



IRRIGATION TRAINING AND RESEARCH CENTER
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District Application of Hand Held Data Recorder Technology

The Mid-Pacific Region, US Bureau of Reclamation sponsors the hand held data recorder technical support provided to districts by the Irrigation Training and Research Center (ITRC)¹.

A hand held data recorder (HHDR) enables a district to collect field data in a quick and virtually error-free manner. These units can be used to scan bar code location/equipment identifiers or the operator can manually key in this information followed by the current data. Some HHDRs can be programmed with error checking routines that prompt the operator when an entry is inconsistent with regards to the previous reading from that location. Each entry includes a time and date stamp. When the operator has collected all of the data for the day or for a route, the data is downloaded to a district computer and the previous reading log in the HHDR memory is updated via the computer. This method of data entry reduces the time associated with entering data into multiple ledger books and minimizes the chance of entry errors that occur with manual data handling.

The data gathered with HHDRs will depend on each district's data needs, needs that can be expanded with the evolution of their data management. The following is a summary of the data needs or potential needs identified by districts:

- Meter readings – totalizer
 - At grower turnouts to match total canal flow against orders
 - At canal turnouts into the district to check quantities billed to district
 - At tail-water points to track drainage and recycling
 - At well pumps to track credited water
- Meter flow rates to check against associated requests
- Crop type and double crop tracking

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- Crop growth stage
- Meter status – working, broken, false reading
- Maintenance codes for meter repairs – register work required, etc.
- Maintenance codes for the meter area – weed trimming, etc.
- Water use type – irrigation, waterfowl management, one time flood, etc.
- Pump runtimes for maintenance scheduling
- Weather data – daily highs and lows, wind conditions, rain amounts, etc.
- Power meter readings

Districts that are currently using HHDRs for data collection include Westside Water District, Delano-Earlimart Irrigation District, and Glide-Kanawha Water Districts. Districts that are updating or implementing HHDR technology include Glide-Kanawha Water Districts, Dunnigan Water District, Reclamation District 1004, Colusa County Water District, Corning Water District, Orland-Artois Water District, Western Canal Water District, and Central California Irrigation District.

Components for a typical HHDR include:

- The hand held scanning unit with data collection program specific to the district needs and provided by the company that makes the HHDR.
- Base or docking station for HHDR battery charging and data interface.
- Computer to interface with the docking station(s).
- Software to download/upload data.
- Field bar code labels.

Two companies that have shown interest in providing HHDRs to districts are listed next. USBR and ITRC do not promote either company and do not warranty their products or services. Other companies may be identified that provide similar products and services.

Company	Contact	Phone #
SCAN-IT	Mark Hayes	(916) 987-9880
EasyReader	Euan Slidders	(805) 650-7888

For additional information contact Andrew J. Mutziger, ITRC (805) 756-5368.

Pictures sent as examples of HHDR, 26 Aug 99. c:/work/ajm/hhdr/pictures



Percon310b.gif - Falcon



s10sm.jpg - Panasonic



Videx LaserLite Pro.jpg