



METEOR 600S WEATHER RADAR

The METEOR 600S sets the benchmark in weather radar technology for Meteorological Services with special emphasis on long-range surveillance and extreme precipitation in tropical regions.

The METEOR 600S combines cutting-edge technologies with straight-forward and reliable implementation. It features an S-Band magnetron transmitter with a 2nd generation solid-state modulator, a digital receiver, a high-precision antenna and Rainbow® 5, the most up-to-date software package for meteorological users.

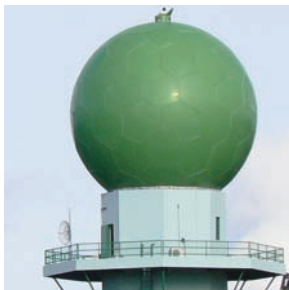
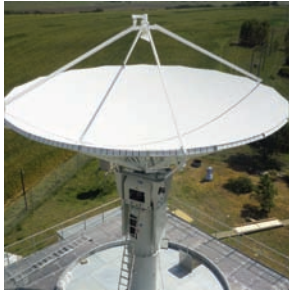
METEOR PRODUCT LINE ADVANTAGES

- Optimized for Rainbow® 5, the most advanced meteorological software available on the market today
- Cutting-edge 14 bit signal processor GDRX®
- Dynrex receiver technology
- Unattended remote operation 24 hours a day, 365 days a year
- Long-life, state-of-the-art technology
- Full remote surveillance and control capability based on Ravis® maintenance tool
- Comprehensive BITE system
- Full network capability in heterogeneous networks
- Maximum use of COTS components (e.g. PC-based signal processing)
- Simultaneous dual polarization capability available in conventional and receiver-over-elevation configuration

METEOR 600S SYSTEM ADVANTAGES

- High-end DWR with unparalleled price-performance ratio
- Proven magnetron technology
- Graceful degradation modulator
- Wide dynamic range receiver, based on Dynrex dual-channel implementation
- Compliant with EU RTTE Directive due to proprietary high-power filter technology
- Minimization of lifecycle costs due to high reliability
- Improved range resolution and scanning speed through multi-trip echo recovery
- S-Band advantage: Optimized for long-range surveillance under conditions of extreme precipitation





TECHNICAL DATA

SYSTEM	METEOR 600S		
Tunable Frequency Range	2700 - 2900 MHz (S-Band)		
Pulse Modes	Up to 4, default is 3		
Default Pulse Modes	Short (SPM)	Medium	Long (LPM)
Pulse Width	0.8 - 3.3 μ s, selectable		
Default Pulse Width [PW]	0.83 μ s (SPM)	1.67 μ s	3.3 μ s (LPM)
Range Resolution @ default PW	125 m	250 m	500 m
Pulse Repetition Frequency [PRF]	250 - 1300 Hz, selectable		
Maximum PRF @ default PW	1300 Hz	700 Hz	300 Hz
Unambiguous Range @ max PRF	100 km	200 km	500 km
Typical Operational Range	400 km		
Maximum Unambiguous Velocity @ max. PRF, 4:5 staggering, 2860 MHz	\pm 146.8 m/s	\pm 73.4 m/s	\pm 31.4 m/s
Clutter Suppression Capability	> 40 dB		
Data Output - single polarization [SP]	Reflectivity (UZ,CZ), Radial Velocity (V), Spectrum Width (W) simultaneously		
Optional Data Output - dual polarization [DP]	Differential Reflectivity (ZDR), Differential Phase Shift (ϕ_{DP}), Specific Differential Phase Shift (K_{DP}), Polarimetric Correlation Coefficient (ρ_{HV}) simultaneously. Linear Depolarization Ratio (LDR) on request		
ANTENNA	SLP20	SLP13	SLP10
Type	Parabolic, prime-focus reflector with elevation-over-azimuth pedestal		
Reflector Diameter	4.2 m (opt.)	6.4 m (default)	8.5 m (opt.)
Gain	38 dB	42.3 dB	44.5 dB
Half Power Beam Width	2.0°	1.3°	1.0°
Polarization - SP (standard) / DP (option)	Horizontal / Horizontal and vertical		
Angle Span	0° - 360° continuous in azimuth, - 2° - + 182° in elevation		
Angular Positioning Accuracy	\pm 0.1°		
Scanning Speed	0.2 - 6 rpm		
Step Response Time - for 2° step \pm 0.1°	1.0 s	1.5 s	1.5 s
RADOME	6.5 m (opt.)	9.1 m (default)	11.8 m (opt.)
Type	Sandwich, fiberglass with polyurethane foam core; For DP applications: quasi-random panel cut only		
Transmission Losses - one-way, dry surface	0.3 dB		
TRANSMITTER	TXS 600		
Type	Coaxial Magnetron with solid state, IGBT-switched modulator		
Peak Power	850 KW		
RECEIVER	RXS 600		
Type	Superheterodyne, dual down-conversion		
Minimum Discernable Signal @ default PW	108 dBm	111 dBm	114 dBm
Noise Figure	2 dB		
Linear Dynamic Range @ LPM	105 dB		
DIGITAL RECEIVER & SIGNAL PROCESSOR	GDRX®		
Type	Modular, multi-channel digital receiver based on Compact PCI, connected to commercial off-the-shelf industrial PC as signal processor		
Intermediate Frequency (IF)	60 MHz		
IF Sampling - SP (standard) / DP (option)	2 parallel channels in SP / 2 x 2 parallel channels in DP, 80 MHz.		
Maximum Number of Processed Range Bins	Default: 2500, more on request		
Minimum Processing Resolution	30 m		
Processing Mode	Multi-lag autocorrelation with pulse-pair or Discrete Fourier Transform (DFT/FFT)		
Clutter Filters	16 Time domain, 16 Frequency domain		
MAINTENANCE SOFTWARE	Ravis®		
Recommended Computer Platform	Commercial PC, dual-core processor, 2.8 GHz, 2 GB RAM		
Operating System	Linux or Windows		
METEOROLOGICAL USER SOFTWARE	Rainbow® 5		
Recommended Computer Platform	HP workstation or Commercial PC		
Operating System	Unix, Linux or Windows		