



FROM THE WORLD LEADER IN
PORTABLE WEATHER RADAR SOLUTIONS

E750 X Band Dual Polarization Radar

Overview and System Specifications

E750 Dual Polarization X Band Weather Radar

From EWR Radar Systems, the Company that Pioneered X-Band Portable Weather Radar

With more than 270 radars deployed worldwide, EWR Weather Radar has a documented history of successfully producing and sustaining weather radar systems for the U.S. DoD, foreign militaries, and commercial clients since 1982. EWR is dedicated to the advancement of weather radar technology through its state-of-the-art product line and unmatched lifecycle support services.

EWR understands what it takes to build radar systems that withstand the rigors of mobile and rapid deployment for continuous operation in the harshest environments.

EWR is the #1 supplier of Portable Doppler Radars to the United States Department of Defense and has a documented history of successfully producing and sustaining weather radar systems for multiple branches including U.S. Air Force and U.S. Marine Corps.

Field Proven EWR Solid State Transmitter with Pulse Compression Technology

EWR innovated the use of solid state transmitters in weather radar systems.

Where other Doppler radars utilize tube transmitters (magnetrons, TWTs, etc.) that require frequent maintenance, high voltage and are prone to failure in difficult environments such as those found in mobile applications, the E750 uses a long life solid-state transmitter, which is virtually maintenance free and consumes far less power.

EWR incorporates Hybrid Pulse Technology, which virtually eliminates the blind range associated with other manufactured solid state radar systems.

EWR solid state transmitters are field proven with over 80 solid state weather radar systems installed around the world today, a statement that no other manufacturer can make!

The E750, The Next Big Step in Portable Weather Radar Systems

The E750 is the latest in the line of the successful 700 series portable weather radars. The E750 offers all of the advantages of the E700 Series in a dual polarization, narrow beam width weather radar. The system's unique design and footprint make it the ideal choice for countless fixed or mobile applications. The E750's high resolution makes it the perfect solution for standalone operation or "gap filling" in existing networks and difficult terrain situations.

The E750 utilizes EWR's field proven fully coherent solid state transmitter and industry leading RVP901 processor. The E750 includes a complete suite of meteorological products including all Vaisala/Sigmet IRIS and EWR/NEXRAD Level III products.



The E750 Radar System is composed of two main components:

- Radar Pedestal Unit (contains receiver, transmitter, antenna, signal processor and on-board server)
- Commercial Off The Shelf PC running Windows and EWR WeatherScout® Radar Control and Display software

The radar pedestal includes the radar transmitter, receiver, signal processor, server as well as the antenna. The unique design of the E750 allows the entire unit to be installed with only two ruggedized cables connecting the Radome Unit to the Radar Control PC and Power Supply. This architecture improves the overall system performance and greatly simplifies installation and maintenance. The E750 uses the newest, industry leading Vaisala Sigmet RVP901 weather radar processor and IRIS™ software, providing weather radar products and warnings to the user. The WeatherScout PC Workstation provides all of the user interface and control functionality of the radar.



E750 Key Advantages

- Compact, Lightweight, Rugged Design
- Dual Polarization standard
- 1.8° beam width standard, 1.27° optional
- Commercial Off The Shelf (COTS) product
- Cost Effective - lower unit and infrastructure costs
- Field Proven EWR 1 kW (standard) solid state transmitter design with pulse compression and Hybrid Pulse technology standard
- Industry leading Vaisala/Sigmet RVP901 processor
- Hybrid Pulse technology eliminates the radar blind range associated with other solid state radars
- E-Mount™ modular mounting system: the E750's compact size allows for easy mounting in the optimal location with minimal infrastructure costs, such as existing rooftops and towers
- Can be field installed in 1 hour or less
- Easy to use WeatherScout® radar control software on the familiar Windows platform
- The most complete suite of meteorological products available including all Vaisala/Sigmet IRIS and EWR/ NEXRAD Level III
- Perfect for creating a dense network design in difficult terrain and metropolitan areas
- Ideal for "Gap Filling" in existing networks
- Ideally suited for mobile hydromet applications
- Complete remote & network operability
- 24/7 365 Day Help Desk Support



The E750 is also available in turn key truck and trailer mounted mobile configurations.

System Performance

Type	X Band, Dual Polarization (H, V) Simultaneous Dual Pol Standard, Independent Switched Polar Optional
Range	150 km typical
Meteorological Products	All IRIS Products plus EWR/NEXRAD Level III
Velocity	Single PRF 2,000Hz - 16 m/s (31 kts) Dual PRF 5.4 Stagger 2,000 Hz - 64 m/s (124 kts)

Transmitter

Type	EWR Solid State
Peak Power	1kW Standard (2kw option available)
Frequency	9.35 GHz +/- 25 MHz User Selectable
Pulse Widths	1-80 μ s (with EWR Hybrid Pulse and Pulse Compression Technology)
PRF	Variable from 500 Hz to 2000 Hz

Antenna

Type	Parabolic Prime Focus Composite Reflector (Dish Mounted Radome Cover Optional)	
Diameter	48" (1.21m) Standard	72" (1.82m) Optional
Beamwidth	1.8°	1.27°
Gain - Minimum	38.5 dB	42 dB
Sensitivity (80 μ s at 50 km range)	3 dBZ	-1.5 dBZ
Feed	Dual Polarization Orthogonal (Simultaneous Horizontal and Vertical) Other Sizes and Beamwidths Available	

Pedestal

Mount	E-Mount™ Modular Mounting System Standard. Allows the System to be Easily Mounted in Any Situation Including Vehicle, Trailer, Tower, Fixed Base or Marine Mount.
Azimuth	360° Continuous Rotation
Elevation	-5° to 120°
Scan Rate	0 to 14 RPM
Positioning Accuracy	<0.1°

Digital Receiver and Signal Processor

Type	Vaisala Sigmet RVP901
IF Digitizing	16 Bits up to 100 MHz in 5 Channels
Range Resolution	75 m with 2 MHz Waveform
Range Bins	Up to 4200 per Radial
Compression Processing Gain	13-21.5 dB
Clutter Filters	Fixed, Adaptive or GMAP to >50 dB Clutter Cancellation

Radar Controller

Type	EWR RCPD, Vaisala Sigmet RCP with Iris/Radar
Scan Modes	PPI, RHI, Volume and Sector
Local and Remote Display	Windows 7 with EWR WeatherScout® Real Time Display and Product Monitor

System Specifications

Dimensions	75"H (1.9m) x 45"D (1.14m) x 48"W (1.21m)
Total System Weight	375 lbs. (170 kg)
Operating Environment	-30° C to +60° C
Input Power	120V 60Hz, 48V DC Provided to Pedestal

Specifications subject to change without notice.



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