



HarvestMaster
by Juniper Systems, Inc.

Twin Plot High Capacity **GrainGage**



Applications

Standard Variety Testing
Twin Plot (Split) Combines
GPS Strip Harvest

Advantages

Superior Measurement
Increased Accuracy
Unmatched Speed

The Plot Harvest Data System™ with the Twin Plot High Capacity GrainGage™ and HM800™ electronics provides on-combine data collection. It continues the HarvestMaster tradition of providing accurate and reliable measurement of grain traits for seed research.

Overview

The Twin Plot High Capacity GrainGage is designed for collecting moisture, test weight and plot weight with split combines. The unique design of the Twin Plot system incorporates two holding hoppers and a single weigh bucket. The single bucket with one set of calibrations eliminates side to side errors that are introduced by traditional double buckets systems.

Precision Electronics

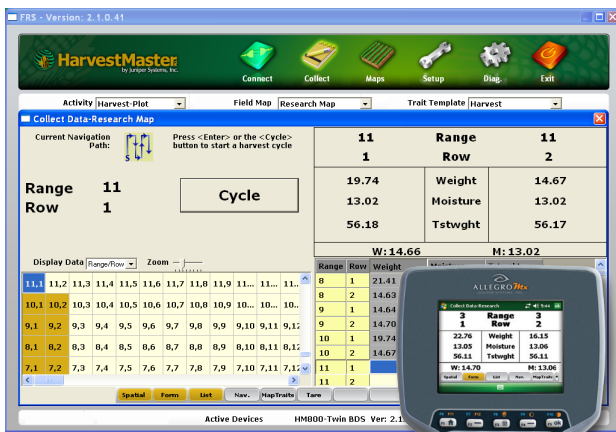
The HM800 electronics connect the HarvestMaster weight and moisture sensors through a CAN communications network. At the heart of this network are the HM800 Analog and Actuator modules. These modules are located in close proximity to the sensors that measure weight and moisture. This design increases data accuracy for these critical measurements and eliminates large bulky cables.

Leading Edge Technology

The patented Slope and Motion Sensor™ increases weighing accuracy and reduces errors caused by combine vibration and movement. The EM Grain Moisture Sensor™ provides accurate moisture and test weight measurements even on high moisture grains. The optional Bulk Density Sensor™ provides accurate volumetric test weight for large grains. Repeatability of measurements are superior to standard bucket designs.

Field Research Software™ (FRS)

FRS manages the plot harvest data collection process. Bring field map identifiers from your analysis program into FRS using DataLink. During harvest, run FRS on a mobile handheld or laptop mounted in the combine to record grain moisture and weight for each plot according to the selected navigation pattern. Send harvest data back to the analysis program with DataLink.



FRS harvest screen on laptop PC



HM800 System Console



FRS harvest on Allegro MX

Plot Harvest Data System

- HM800 Electronics: System Console, Actuator Module, Analog Module, and Printer
- Field Research Software
 - Allegro MX with FRS
 - Laptop or PC with FRS
- Twin High Capacity GrainGage with HM800 modules
- Bulk Density Sensor option provides accurate volumetric test weight for large grains

Field Research Software

- Choose FRS for Windows Mobile®, Windows XP® or Windows Vista® operating system.
- Create or import field maps with identifiers
- Multiple navigation choices
- Easily monitor plot harvest data
- Automatic export to analysis programs



Plot Harvest Data Systems
Field Research Software
Rugged Field Computers
Mobile Agriculture GIS

Features

- EM Grain Moisture and Test Weight Sensor
- Single weigh bucket with two holding hoppers
- Precision HM800 CAN (Control Area Network) Electronic Modules
- FRS Harvest for High Capacity GrainGage available for Windows Mobile®, Windows XP® or Windows Vista® operating system
- Patented slope and motion compensation for weight measurements (U. S. Patent 6,313,414)
- Record GPS coordinates in strip harvest mode

Benefits

- HM800 electronics with CAN eliminate bulky cables
- Highly accurate, repeatable moisture and test weight measurement
- Weight measurement compensated for combine movement
- Single set of calibration increases accuracy over double buckets systems
- Harvest two plots simultaneously
- Harvest strip trials without stopping the combine

TECHNICAL SPECIFICATIONS

High Capacity GrainGage

Size:	31" wide x 19" deep x 44" high
Weight:	100 lbs (45 kg) shipping weight
Weigh Bucket Capacity:	60 lbs (27 kg) of corn
Weight Accuracy *:	+/- 0.18 lbs (+/- 80 g)
Moisture Accuracy:	+/- 0.5% (wwb) up to 25%, +/- 0.9% up to 35%
Test Weight Accuracy:	+/- 1 lbs/bu (+/- 1.25 kg/hL) over 95% of samples
System Speed:	Data recorded and system ready in 12 seconds
Grain Outlet:	18" opening with 3" clearance below bucket
Actuators:	Precision pneumatic

HM800 Electronics

Environmental:	IP67 - waterproof & dustproof
Operating Temperature:	-20 C to +50 C
Power:	9V to 17V DC
Communications:	CAN Bus - 4 wire
Connector:	Sealed Con-X All connectors

* NOTE: Accuracy of the weighing system can be adversely affected due to excessive vibration and shock. To achieve specified weight accuracy on moving machines, the HarvestMaster patented Slope & Motion Sensor must be enabled. Dynamic forces on the system in any direction should not exceed a magnitude of 0.8 g and the slope of the weighing platform should not exceed 10 degrees.

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