

RADAR COMPLEX "UTES-TM"

"Utes-Tm" RC operates in L-band (23 cm) and is a high-stable radar complex designed basing on the principle of internal coherence. It has high tactical-technical characteristics, which comply with requirements of ICAO and Eurocontrol, high reliability with automatic redundancy, remote control, monitoring and diagnostics, possibility of non-attended operation, solid-state technique design and modern methods of signal and data processing. This radar complex does ensure recording and replay of radar data and possibility of interfacing with ATC aids of any kind.

Upon the Customer's request, "Utes-Tm" radar complex may comprise ADS-B equipment, integrated SSR or may be interfaced with an independent SSR of any type.

Antenna system rotation is provided by means of usage of gearless electric rotating drive with intelligent vector control.

Antenna system shapes two-beam directional pattern. MSSR antenna is placed on the same turntable with PSR and is turned backwards to PSR antenna by 180°.

Transmitting device of PSR is designed basing on the principle of coherent adding of power of solid-state amplifying modules. Each of said modules has integrated secondary power supply source. Transmitter generates signals of two frequencies simultaneously, allowing such a way to enhance probability of correct detection due to reception from a target of two statically independent echo-signals.

Receiving system comprises four identical receiving channels with single conversion of frequency, which do ensure simultaneous reception and conversion of radar signals from upper and lower beams of antenna device directional pattern.

Signal and data processing system ensures digital processing of signals, as well as primary and secondary processing of radar data.

Digital processing equipment provides dynamic range of signals processed of not less than 80 dB without STC. Algorithm of MTI is realized inside the special signal processor and is based on the principle of adaptive lattice Doppler filtration. Static clutter suppression factor is not worse than 50 dB. For the purpose to exclude "blind" speeds, staggering of sounding signal repetition periods is applied.

Automated monitoring and control system performs remote and local control over equipment switching-on and modes of operation, as well as monitoring of system and its reconfiguration. Built-in monitoring equipment



Production section for "Utes" RC cabinets

allows to carry out diagnostics and trouble detection up to the level of a line replaceable unit.

Design. RC equipment is mounted inside Universal container-type building that ensures all conditions indispensable for operation of equipment and for personnel work (ventilation, air-conditioning, heating, lighting, fire and security alarms etc.).

BASIC TECHNICAL SPECIFICATIONS

Coverage area:	
» in range, km	360
» in elevation angle, deg.	up to 45
» in altitude, km	20
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RMSE of coordinate measurement:	
» in range, m	50
» in azimuth, min	6
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Resolution:	
» in range, m	225
» in azimuth, deg.	1.5
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Data renewal rate, s	10
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Suppression coefficient of clutters from terrain, dB, at least	50
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Quantity of tracked air routes, pcs., at least	400
.....	
Consumed power, kW, at most	30
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Mean Time Between Failure (MTBF), h	20 000

