



ACTIVE RFID



- Instant reporting of detected Wavetrend active RFID tags
- Ultra-compact design and low cost
- Uses a standard RS232 Serial interface & connector
- OEM Module option for easy integration into other devices
- Provides active RFID tag detection capability to mobile computing & in-vehicle devices
- Typical 10m read range
- Provides indication of tag signal strength

The RX300 reader detects and decodes RFID (radio frequency identification) signals from Wavetrend's range of active RFID tags. It has an on-board antenna and can operate in rugged conditions at ranges up to 15m. The data from detected tags is sent by the reader via RS232 to the recipient device or computer.

Typical Applications

This reader is ideally suited for use with mobile devices or in-vehicle management (telematics) systems that require a relatively shorter read range and a totally self-contained reader. All that is required is an available RS232 DB9 connector and an available COM port. Newer mobile devices without serial connectors usually allow for a serial connector to be added through the use of a converter cable or provide a serial interface for the OEM reader. Power is supplied through the serial connection. The OEM module is available for integration directly inside other devices, such as rugged hand-held terminals.

RX300 can be used to create localised tag detection zones around the device or computer they are attached to. Mobile readers incorporating the RX300 and combining additional technologies such as GPS, Wi-Fi communications, Barcode Scanners & Passive RFID readers are used to locate and manage tagged assets in large complexes, such as data centres, container ports, warehouses or external yards. In-vehicle devices use the RX300 to detect driver identification tags or tagged assets carried on-board, or for fleet management purposes such as identifying that the correct trailer is connected to the tractor.

The tag data information is fed automatically into the recipient device's application enabling complete management of all tagged assets, even if they are out of range of a fixed reader network, and so allows the automation of business decisions about them based on accurate and near real-time knowledge of their location and condition.

KEY FEATURES	BUSINESS BENEFITS
<ul style="list-style-type: none"> ▪ Internal onboard antenna ▪ Powered through the Serial connection ▪ Uses standard RS232 protocol. 	'Plug and Play' type ease of physical installation. Integration of tag data into an application is simple and quickly achieved.
Uses a standard DB9 Serial connector	Easy connectivity to many devices and computers. USB or device specific Serial adaptor cables are widely available – customer supplied where required.
Mode of data transmission: <ul style="list-style-type: none"> ▪ Hardware auto-polling - tag data provided automatically from Reader network. 	<ul style="list-style-type: none"> ▪ Hardware auto-polling allows for the continuous feed of tag data to the system in the fastest possible manner.
Choice of baud rates: 57 600, 38 400, 19 200, 9 600	Easy integration into all devices, especially legacy devices that require slower data transmission speeds.
Signal Strength information is reported with every tag	Allows for limitation of read range of mobile device through signal strength filtering by the recipient application and can give an idea of the tag's proximity to the reader.

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Model Range

L-Series	
L-RX300	: incl. Grey housing & DB9
L-RM300	: OEM Module

The required operating baud rate must be specified at time of order.

For RM300 orders, specify if a DB9 connector is required, the default is without.

Air Interface Protocols

'L-Series' refers to a proprietary communication protocol used between Wavetrend tags and readers.

Read Range*

The read range of the RX/RM300 is achieved through its internal antenna.

*Read ranges are affected by environmental conditions and site configurations and may not match those stated in this sheet. Read ranges will generally be greater outdoors than indoors. The read range of the RM300 may be adversely affected by it's location within an OEM device.

It is strongly recommended that the services of a properly trained engineer from a Wavetrend Accredited Partner or Wavetrend Professional Services are employed to determine the best location and orientation for the reader to achieve the desired read range, especially with in-vehicle applications or for OEM product developments incorporating the RM300.

Specifications

Environmental <ul style="list-style-type: none"> Operating temperature Storage temperature Humidity 	: -40°C to +75°C : -40°C to +85°C : 5% to 90% (non condensing)
Physical <ul style="list-style-type: none"> Size – RX300 Size – RM300 Weight – RX300 Weight – RM300 Housing Colour Housing Material Connection 	: 32.3mm x 33.2mm x 14.6mm : 20mm x 18mm x 8mm : 12 grams : 4 grams : Grey (L-Series) and Black (W-Series) : ABS : Serial RS232 DB-9 (Male)
Radio Frequency* <ul style="list-style-type: none"> Receive Frequency Modulation Stability Sensitivity 	: 433.92 MHz : ASK : 20ppm over -10°C to +60°C : -70 dBm (preliminary)
Electrical <ul style="list-style-type: none"> Supply Voltage Max. current consumption ESD protection 	: +7Vdc : 35mA : 2kV Human Body Model
Communications <ul style="list-style-type: none"> Default Data Rate Optional Data Rates (specify with order) Supported Protocols 	: 57 600 (baud rate) : 38 400 : 19 200 : 9 600 : RS232

Ordering & Further Information

For more information on the RX300 RS232 Reader or for information on how to purchase it please email Wavetrend's Sales team: sales@wavetrend.net

For more information on Wavetrend, our active RFID products & Professional Services and on joining our Accredited Partner program, visit our website: www.wavetrend.net

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