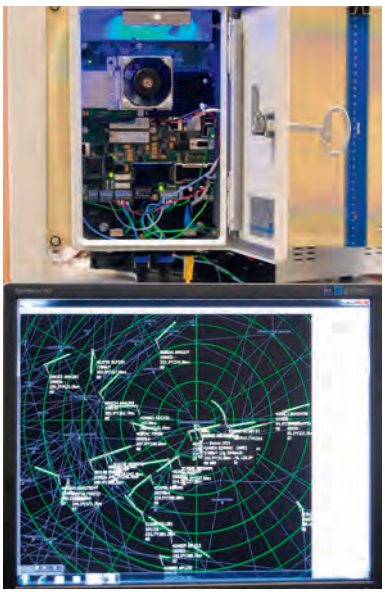
ATC Training Systems

AIR TRAFFIC MANAGEMENT
SYSTEMS AND AIDS

SINCE 1946

Air Surveillance Aids

INTELLIGENT SURVEILLANCE SENSOR **«AMBER»**



INTELLIGENT SURVEILLANCE SENSOR «AMBER»

Intelligent surveillance sensor (ISS) «Amber» is the new generation of surveillance systems based on ADS-B 1090 ES technology and mode S protocols and compliant with the recent amendments and revisions of International surveillance standards for air traffic control.

PURPOSE

ISS can be used both as a stand-alone or double ADS-B 1090 ES ground station, or as a receiving station of the Multilateral Surveillance System. An operation mode is selected through changing of ISS configuration parameters.

IMPLEMENTATION

The latest world-scale achievements in hardware components, design and engineering practices and production have allowed enhancing the equipment integration drastically and reducing overall dimensions of the station without compromising functionality. That method has resulted in qualitative improvement of such consumer properties of the station as reliability and cost.

INTERFACING WITH USER

ISS supports interfacing with information users via protocol UDP/IP on top of Ethernet and includes several physical layers (PHY): twisted pair (10/100/1000 BASE-Tx), optics (1000 BASE-Fx), various modifications of DSL.

POWER SUPPLY

ISS is equipped with a built-in storage battery which because of extremely low consumed power of the station provides operation up to 3–4 hours with external power source de-energized. If the station shall operate autonomously for several days an external UPS may be connected.

SPECIFICATIONS

ISS specifications comply with requirements of EUROCAE ED-129 «Technical specification for ADS-B 1090 ES ground station» and are compatible with EUROCAE ED-102A/RTCA DO-260B.

Parameter	Value
Surveillance range	0.25...465 km (within line-of-sight)
Altitude	20,000 m
Elevation angle	0.3 ... 45 degrees
Maximum number of targets	1000
Probability of output data update	>0.99 for 4 s
Output data update rate	0.5...15 s with increment of 0.5 s
Output formats	ASTERIX Cat 21, 23
Number of consumers	8, with individual user profile
Consumed power	below 25 W
Environmental protection	IP66
Working temperature	–50...+85 degrees
Receiver sensitivity (MTL)	Better than–90 dBm
Physical dimensions (IP66) with power source AC/DC without protective casing	365×155×300
Physical dimensions (IP66) without power source (supply from 12/24/48 V power source)	195×155×300
Configuration and management	SNMP