ENDURANCE SERIES

C-BAND

Solid State C-Band

Single and dual-polarity configurations • 350kW equivalent transmitter power (ETP)

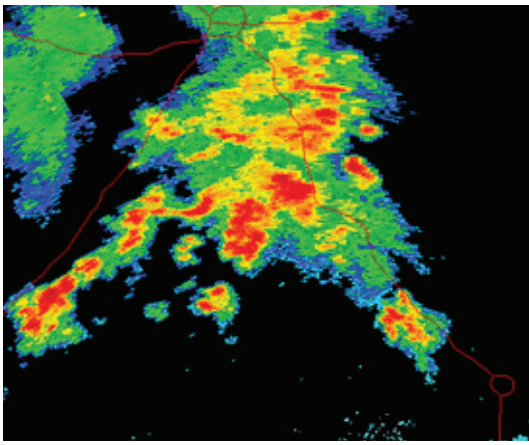
PROTECTING PEOPLE AND ASSETS®

eecweathertech.com

ENDURANCE C-BAND SYSTEMS FROM EEC

The solid-state of things to come

EEC is proud to introduce Endurance C, our fully solid-state C-Band radar product line. Endurance C systems provide for ultra-wideband performance and low life-cycle costs thanks to advanced solid-state power amplifiers operating in the widest C-Band frequency range available. For geographic areas with diverse and dynamic weather conditions, nothing offers greater return on your investment than the Endurance C.



EEC C-Band radar - the benchmark standard around the world

For most areas of the world, nothing offers a better value than the proven line-up of C-Band radar systems from EEC. Even in challenging environments, our C-Band systems provide powerful and accurate information. Perhaps most importantly, the specifications of our C-Band radars can be customized to meet a wide range of demands and uses.

ENDURANCE C: EEC's solid-state Endurance C-Band radars are the most advanced weather radar systems in the world. Thanks to their perfect balance of power and effective range, these systems are the ideal choice for customers with a diverse set of weather detection demands. You can choose to equip them in either single or dual-polarity configurations.

With any EEC C-Band radar, our turn-key design, manufacturing, and installation processes allow us to configure your system to your exact specifications. Among the many options are single or dual-polarity transmitters and a variety of full-featured control and display systems. For a clean and true picture of mid to long range weather events, we will match your EEC C-Band system with the precise Doppler processing of our super-sensitive IQ2 signal processor and digital receiver. You can even choose the installation and radome that best fits your environmental needs.

ENDURANCE C SYSTEM ADVANTAGES

- Systems come standard with a fully solid-state transmitter
- Reduced life-cycle maintenance costs thanks to no reliance on consumable magnetron or klystron tubes
- Ultra-wideband performance from 5200-5900 MHz virtually removes any risk of frequency interference
- Hot-swapping of solid-state power amplifiers means no system downtime during transmitter maintenance
- Safe, low voltage solid-state power amplifiers provide no high voltages to endanger technicians and preventative maintenance engineers
- Algorithms developed and specifically tuned for performance at C-Band
- Designed for high-resolution medium to long range weather detection
- Innovative architecture provides the highest receiver sensitivity
- Advanced radar motion control system provides better spatial resolution resulting in more accurate data
- Industry leading clutter suppression technology
- Patented fiber-optic technology provides noise free, ultra-high speed data throughput
- Adaptive spectrum-based clutter mitigation algorithms
- Improved data quality achieved through advanced continuous calibration techniques
- Advanced Polarimetric rainfall estimation and attenuation correction techniques
- Super-high resolution IQ2 16-bit digital signal-processor
- Over 500 configurable diagnostic points monitored in real-time
- Systems configured with IQ data recording and playback
- Flexible configuration options that maximize available bandwidth on any standard TCP/IP network.
- Comprehensive suite of radar data exchange protocols

SYSTEM	ENDURANCE C
Operating Frequency	5200 - 5900 MHz
Pulse Width	0.2us - 100us
Range Resolution	Minimum 16m
Pulse Repetition Frequency	200-2400 Hz, user selectable
Range	Minimum 600km
Maximum Velocity (unambiguous)	up to 128 m/s
Sensitivity-reflectivity	- 18 dBz at 30 km
Clutter Suppression Capability	≥ 46 dB
Data Output	UZ, Z, V, SW (dual-polarization moments Zdr, Phv, Φdp, KDP, LDR)

ANTENNA/PEDESTAL	
Type	Parabolic, Prime Focus Reflector
Reflector Diameter	4.2m (typical) - other sizes available
Gain-Minimum	> 45.0 dB
Half Power Beam Width (typical)	0.95º
Polarization	Single Polarization - Linear Horizontal Dual-Polarization - Linear Horizontal/Vertical
Angular Positioning Accuracy	≤ 0.05º
Scanning Speed	Up to 10 rpm

TRANSMITTER	
Type	Solid State
Peak Power	10 kW
Equivalent Transmitter Power (ETP)	350 kW

RECEIVER	
Type	Superheterodyne, Single or Dual Down Conversion with Image Reject Mixing
Minimum Discernible Signal	- 114 dBm typical
Linear Dynamic Range	Up to 105 dB

DIGITAL RECEIVER/ SIGNAL PROCESSOR	
Type	16-bit Modular, multi-channel Digital Receiver, Signal Processor
Maximum No. of Processed Range Bins	up to 8192
Minimum Processing Resolution	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

METEOROLOGICAL USER SOFTWARE	
Meteorological User Software	PULSE
Computer System	Commercial off-the-Shelf PC
Meteorological Products	See PULSE Data Sheet for additional details.