

Taking Control ...To A

# HIGHER LEVEL

INSIDE THIS ISSUE:

<i>Iowa Limestone</i>	1
<i>Wireless Solutions</i>	2 & 3
<i>Benefits of Automation</i>	4

## IOWA LIMESTONE AUTOMATES BIN INVENTORY WITH SMARTBOB II



Iowa Limestone in Weeping Water, Nebraska

choice when compared to competing cable-based sensors, and technologies such as ultra sonic, radar, and light-beam products that are adversely affected by dust. In actual side-by-side tests with competitive systems, the SmartBob II has time and again come up the winner.

It is a dusty, time consuming, seven-day-a-week job, but somehow it must be done.

There are twenty one silos at Iowa Limestone Company in Weeping Water, NE, ranging in height from 30 to 60 feet. They contain a variety of materials that include calcium, phosphates, bentonite, potassium, and special limestone products. Monitoring the level in this application presented a variety of challenges.

General requirements for the inventory system included four absolutely essential capabilities:

1. Reliably measure all ingredients which include very dusty powders, light bulk densities, and abrasive minerals;
2. Operate reliably in extreme heat and cold of Nebraska weather;
3. Measure accurately while the tanks are filling;
4. Operate all 21 silos with a single control system.

In this difficult application, SmartBob II by BinMaster proved to be the very best

Information from the 21 SmartBob II remotes at Iowa Limestone is fed into an IBM compatible PC equipped with BinMaster's Inventory Management Software (IMS). The system is set-up to take automatic measurements at 7:00 AM, 12:00 Noon, 3:00 PM, and 11:00 PM. Once a day the inventory readings are automatically e-mailed to the corporate office in Des Moines. Manual measurement can be taken at one location inside the plant and at two load-out stations with SBC push-button consoles. This allows operators to choose any of the 21 silos and instantly retrieve measurements.

Iowa Limestone now has a safe, reliable, and accurate system



SmartBob II Remote on Iowa Limestone outdoor silo



***There is nothing remotely like it!***



- ◆ Point Level Sensors
- ◆ Inventory Measurement
- ◆ Flow Detection
- ◆ Dust Detection
- ◆ Aeration & Vibration



## Benefits

- Save money by reducing installation costs
- Installation speed, flexibility, and simplicity
- Enable mobility that may not have been possible before
- No leased lines or wireless services cost
- Single radio module for worldwide license-free operation
- Low latency for real-time applications

## Features

- 2.4 GHz frequency hopping spread spectrum technology
- RS-232 and RS-485 data interfaces supported
- Automatic antenna diversity options available
- Outdoor model available in weather tight NEMA 4X Housing
- Remote diagnostics
- User programmable

**BINMASTER**  
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**1-800-278-4241**

# New SmartBob II Wireless Network Solutions



Long-Range Indoor Wireless  
Data Transceiver

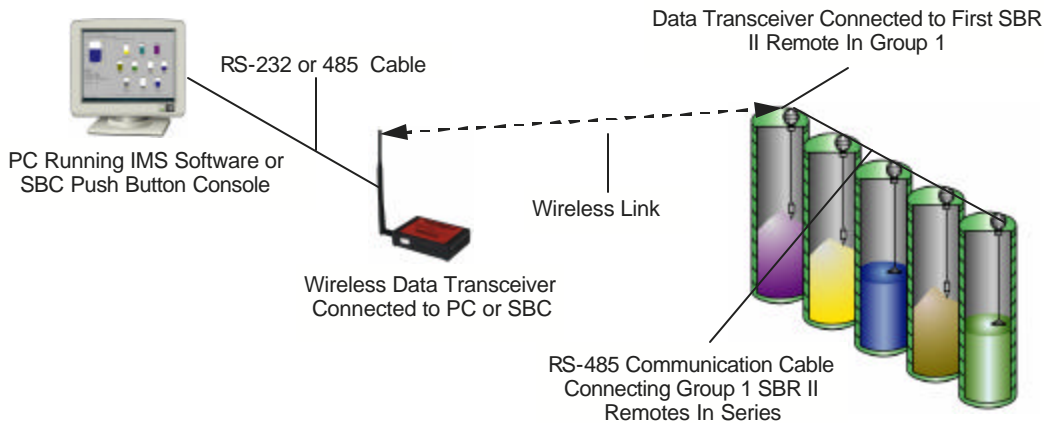
BinMaster's new wireless data transceiver eliminates the need for running long spans of communication cable by providing affordable, two-way wireless data communication between SmartBob II Remotes mounted high on-top of storage vessels and a control source on the ground. BinMaster's long-range wireless data transceiver operates in the license-free portion of the FCC designated industrial frequency band at 2.4GHz.

Designed to work in high interference environments, the wireless transceivers combine advanced frequency hopping and digital signal processing technology with outstanding receiver sensitivity and antenna diversity resulting in exceptional noise and interference rejection and peace of mind for you. Wireless data networks can be effective in new SmartBob installations as an alternative to wired connections, and also can be used to expand the capabilities of existing systems.

