



## X-Band Polarimetric Doppler Weather Radar

### Antenna Specifications

- Prime focus circular parabolic reflector with hi-isolation OMT
- Dish Diameter: 2.44 meters
- Polarization:
  - Simultaneous Horizontal & Vertical (SHV), Horizontal (Hor) or Vertical (Ver) modes
  - Alternating Horizontal & Vertical pulses available on special order
- Beamwidth: 0.95 degree 3 dB
- Scanning:
  - 30 deg/sec velocity
  - 20 deg/sec<sup>2</sup> acceleration
- Scan types:
  - SUR (360 deg) with elevation step
  - PPI sector scan with elevation step
  - RHI scan with azimuth step



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### Transmitter Specifications

- Magnetron transmitter
- Peak Power: 250 kW
- Frequency: 9.3 – 9.5 GHz
- PRF: 0 to 4.0 kHz

### Signal Processing Specifications

- Digital IF processing by HiQ digital receiver
- Signal processing algorithms implemented in host PC
- Gate spacing: 30 – 1000 m (150 m typical)
- Variable types:
  - Z (Equivalent radar reflectivity factor, dBZ)
  - V (Doppler radial velocity, m/s)
  - W (Velocity spectrum width, m/s)
  - P (Power received, dBm)
  - Zdr (Differential reflectivity)
  - Phi-dp (Differential phase)
  - Kdp (Specific differential phase)
  - Rho-hv (Co-polar correlation)
  - NCP/SQI (Normalized Coherent Power/Signal Quality Index)
  - ZcoH (Coherent equivalent radar reflectivity factor, dBZ)
  - Phase (Differential and Absolute phase)
- Screen image capture
- Interfaces directly to NCAR Thunderstorm Identification Tracking Analysis and Nowcasting (TITAN) and Configurable Integrated Data Display (CIDD) systems as used in many countries for polarimetric rainfall estimation, weather modification studies and hydrometeor particle classification. Spectral clutter filtering (CMD) is performed in TITAN processing.

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Localized Solutions.*