

# WIT915 Frequency Hopping Transceiver OEM Module

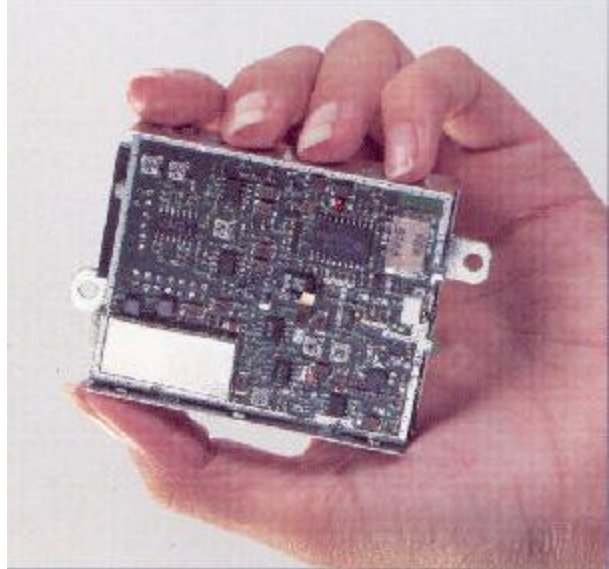
The WIT915 is a field proven workhorse of a spread spectrum wireless transceiver. The WIT915 is based on Digital Wireless' patented Recombinant Spread Spectrum (RSS) direct sequence spread spectrum technology and operates in the 902 – 928 MHz unlicensed ISM spectrum. The WIT915 has been put to work in such diverse applications as mining and inventory control as well as everything in between.

## Recombinant Spread Spectrum Technology.

Conventional direct sequence spread spectrum is a technique used to mitigate multi-path fading by transmitting one signal simultaneously over a broad range of frequencies. However, in short range and indoor telemetry environments, direct sequence spread spectrum technology is not effective in eliminating fading due to the short delay spreads. Digital Wireless' patented RSS direct sequence spread spectrum technology is effective in eliminating the effects of multi-path fading. Because the RSS signal amplitude is constantly changing, the reflected signals can never quite "catch up" with the direct signal to cancel it out. The WIT915 employs this technology to effectively eliminate multi-path fading effects, even in the most severe multi-path environments.

**Flexibility.** The WIT915 provides unsurpassed flexibility in operation. From setting the communications rate from 300 bps to 38.4 Kbps to adjusting the transmit power from 1 mW to 1W, the designer can easily customize the WIT915 through software. The WIT915 provides the option of point-to-point or CSMA multi-point operation, 21 communications channels, built-in data encryption, and a low power sleep mode. The WIT915 also has an Adaptive Transmit Power mode that automatically scales transmit power to minimize current drain and radio coverage zones. The WIT915 has the flexibility to meet a wide range of application needs.

**Easy to Integrate.** Even with the high degree of configurability, the WIT915 is simple to integrate. Designed from the start as an OEM product, the needs of the design engineer were considered in the design of the WIT915. Software control is provided for all the various operating modes. This makes configuring the WIT915 to your application a snap. No jumpers to set, no multiple versions of radio modules to buy.



Connection to the WIT915 is made through a 2-pin connector for power and a single 14-pin connector for data and control. With an RS-232 compatible signal set, communicating with the WIT915 no more complicated than communicating with any other serial device.

All of this means that you spend your time on your design and not becoming an expert on spread spectrum transceiver modules. Whether your application is remote monitoring, SCADA, process control, or portable data terminals, to name but a few, the WIT915 is the flexible, easy-to-integrate wireless solution.

