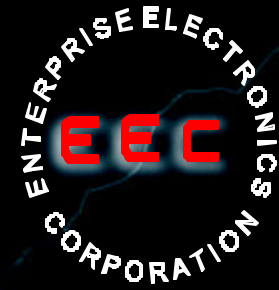


# DWSR-2501C



WEATHER RADAR SOLUTIONS FOR TODAY AND TOMORROW

## ANTENNA / PEDESTAL SYSTEM

### RADOMES

### TOWERS



Custom Radomes, Towers, And Shelters Designed For Weather Radar.



Precise, Reliable, Low Maintenance Antenna/Pedestal Subsystems. Available in sizes to fit every application

## Digital Processing Innovation

Enterprise Electronics Corporation is proud to introduce another class leader in Doppler weather radar - our exclusive DWSR-2501C. A direct development from our field proven DWSR-88 and DWSR-93 series radar systems, the DWSR-2501C breaks new ground with state-of-the-art design, including: a solid-state modulator, EDRP-8 Digital Receiver and Signal Processor, improved antenna/pedestal drive train, and a choice of full-featured control and display systems. We eliminate virtually all ground clutter from the radar screen, leaving a clean and true picture of the rain and wind.

Since incorporation in 1971, EEC has been the world leader in the design and manufacture of high performance weather radar systems. Today, our advanced hardware and weather analysis software continue to set the industry standard for innovation, reliability, and value.

EEC's EDRP-8 Digital Receiver Processor and Solid-State Modulator(SSM), standard on the DWSR-2501C, improves both performance and reliability. More stable operation contributes to overall system precision and accuracy, and increased reliability saves both maintenance time and the cost of replacement parts.

## TRANSMITTER

## RADAR CONTROL PROCESSOR

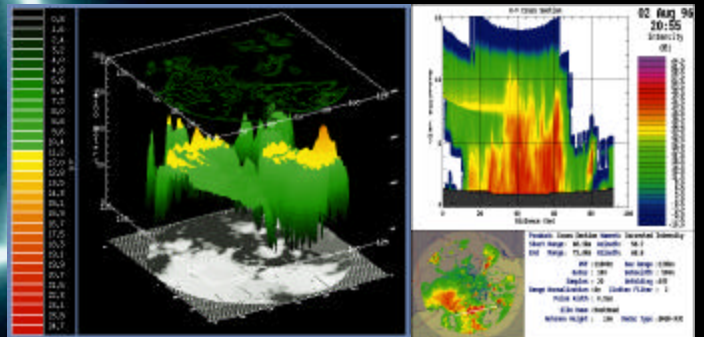


Long Range Detection  
250 KW Transmitter  
Long-Life Magnetron  
Solid-State Modulator  
Super-Sensitive Receiver  
>99% System Availability



### Precision Pulse-Pair & FFT Video Processor

- Rainfall Intensity
  - Doppler Wind Velocity
  - Storm Turbulence
  - >45 dB Clutter Rejection
- Digital Receiver



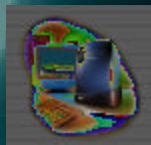
EEC's development of the first commercially available Doppler weather radar in 1981 made the science of advanced weather analysis readily available. Unlike conventional radar, the EEC DWSR-2501C Doppler systems not only measure the intensity of rainfall, but also predict

the likelihood of hazardous activity, detect the conditions for hail, forecast floods, and, perhaps most importantly, analyze the behavior of winds inside a storm for early detection and tracking of tornadoes and severe storm.

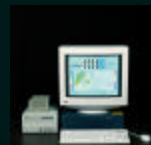
RADSYS 3000™



WEATHER WINDOWS™



EDGE™



## THREE LEVELS OF SOFTWARE - BASED RADAR CONTROL

(see separate product sheets)

### FULL RADAR CONTROL

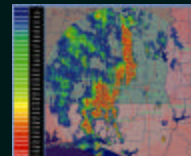
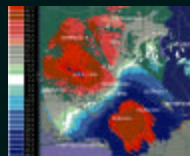
- Transmitter/Receiver/Servo Operational Mode Control
- Antenna Scan Controls
  - PPI - RHI - Sector Scan
  - CAPPI - Volume Scans

