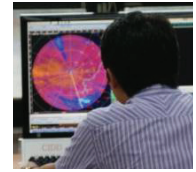
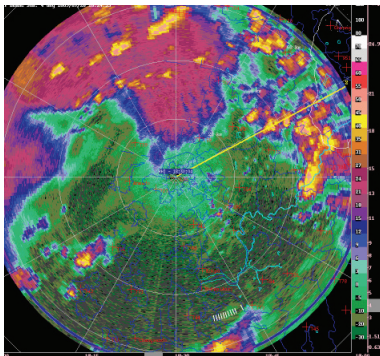


ARC Radar Upgrade Package



ARC Radar Upgrade Package

Advanced Radar Company (ARC) has revolutionized Doppler radar capabilities through its patented technology including the HiQ digital receiver and Antenna Control Unit. ARC also provides the latest radar product generator based on NCAR's Thunderstorm Identification and Tracking Analysis Nowcasting (TITAN) with display on the Configurable Integrated Data Display (CIDD) package. Optional products for TITAN include hydrology, hail and turbulence detection algorithms. ARC's goal is to minimize cost while maximizing potential by redesigning and upgrading existing radars resulting in a clean, compact and affordable solution for years of trouble-free weather radar operation. The new ARC digital processor has been installed in several radars across the United States (including the Doppler on Wheels operated by the Center for Severe Weather Research) as well as radars in the United Arab Emirates, Indonesia, Mali and Saudi Arabia that have proven successful even in the most remote and exposed environments.



Specifications

- Noise Power: -115 dBm typical
- Radar Noise Figure: 2.9 dB
- Dynamic range: 80 dB (Receiver noise dominated)
- Bandwidth: (Automatically matched to gate spacing): .738 MHz at 150 m reflectivity
- Sensitivity @ 0dB SNR
 - 11 dBZ @ 50 km 1 μ sec transmit pulse
 - 17 dBZ @ 50 km 2 μ sec transmit pulse
- Frequency Range:
 - 5.3 – 5.8 GHz for C-band
 - 9.2 – 9.5 GHz for X-band
- Digital IF processing
- Digital matched filter for maximum sensitivity and Inter-clutter visibility
- Dual-PRT capability for velocity extension
- Real time base data display:
 - Z (equivalent radar reflectivity factor)
 - V (Doppler velocity)
 - W (spectral width)
 - NCP (normalized coherent power)
 - DZC (coherent equivalent radar reflectivity)
 - P (received power)
- Archiving of autocorrelation or IQ data
- 1000 gates at 1000 Hz PRF with 50 hits
- 30-720 m gate length in 30 m steps
- Clutter filter: 4 pole IIR, ~ 40 dB suppression
- Screen image capture
- Real-time control of most radar parameters including:
 - Gate length
 - Integration time
 - Clutter filter
 - Thresholding
 - Archiving
- Geopolitical boundary overlays in selected areas



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