

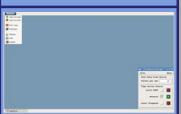
12 WSR-88D: Technology Evolution of Level I Data Recording

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The new interface provides intuitive functions for starting and stopping the recorder, as well as a command line interface which allows for remote control ability.



Portable Level I Recorder

During Dual Polarization Beta testing, a laptop with a 2 TB external USB drive were sent to collect level I data from the 5 Beta test sites, Vance AFB, OK (KVNX), Phoenix, AZ (KWM), Morehead City, NC (KMHX), Wichita, KS (KICT), and Pittsburgh, PA (KKPBZ)



Test Bed Level I Data Recording

Level I data from remote KCRI and KOUN is recorded in the ROC Engineering lab providing constant access from a single location to help expedite requests and provide greater access to level I data.



What is Level I Data?

Level I data is the recorded output of the digital receiver also known as time series or In-phase (I) and Quadrature (Q) or more commonly I&Q data.

- What are the benefits of Level 1 data?

 1. Validate the implementation of signal processing changes, which increases quality and minimizes potential issess during the transition from research to operations.

 2. Allows testing independent of limited test bed radar systems and desired weather conditions.

- Vinat are Soline of the applications of Lever 1 data?

 1. Optimizing Clutter Filtering (ice, 2007)

 2. Range and Velocity Ambiguity (Saxion, 2005)

 3. Mitigating Ground Clutter Contamination (Ellis, 2003)

 4. Staggered PRT (Saxion, 2009)

Level I Data Recording Improvements

- Changed from the Vaisala/SIGMET TSArchive Utility to the Ts2File (NCAR created) tool which removes

- 1. Changed from the vassilazione. I sarcine utility to the 1s.2-lie (NCAR created) tool which removes licensing requirements.
 2. Created two external recorder configurations:
 1. Test bed recorders for recording KCRI and KOUN radars.
 2. Laptop recorders for use in the operational field sites.
 3. Utilized existing fiber to transfer both KCRI and KOUN test bed radar Level I data to ROC Engineering lab for a single location to access test bed data.
 4. Doubled external USB storage to allow for more time before data is overwritten.
 5. Provided simplified user interface and installation, removal, and operating instruction for use by field technicians.

KCRI- Single Polarization

Level I data is continually fed into the ROC Engineering lab for analysis and archival.



KOUN - Dual Polarization

Level I data is continually fed into the ROC Engineering lab for analysis and archival.





