WEATHER RADAR
X-BAND SOLID STATE
DUAL POLARIZATION AND DOPPLER

With more than 30 years of experience in Radar Technology ELDES presents its latest WR-J Weather Radar series as the forefront of meteorological advancements.

This radar series, operating in X-band combining Dual Polarization and Doppler processing and powered by a solid-state transmitter, reflects ELDES' vision to provide a compact together with a powerful and performing Weather Radar.

Compactness allows to obtain the maximum installation flexibility since can be mounted on a trailer or can be carried by truck.

WR-J's extreme configurability is offered in four distinct versions—JS200, JS400, JL400, JL800—to cover the diverse operational requirements.

Three transmitters ranging from 200W to 800W and two antennas (1.2m and 2.0m) ensure that any WR-J model is adaptable, seamlessly into any meteorological mission.

The WR-J key features include high resolution (up to 16 meter), fast scanning capabilities, a multi-processing chain and advanced data analysis.

Pulse compression, with triple pulse techniques, enable small-scale precipitation detection while expanding the operational range.

At the core of the WR-J is the reliability of solid-state technology, ensuring operational efficiency and simplifying maintenance, thereby reducing life-cycle costs.

Integrated with the METRANET II Radar Data Processing SW Suite, the WR-J effortlessly integrates into existing radar networks, promoting interoperability with various radar systems, including third-party providers.

The WR-J shows ELDES' commitment to developing innovative, adaptable, and precise systems for weather monitoring, to address the challenges posed by dynamic atmospheric conditions.

Keypoints

1. **Flexibility of installation and compactness:** fixed, relocatable, and trailer/truck mobile
2. **Cutting-edge technology:** high resolution, fast scanning, and multi-processing chain
3. **Designed for networking:** integrable with ELDES or third-party RADAR
4. **Easy deploy and maintenance:** fast start-up, low life-cycle costs and automated remote maintenance (support)
5. **High configurability:** 4 different versions, with 3 TX (200W,400W, or 800W) and 2 antennas (1,2m or 2,0m) options
6. **Developed around METRANET II SW Suite and PERSER PC**

Typical applications

- Civil protection and Early Warning
- Airport and Aviation Meteorology
- MET Services, Hydrology and GAP Filling
- University and Research

TECHNICAL SPECIFICATIONS

TRANSCEIVER TECHNICAL SPECIFICATIONS	JS200	JS400	JL400	JL800
Operating frequency	9300 MHz - 9500 MHz			
Peak power	200 W (100W H + 100W V)	400 W (200W H + 200W V)	400 W (200W H + 200W V)	800 W (400W H + 400W V)
Pulse width	0.4 µs to 150 µs			
Pulse Repetition Frequency (PRF)	150 - 4.000 Hz			
Modulator	Solid state			
Receiver	Linear Digital for simultaneous dual-polarization and doppler			
Transmitter	Solid State Power Amplifier			
Polarization	Simultaneous Dual Polarization, Horizontal and Vertical (STAR)			
Doppler velocity	> 60 m/s			
Calibration	Automatic (TX, RX and Noise correction)			

ANTENNA	JS200	JS400	JL400	JL800
Type	Parabolic reflector			
Beamwidth	≤ 1.9°		≤ 1.2°	
Size	1.2 m		2.0 m	
Gain	≥ 39 dB		≥ 43 dB	
Scan mode	- PPI: 0° to 360°, max 40°/sec - RHI: -6° to 186°, max 20°/sec - SECTOR: full sector scanning - POINT: fully programmable fixed-point acquisition			
Sector blanking	user-programmable, both in azimuth and elevation sectors			

SIGNAL AND CONTROL PROCESSOR PERSERPC	JS200	JS400	JL400	JL800
Type	Digital processing on PC			
Generated polar moments	Z, UZ, V, UV, W, UW, SQI, CCR, SNR, WBN, STAT, STAT2, V_PPP, ZDR, RhoHV, PhiDP, KDP, APH, LDR			
Clutter correction	Doppler filtering (DFT) and Time-Domain filtering (IIR)			
Sensitivity	<15 dBZ @ 120 Km	<12 dBZ @ 120 Km	<15.5 dBZ @ 180 Km	<12.5 dBZ @ 180 Km
Typical operational range	up to 120 Km		up to 180 Km	
Range resolution	16m min			

DATA PROCESSOR METRANETII	JS200	JS400	JL400	JL800
	DEVELOPED AROUND RDP METRANETII SW Suite Web based real time display of products and mosaic Local/remote real time display and control for maintenance Open architecture for multi-radar networks (ELDES and third part) Open-Data formats Automatic change of scan-mode and Z/R relationship Configurable Algorithm Processing-chain 3D Viewer			

GENERAL	JS200	JS400	JL400	JL800
Weight	< 230Kg excluding mast and lifter		< 350Kg excluding mast and lifter	
Electrical consumption	< 900W (PC excluded - 400W TX)			
Radome dimensions	1.67 m		2.5 m	

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