

# Multispectral Solutions, Inc.

The Industry Leader in Ultra Wideband Technology

## PAL650™ Ultra Wideband Precision Asset Location System™ Evaluation Kit

Brought to you by the industry leader in ultra wideband (UWB) technology, the PAL650™ Precision Asset Location System™ enables the real-time tracking and identification of assets and personnel with a range and precision unmatched by conventional RFID solutions. Leveraging UWB's unprecedented reliability in difficult electromagnetic and multipath environments (e.g., factories, hospitals, within cargo spaces, etc.) and with the extended battery life of MSSI's UWB tags, PAL650™ is an RFID and real-time tracking system which can meet even the most demanding requirements.



The PAL650™ Evaluation Kit consists of all the components necessary to thoroughly evaluate the potential of this FCC-certified UWB technology for RFID, tracking and precision localization applications. The Evaluation Kit includes all hardware to implement a four receiver configuration with 10 asset tags. The supplied software enables the user to customize a selected area of coverage to display and track tag information in real-time. With tag-to-receiver ranges exceeding 300 feet indoors (over 600 feet line-of-sight), the Evaluation Kit can readily cover many thousands of square feet of space while providing localization resolutions of better than one foot. MSSI's patented UWB technology permits tag operation (at a 1 update per second rate) of up to 4 years on a single 3.0V Lithium cell.

PAL650™ truly represents the next generation in real time location technology. With its extended range and duration active tags and robust performance in multipath, PAL650™ overcomes the numerous limitations of passive and WiFi-based active RFID technologies.

### System Operation and Specifications

Using patented UWB receiver and transmitter technologies, the PAL650™ system determines the exact two- or three-dimensional location of a set of UWB tags by utilizing time differences-of-arrival information obtained from a set of UWB receivers which detect the nanosecond duration bursts from the tags. This data is subsequently processed by a hub processing unit which also provides power and timing information to each of the individual receivers. The positioning data is made available through an IP socket interface for use in client applications.

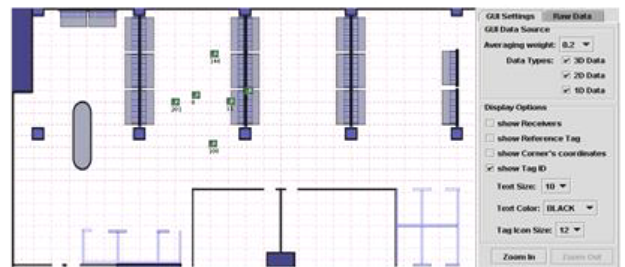
#### PAL650™ Specifications

- Typical Indoor Range: 300 feet
- Measurement Accuracy: ± 1 foot
- Transmission Power: FCC §15.517
- Operating Frequency: 6.2GHz
- Coverage area: up to 90,000 ft<sup>2</sup>

#### PAL650™ Evaluation Kit Ordering Information

PAL650-EK Evaluation Kit	PAL650™ Evaluation Kit contains one H650-PC4 Hub Processor, four R650-1 UWB Receivers, ten T650 UWB Tags, UWB Reference Tag, four 150-foot CAT-5 shielded cables, software and manuals.
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PAL650 Real-time Demo (in MSSI Lab)



Typical Graphical User's Interface PAL650™ Evaluation Kit

MSSI is recognized worldwide as the industry leader in Ultra Wideband (UWB), an emerging wireless technology for communications, precision localization and radar applications. Throughout its 16 year history, MSSI has developed a strong reputation for quality and innovation.

**Multispectral Solutions, Inc.**  
 20300 Century Blvd., Suite 250  
 Germantown, MD 20874-1132  
 Phone: 301-528-1745  
 Fax: 301-528-1749  
 Email: [info@multispectral.com](mailto:info@multispectral.com)