

Problem

A food processing facility needed an accurate way to monitor the flow of material during processing operations. The existing container and carrier system used a photoelectric system to create an identification code. The jarring motion of normal processing operations constantly misaligned the code plates, causing faulty code readings. In addition, dust particles from the operation obscured the sensor's lenses and required constant cleaning.

Objective

A non-contact, consistently accurate container and carrier identification system.

Customer Specifications

- Error-free code readings unaffected by carrier swaying and vibration
- Able to operate in dusty environments with no cleaning requirements
- No-stop ("on-the-fly") identification
- Must interface with existing host computer

Alternative Considered

Queue system with a new dedicated computer—too expensive.

Solution

Sensornet Electronic Labels were programmed by the user with unique binary codes. The labels were then attached to each container and carrier.

One hundred ten Sensornet Antennas (sensors) were placed in their read locations on the process line. Using safe, low (radio) frequency, each sensor activates the moving container's or carrier's Sensornet label, inciting the transmission of its code. The sensor's read range is up to 12", allowing both label and reading sensor to remain out of harm's way.

The code is relayed from the sensor reader to the Sensornet Interface/Multiplexer Unit. The Interface amplifies and filters the data, making it available to virtually any computer system; in this application, the existing host computer.

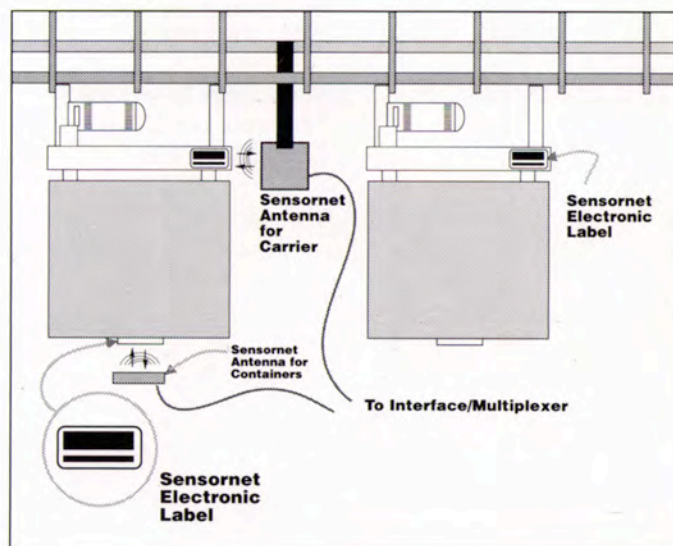
The computer can now constantly track and update the location as well as the carrier/container combination of 1500 containers and 700 carriers. The Sensornet error rate is less than 1 in 100,000,000,000,000.

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APPLICATION NOTE

SENSORNET®

Container & Carrier Identification Food Processing



For Additional
Information:

1-800-NAMTECH
(1-800-626-8324) or (216) 946-9900

Discussion

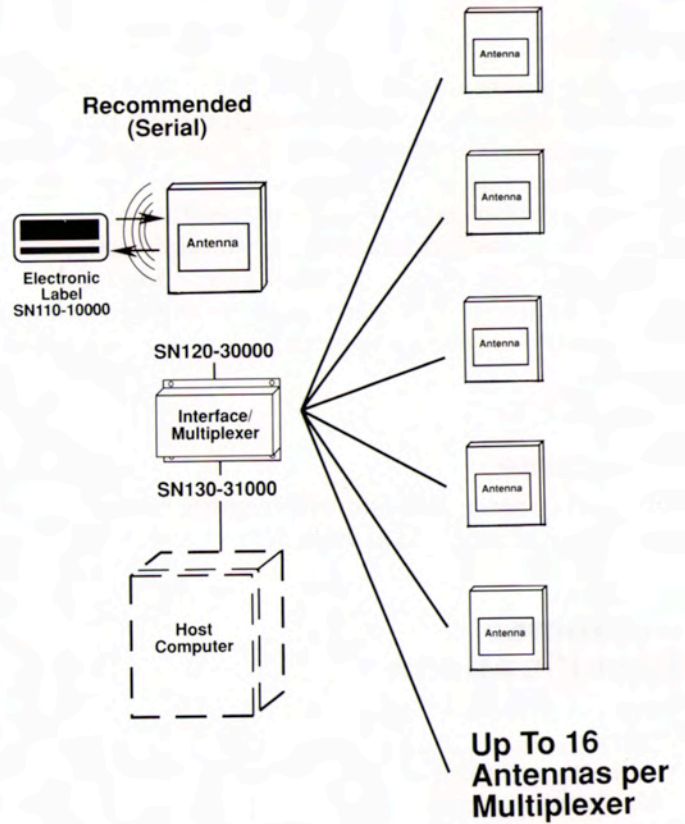
Further expansion or configuration changes could be done by simply adding or moving electronic labels or sensors.

Field programming or reprogramming of the electronic labels is done with the Sensornet Programmer.

This particular application used Sensornet's addressable sensors. Up to sixteen addressable sensors can be time-multiplexed through a single Sensornet Interface Unit, further increasing process coordination and reducing system costs.

Equipment List

Existing	New
Host computer	Sensornet Electronic Labels (SN110-10000)
	Sensornet Antennas (SN120-30000)
	Sensornet Interface/Multiplexer Units (SN130-31000)



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