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› JDY-31 SPP-C Bluetooth Serial Pass-Through Module User Manual

Rakstore JDY-31 SPP-C

JDY-31 SPP-C Bluetooth Serial Pass-Through Module User Manual

Model: JDY-31 SPP-C | Brand: Rakstore

1. PRODUCT OVERVIEW

The JDY-31 SPP-C Bluetooth Serial Pass-Through Module is designed for wireless serial communication, offering a reliable and efficient solution for various embedded systems and IoT applications. It functions as a Bluetooth 3.0 SPP (Serial Port Profile) module, enabling seamless data transmission between devices. This module is a suitable replacement for HC-05 and HC-06 modules, providing stable performance for projects requiring Bluetooth connectivity.

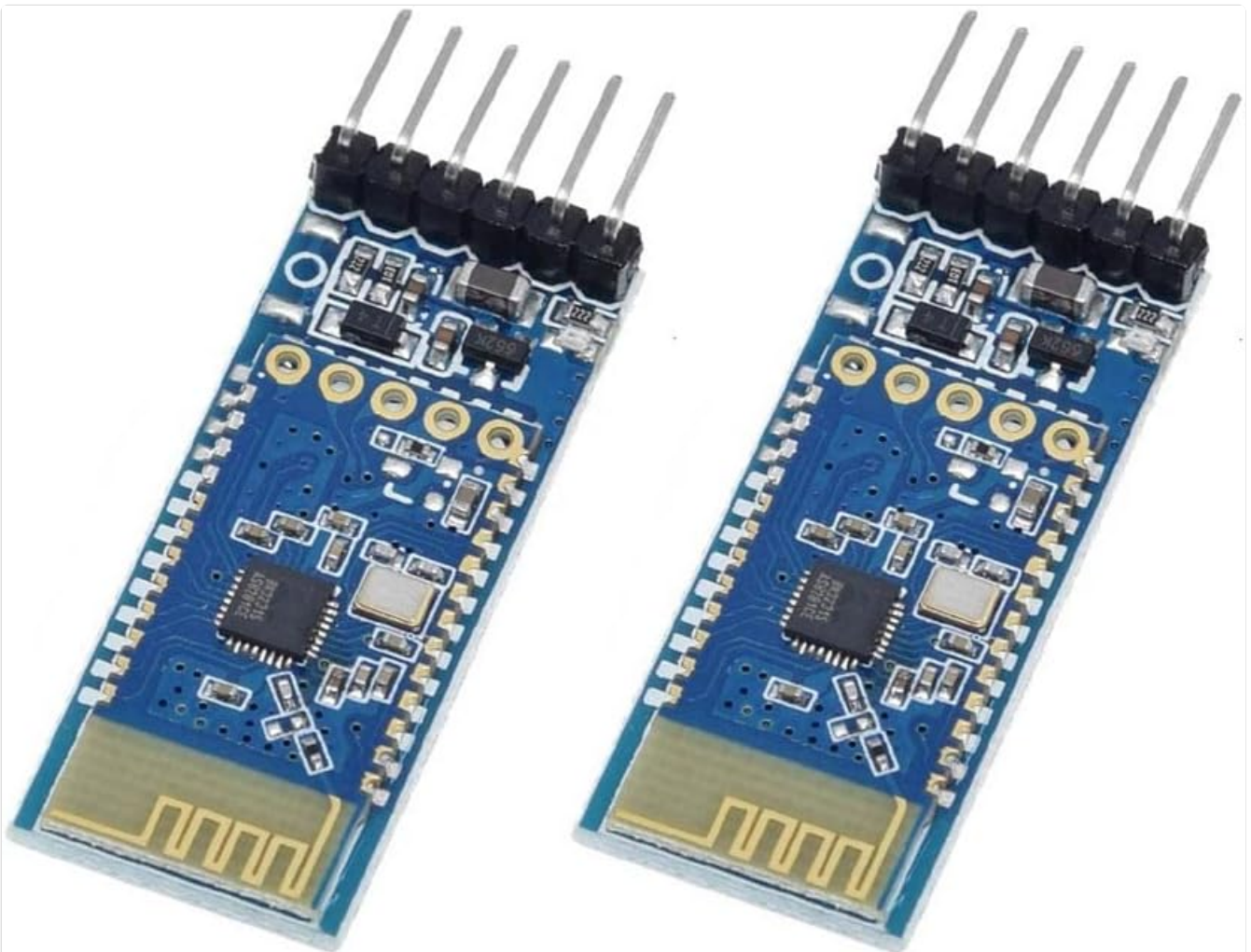


Figure 1: Two JDY-31 SPP-C Bluetooth modules, showcasing their compact design and pin headers.