## Features:

- 900 MHz Recombinant Spread Spectrum technology
- 38.4 Kbps half duplex, 19.2 Kbps full duplex data rates
- 21 communication channels
- Automatic clear channel seeking
- 1 W transmit power

## Benefits:

- License free operation with immunity to multi-path fading
- Reliable communications that automatically avoids interference
- Typical range from several thousand feet to a few miles
- Easy integration

Put the wireless experts at Digital Wireless to work for you. Visit our web site [www.digital-wireless.com](http://www.digital-wireless.com) or call:

**770.564.5540**



# DIGITAL WIRELESS CORPORATION WIT915 SPECIFICATIONS

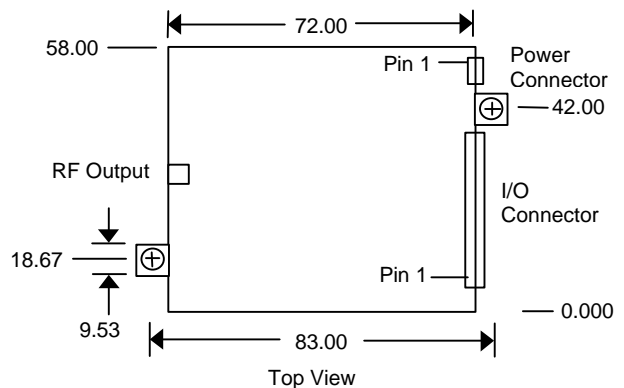
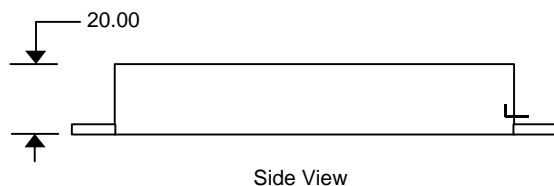
## GENERAL SPECIFICATIONS

<b>RF Frequency</b>	902 to 928 MHz
<b>Radio Certification</b>	Operates under FCC Part 15
<b>Operating Range</b>	Indoor: 1000' typical; Over 1 mile line of sight
<b>Network Topology</b>	Star network
<b>Network Protocol</b>	CSMA
<b>Serial Data Interface</b>	Asynchronous (RS-232) or synchronous
<b>I/O Data Rate</b>	Up to 51.2 Kbps, software selectable
<b>Channel Data Rate</b>	52.38 Kbps
<b># of Frequency Channels</b>	21
<b>RF Bandwidth</b>	1 MHz
<b>Transmit Power Output</b>	1 mW, 10 mW, 100 mW or 1 W, software selectable
<b>Receiver Sensitivity</b>	-90 dBm
<b>Supply voltage</b>	7.0 v to 10 v, 8.4 v nominal
<b>Current Consumption (100mW Transmit Power, 115.2Kbps I/O )</b>	Typical: Sleep – 1 mA Receive – 122 mA Transmit – 286 mA
<b>Size</b>	58mm x 74mm x 20mm
<b>Weight</b>	128g
<b>Operating Temperature</b>	0°C to 70°C
<b>Humidity</b>	20% to 90% (non-condensing)

## CONNECTOR PINOUTS

Power Connector			
Pin	Signal	Description	
1	Gnd	Signal and Chassis Ground	
2	Vcc	Positive supply. Min 7.0 v, Nom 8.4 v, Max 10.0 v	
I/O Connector			
Pin	Signal	Type	Description
1	Gnd		Signal and chassis ground
2	TxD	Input	Transmit data
3	RxD	Output	Receive data
4	CFG	Input	Configuration selector. Used to switch radio between data and control mode
5	RTS	Input	Request to send. Used to initiate radio link in FDX mode, used to switch between transmit and receive in HDX mode.
6	DTR	Input	Data terminal ready. Sleeps/wakes the radio transceiver
7	DCD	Output	Data carrier detect. Indicates carrier detected and data being received
8	CTS	Output	Clear to send. Used for receive flow control by the radio
9	DSR	Output	Data set ready. Response to DTR. Indicates whether radio is asleep or awake.
10	Res		Reserved for future use
11	Res		Reserved for future use
12	Res		Reserved for future use
13	Res		Reserved for future use
14	Res		Reserved for future use

## PHYSICAL SPECIFICATIONS



Specifications subject to change without notice.