DEFENDER SERIES

S-BAND

Magnetron & Klystron S-Band

Single and dual-polarity configurations • 850kW to 1000kW of radiated power

PROTECTING PEOPLE AND ASSETS®

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SYSTEM	DEFENDER S850 / S1000	DEFENDER SK850 / SK1000H
Operating Frequency	2700-3000 MHz	2700-3000 MHz / 3500-3600 MHz
Pulse Width	0.2 - 2.0 usec	0.4 - 4.5 usec
Range Resolution	Minimum 16m	Minimum 16m
Pulse Repetition Frequency	200-2400 Hz, user selectable	200-2400 Hz, user selectable
Range	Minimum 600km	Minimum 600km
Maximum Velocity (unambiguous)	up to 256 m/s	up to 256 m/s
Sensitivity-reflectivity	- 20 dBz at 30 km	- 20 dBz at 30 km
Clutter Suppression Capability	≥ 46 dB	≥ 55 dB
Data Output	UZ, Z, V, SW (dual-polarization moments Zdr, Phv, Φdp, KDP, LDR)	UZ, Z, V, SW (dual-polarization moments Zdr, Phv, Φdp, KDP, LDR)
ANTENNA/PEDESTAL		
Type	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector
Reflector Diameter	8.5m (typical) - other sizes available	8.5m / 6.096m (typical) - other sizes available
Gain-Minimum	> 45.0 dB	> 45.0 dB
Half Power Beam Width (typical)	0.95º	0.95º
Polarization	Linear Horizontal/Vertical	Linear Horizontal/Vertical
Angular Positioning Accuracy	≤ 0.05º	≤ 0.05º
Scanning Speed	Up to 10 rpm	Up to 10 rpm
TRANSMITTER		
Type	High-Power Coaxial Magnetron	Klystron
Peak Power	850kW / 1000kW	850kW / 1000kW
RECEIVER		
Type	Superheterodyne, Single or Dual Down Conversion with Image Reject Mixing	Superheterodyne, Single or Dual Down Conversion with Image Reject Mixing
Minimum Discernible Signal	- 114 dBm typical	- 114 dBm typical
Linear Dynamic Range	Up to 105 dB	Up to 105 dB
DIGITAL RECEIVER/ SIGNAL PROCESSOR		
Type	16-bit Modular, multi-channel Digital Receiver, Signal Processor	16-bit Modular, multi-channel Digital Receiver, Signal Processor
Maximum No. of Processed Range Bins	up to 8192	up to 8192
Minimum Processing Resolution	15m	15m
Clutter Filters	Time Domain or Spectrum-Based Time Estimation and Processing (STEP) - An advanced adaptive clutter identification, mitigation and noise reduction algorithm	Time Domain or Spectrum-Based Time Estimation and Processing (STEP) - An advanced adaptive clutter identification, mitigation and noise reduction algorithm
METEOROLOGICAL USER SOFTWARE		
Meteorological User Software	PULSE	PULSE
Computer System	Commercial off-the-Shelf PC	Commercial off-the-Shelf PC
Meteorological Products	See PULSE Data Sheet for additional details.	See PULSE Data Sheet for additional details.