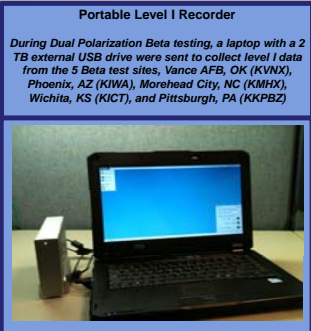
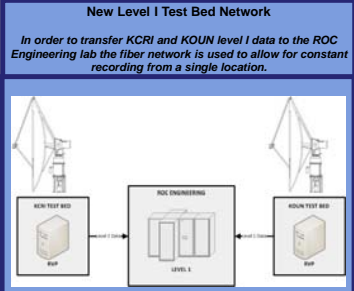


# 12 WSR-88D: Technology Evolution of Level I Data Recording

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**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 I data?**

1. Validate the implementation of signal processing changes, which increases quality and minimizes potential issues during the transition from research to operations.
2. Allows testing independent of limited test bed radar systems and desired weather conditions.

**What are some of the applications of Level I data?**

1. Optimizing Clutter Filtering (Ica, 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**
1. Changed from the Vaisala/SIGMET TSArchive Utility to the Ts2File (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.