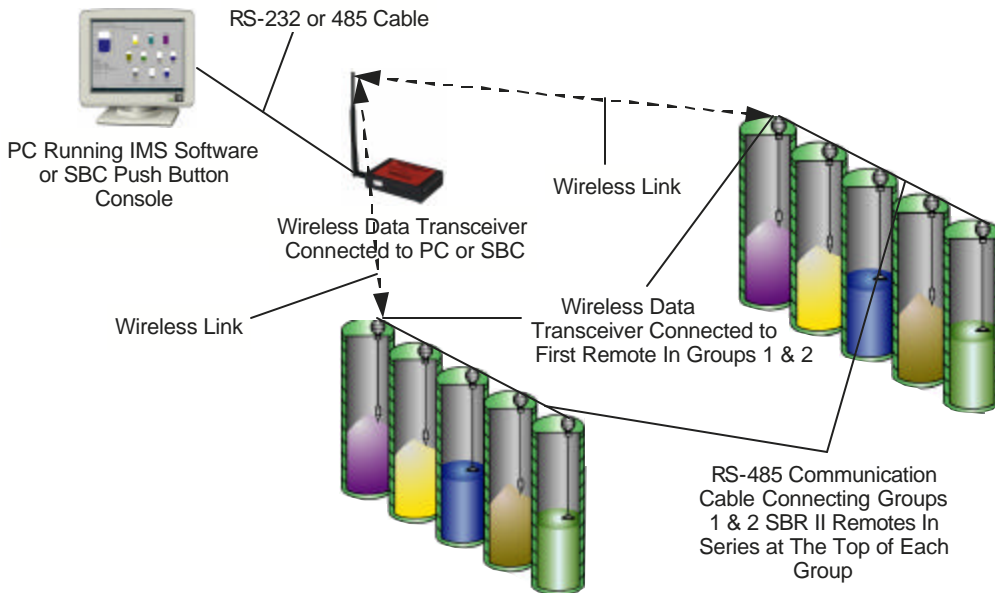


SmartBob II Remote Sensor with  
Outdoor Wireless Data Transceiver

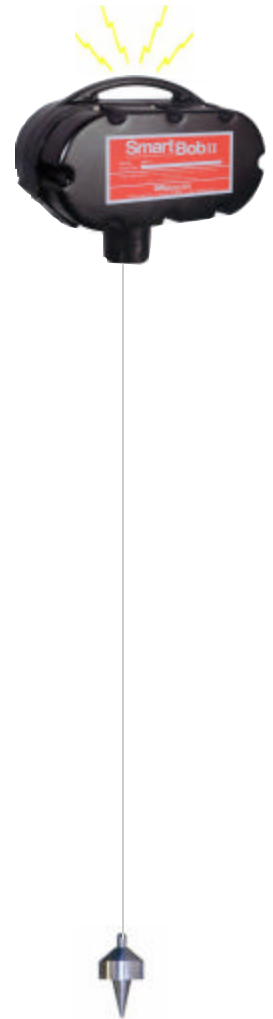
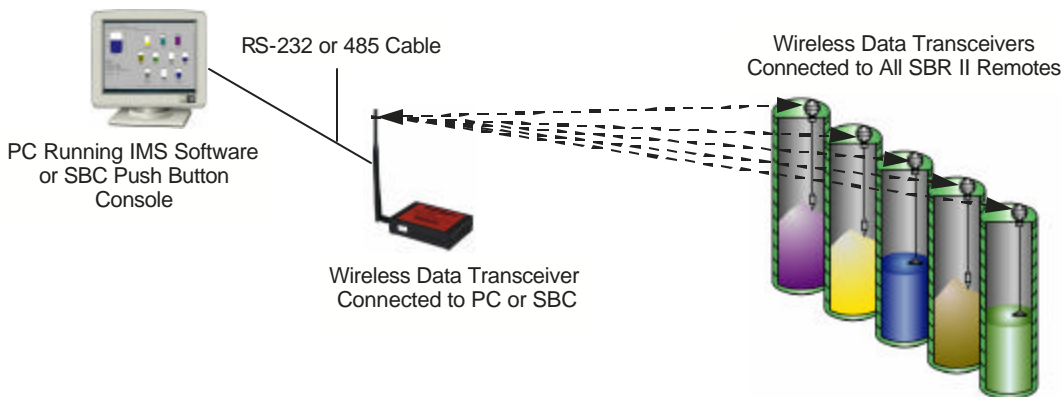
**Point-to-Point** wireless solution eliminates running RS-485 communication cable from the control source on the ground to the first SBR II remote in a single grouping of vessels.



**Multi-Point** wireless solution eliminates running RS-485 communication cable from the control source on the ground to the first SBR II remote in multiple groups of vessels.



**Broadcast** wireless solution eliminates running any RS-485 communication cable from the control source on the ground or at the top of the vessels.



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\* Actual operating range depends on local environment, including obstructions and electrical interference

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## The Benefits of Having A Reliable Inventory Measurement System



1. **SAVE LABOR COST:** The labor required to check bin level on a regular basis can be significant. Through automation, the inventory measurement process is instantaneous and labor free.
2. **SAFETY:** Safety is always an issue when having to climbing atop tanks to check the level. Automating your inventory measurement greatly reduces the user's risk of employee injury and Workman's Compensation claims.
3. **REDUCE MISTAKES:** Reduce the risk of mistakes and accidents due to overfilling or running out of material that can result in excessive downtime.
4. **CONFIDENCE BUILDER:** Gives you the confidence in knowing that your bulk storage is continually being monitored and is error free.
5. **RESPONSIBILITY SHIFT:** With automated inventory management, responsibility for maintaining adequate levels of inventory can be shifted to the supplier. The user no longer needs to have someone check the tank levels and report to purchasing on a regular basis. Tank levels are checked automatically by devices that do not forget or call in sick. The vendor or supplier can control the amount delivered and the time of delivery.

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## **SmartBob II**

