User's Manual

900 MHz Daughter Board

VSUB075(REV A1)

Vantage Controls
1061 South 800 East
Orem, UT 84097
(801) 229-2800

JUNE 12, 2002

FCC Compliance Information

FCC ID: PII-VSUB075-1
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

IMPORTANT: *This device operates with a modular transmitter FCC ID: PII-VSUB075-1. In order to comply with the FCC RF exposure requirements, this product must be installed and operated in such a way that a minimum separation distance of 20 cm (approximately 8 inches) is maintained from the antenna to any persons. Operations that do not meet these requirements must be avoided.*

FCC Compliance Warning:
Changes or modifications to this product not expressly approved by Vantage Controls could void the user's authority to operate this product.

*****All information on this page "FCC Compliance Information" shall be supplied to the end user of any product the VSUB075 is incorporated into.***

Introduction

The VSUB075 is an RF transceiver module. It interfaces with other equipment using standard serial asynchronous communications protocol at a rate between 9600 and 57600 baud. The transmitter has a peak output power of 140mW. It is designed to be incorporated into control devices developed by Vantage Controls. The module operates under FCC approval in the 902-928 MHz ISM frequency band.

Integrating the VSUB075 into Products

IMPORTANT: The VSUB075 radio has been certified by the FCC as a module for integration into products without further certification being necessary (as per FCC section 2.1091.) The following requirements must be satisfied in order to comply with FCC regulations:

1) The system integrator must ensure that the external label provided with this device is placed on the outside of the final product.

2) In order to comply with the FCC RF exposure requirements, the VSUB075 may be used only with the antennas it was certified with:

Manufacturer	Model #	Type	Gain(dBi)	Minimum Cable Length
Vantage Controls	VDA-0059	Monopole Whip	2	N/A
Vantage Controls	VDA-0055	Monopole Whip	2	N/A
Astron Wireless	PCD09A0V	Dipole	2.1	13 feet
Astron Wireless	AXH9RTSMS	Half-Wave	2	N/A
Astron Wireless	AXH9RTSMA	Half-Wave	2	N/A
Astron Wireless	AXH9RTSM	Half-Wave	2	N/A
Astron Wireless	AXH92RTSMS	Half-Wave	2	N/A
Astron Wireless	AXH92RTSMA	Half-Wave	2	N/A
Astron Wireless	AXH92RTSM	Half-Wave	2	N/A

A minimum separation distance of 20 cm must be maintained from the antenna to any near by persons.

3) The VSUB075 radio requires an 8-12V DC 200mA supply.

Wording for External Label

This device contains transmitter module:
FCC ID: PII-VSUB075-1
The enclosed device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Interface Pins:

Pin #	Description
1	Power
2	RX
3	Ground
4	TX
5	/Reset

PCB Footprint

The PCB footprint is located in the PADS user library under the name “RFDAUGHTERBOARD”

Specifications

Model #: VSUB075 (REV-A1)
Frequency Range .....902-928 MHz ISM Band
Power Supply .....8-12 VDC
Current required while transmitting 180mA
Current required while receiving 70mA
Antenna Gain 2dBi

Transmit Power 140mW
RF Communications Technology.....Frequency Hopping Spread Spectrum
Number of Hop Channels 25
RF Data Rate .....19,200 bps
Interface Data Rates .....9600-54600 bps

Size ..... 2.75” x 1.47”
Operating Temperature Range .....-40-70°C

**** All information on this page “Specifications” shall be supplied to the end user of any product the VSUB075 is incorporated into.**