



**EEC**

**DEFENDER SERIES**

**S-BAND**



**Magnetron & Klystron S-Band**

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

**PROTECTING PEOPLE AND ASSETS<sup>®</sup>**

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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)	0.95°	0.95°
Polarization	Linear Horizontal/Vertical	Linear Horizontal/Vertical
Angular Positioning Accuracy	≤ 0.05°	≤ 0.05°
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	as low as 16m	as low as 16m
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.