### REAL-TIME RADAR DISPLAY PRESENTATIONS

- PPI - RHI - Sector Scan

### HIGH RESOLUTION WEATHER DATA

- Velocity
- Rainfall Intensity
- Turbulence



### DWSR-2501C SYSTEM LEVEL CHARACTERISTICS

Transmitter Frequency & Power	5300 - 5700 MHz	250 kW
Maximum Range	Intensity	Velocity
RADSYS 2000 & Weather Windows	480 KM	120 KM
EDGE	Variable to 550 KM	Variable to 250 KM
Max Unambiguous Velocity @ 560 MHz		
No Unfolding	~ 35 MPH	~ 16 M/S
3:2 unfolding	~ 70 MPH	~ 32 M/S
4:3 Unfolding	~ 105 MPH	~ 48 M/S
Clutter Suppression	-45 dB Minimum	

### MINIMUM DETECTION CAPABILITY IN dBZ 2 0dB SNR (Z=200R<sup>1.6</sup> for Stratified Rainfall)

Ant Dia	60KM		120KM		240KM		480KM	
	Refl	Vel	Refl	Vel	Refl	Vel	Refl	Vel
8ft	-6.64	0.33	-0.62	6.36	5.40	12.38	11.42	18.40
12ft	-11.39	-4.41	-5.37	1.61	0.65	7.63	6.67	13.65
14ft	-12.56	-5.58	-6.54	0.44	-0.52	6.46	5.50	12.48

### TRANSMITTER-RECEIVER SUBSYSTEM CHARACTERISTICS

TRANSMITTER	
Magnetron Type	Coaxial long-life vacuum tube EEC 5357, tunable over the range of 5300 to 5700 MHz
Modulator Type	Solid-State Cathode Pulsar
Pulse Repetition	Intensity      Velocity
Frequency Radsys Weather Windows	250 PPS      786,885, or 1180 PPS
EDGE	Variable 250 - 1200 PPS
Phase Jitter	<0.36°
Frequency Stability	<1 in 10 <sup>10</sup> Hz/sec
Pulse Duration	0.8 μsec & 2.0 μsec
Peak Power	250 kW Minimum
RECEIVER FRONT END	
Input Noise Factor	<3 dB Maximum
Mixers	Balanced Coaxial
Local Oscillator	Frequency Synthesizer with AFC
DIGITAL RECEIVER SECTION OF EDRP-8	
Intermediate Frequency	30 MHz
IF A/D Converter	Two(2) Receiver and One(1) Magnetron Reference Burst - 12 bits each
Digital COHO	Digitally Generated Magnetron Burst Reference
IF Bandwidth:	
0.8 μsec	1.5 MHz ±250 kHz
0.2 μsec	1.6 0.750 MHz ±250 kHz
Dynamic Range Digital Receiver	>100 dB Minimum
Sensitivity	
8.0 μsec	-110 dBm Minimum
2.0 μsec	-113 dBm Minimum
Video Types	
Intensity	Reflectivity power generated by EDRP-8
Velocity	I (in Phase) & Q (Phase Shifted)

# EEC

ENTERPRISE ELECTRONICS CORPORATION

UNITED STATES SALES  
Enterprise Electronics Corp.  
128 South Industrial Blvd.  
Enterprise, Alabama 36330  
Phone: (334) 347-3478  
Fax: (334) 393-4556

INTERNATIONAL OFFICE  
5801 Lee Highway  
Arlington, Virginia 22207  
Phone: (703) 533-7291  
Fax: (703) 533-3190  
E-mail: eecintl@aol.com

EUROPEAN OFFICE  
Götenstrasse 152  
D-53175 Bonn, Germany  
Phone: 49-228-375734  
Fax: 49-228-374162  
E-mail: trg-bonn@T-online.de

SOUTH AMERICAN OFFICE  
Rua do Mercado, 17 - 14º andar  
Rio de Janeiro, RJ, Brasil  
CEP: 20010-120  
Phone: 55-21-3222801  
Fax: 55-21-2401242  
E-mail: simtech@ibm.net

### ANTENNA SUBSYSTEM CHARACTERISTICS

Reflector Type	Solid-Surface Parabolic	
Feed Horn	Standard Rectangular Horn	
Diameters Available	Beam Widths	Gain
8'	1.60°	40 dB
12'	1.10°	44 dB
14'	1.00°	45 dB
Polarization	Linear Horizontal Optional Dual Polarization	
Side Lobes	>25 dB down from main lobe	
Azimuth Acceleration/Deceleration	>15° sec <sup>-2</sup>	
Azimuth Rotation	360° Continuous, CW/CCW	
Azimuth/Elevation Accuracy & Resolution	±0.1°	
Elevation Movement Range	-2° to +90°	
Elevation Speed Manual Automatic	Variable from 0 to 15° sec Up to 5 scans per minute	
Safety Devices	Safe switches & Door interlock	
SERVO AMPLIFIER		
Type	Solid-state two axis, DC PWM control voltage	