

Description

The ActiveWave RFID Handheld Reader is a small, lightweight Reader used to physically find merchandise, inventory, or other assets quickly and conveniently. Users carry this Reader with them to communicate to and locate specific items.

Handheld Readers have three basic modes of operation: program, monitor, and call. In programming mode, the Reader can program other devices in the ActiveWave system, including tags. In monitor mode, the Reader listens to all tag activity and stores the information and/or relays it back to the Host. In call mode, the Reader calls a specific tag, a specific group of tags, or all tags for information.

Setup and configuration of the Handheld Reader is easily done. When the Reader turns on, it sends a power-up message to the Host. If using RS-232 between the Reader and Host, then the Host will immediately display the Reader's identification number and allow the user to change it. If using Ethernet (802.3) or WLAN (802.11), an IP address is automatically assigned to the Reader.

All communications between the Reader and Host, and between the Reader and tags and other system devices, are done with cyclic redundancy checks to ensure all data remains accurate.

Several different Reader models are available to support different tag frequencies (916.5 MHz or 868 MHz) and different Host communications (RS232 or RS485).

Current Practice

To locate assets, companies traditionally use employees to manually look for specific items. If the item is not easily recognizable (item looks similar to other items, item stored in generic box, etc.), then the employee would need another type of identifier to recognize the item such as text labels or barcodes. The text labels may not be accurate, and using barcodes might require the employee to scan many items before finding the correct one. If the barcode is scratched or damaged in any other way, then the barcode scanning would be frustrating and useless. Also, if an item has been misplaced in the wrong section, then finding the item can take hours, days, or weeks to find, depending on the size of the item and storage area.

The ActiveWave Solution

ActiveWave RFID technology offers a truly accurate, convenient, and fast method of locating assets that has many advantages over conventional systems.

By using ActiveWave's Handheld Reader, users will have no problem finding specific items in practically any type of facility.

To find a specific tagged item, simply enter the item's number (tag ID) in the Handheld Reader. The Reader's adjustable



search range and the tag's response (flashing LED or buzzer) are both optional settings. The Reader will immediately indicate if the tag is within range. If the tag is not found, the search range can be manually increased until it is detected by the Reader. Finally, just walk with the Handheld Reader in the general area of the tag (for example, an aisle in a warehouse or store), looking or listening for the tag's response.

Examples of places where this Reader can be used are factories, laboratories, industrial plants, terminals, warehouses, hospitals, and retail stores. Users can find items without ever having to know what the item looks like beforehand. Users can also quickly locate misplaced items (for example, a box of Calculus books accidentally stored in the Gardening section).

Combined with ActiveWave's fully automated inventory system, the user can obtain complete inventory status on a periodic basis - every hour, day, week, or as frequently as you want with no human involvement. The availability of specific inventory items can be verified immediately, so shipping & receiving documents can be generated automatically when orders are placed. The system can also automatically create supply orders for items when inventory gets low. ActiveWave's tags can report their presence directly from the shelves at distances up to 85 meters (~275 feet)! With the right system design, we can monitor any size warehouse.

Other Applications

ActiveWave RFID technology can be used for applications such as tracking assets in an automobile dealership, used car lot, or car rental facility. It also can control employee access at airports or vehicle access to parking lots. For further details, visit our web site at www.activewaveinc.com.



Handheld Reader

Product Summary

Type:	RFID Handheld Reader
Applications:	Access Control, Tracking, Inventory Control
Part Numbers:	See Reader Selection Guide

Specifications

CPU	ARM7, 32 bit RISC, 74MHz, 100MIPS
Operating System	uBase-III (Real-Time, Multi-Task)
Memory	RAM: 8M SDRAM Flash ROM: 2M NOR + 16M NAND(for Data Storage), extendable up to 128M
Display	LCD 160 X 120, 4 Level Gray, EL back-light
Keys	23 Keys
Host Communications	RS232 : 9600 - 115200 bps IrDA 1.0: FIR / SIR RS485 (in cradle): 9600 - 115200 bps
Battery	850mAh Li-Battery (NOKIA 3210 cellular phone battery)
Power	Power supply: DC9V, 1.5A AC Power: AC100~240V, 50~60HZ
Dimensions	19.3 cm X 7.1 cm X 3.5 cm (7.6 in x 2.8 in x 1.4 in) Long side is 27.0 cm (10.6 in) with antenna
Weight	200 grams (7.1 ounces), including battery
Power Consumption	Standby: 20mW Normal: 500mW Max: 1.5W (Laser On)
Barcode Scan Module	Laser or CMOS 2D
Full Charged Scanning	>5000 times
Input Mode	Keypads, Laser, RF
Laser Precision	5 ~ 55mil
Barcode Symbolologies	1D: UPC, EAN, Code39, Code128, Interleaved 2 of 5 2D: PDF417, QR Code, DataMatrix
Operating Temperature	-10° C to +40° C (14° F to 104° F)
Operation Humidity	5% - 95%(non-condensing)
Ambient Light	0 ~ 10,000 Lux
Drop	1.2 m (3.9 ft) to concrete
Rain & Dust Resistance	IP54
RFID Multi-Tag Read Capability	Yes
RFID Operating Frequency	916.5 MHz or 868 MHz, depending on Reader model
RFID Wake-Up Frequency to Tag	433 MHz
RFID Tag Read Range	1 to 85 meters (~3.3 to 279 feet), depending on Reader sensitivity setting
Operating Modes	Tracker Reader mode: Accepts input from all tags Inventory Reader mode: Ignores input from tags that are awakened by 433 MHz field. Only accepts input from tags that wake up at programmed intervals.
Tag Signal Penetration	Tag signal can be read through virtually all non-metallic materials
EMC (Electro-Magnetic Compatibility)	Reading of Tag data and configuration setup is not affected by normal electromagnetic interface of x-rays

ActiveWave, Incorporated

902 Clint Moore Road, Suite 118
Boca Raton, FL 33487

Telephone: 561-999-9422
Fax: 561-999-9428

NOTE: The information in this datasheet is subject to change without notice.
Visit our web site at www.activewaveinc.com for more information on ActiveWave products.