2. KEY FEATURES AND SPECIFICATIONS

The JDY-31 module boasts several features making it ideal for serial communication:

- **Working Frequency:** 2.4GHZ
- **Communication Interface:** UART
- **Bluetooth Version:** Bluetooth 3.0 SPP
- **Working Voltage:** 1.8-3.6V (3.3V recommended)
- **Transmitting Power:** 8db (max)
- **Receiving Sensitivity:** -97dbm
- **Transmission Distance:** Up to 30 meters (open area)
- **Antenna:** Built-in PCB antenna
- **Master-Slave Support:** Slave mode only
- **Unconnected Working Current:** 4.7mA
- **Current After BLE Connection:** 7.3mA
- **SPP Maximum Throughput:** 16K bytes/s
- **Working Temperature:** -400C to 800C

Detailed Specifications:

Attribute	Value
Brand	Rakstore
Hardware Interface	Bluetooth
Compatible Devices	Desktop (and other UART-enabled microcontrollers/devices)
Data Link Protocol	Bluetooth
UPC	717981931406

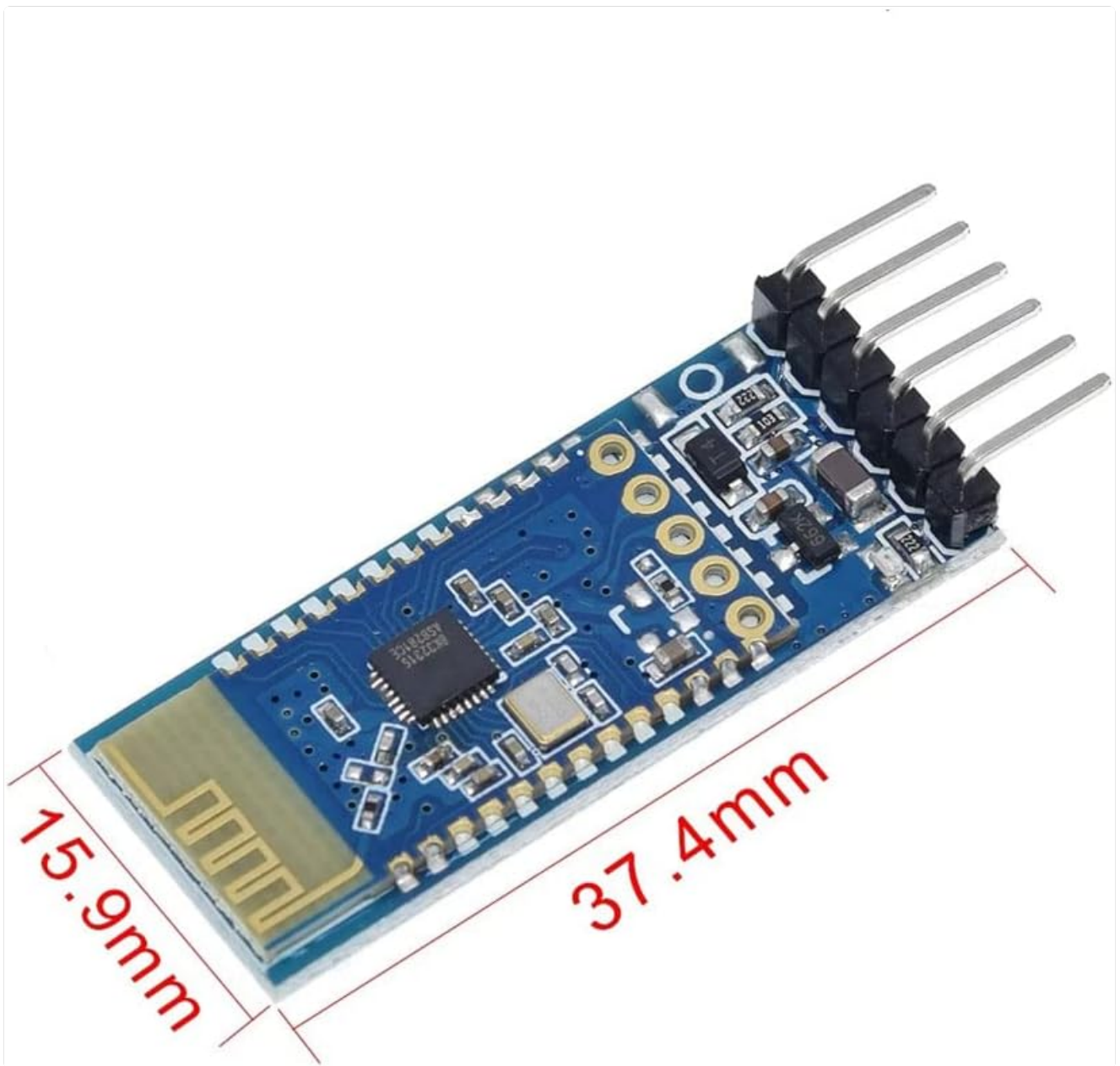


Figure 2: A JDY-31 SPP-C Bluetooth module with dimensions indicated, showing its length of 37.4mm and width of 15.9mm.

3. SETUP AND CONNECTIONS

Proper connection of the JDY-31 module is crucial for its functionality. The module features several pins for power, data, and control.

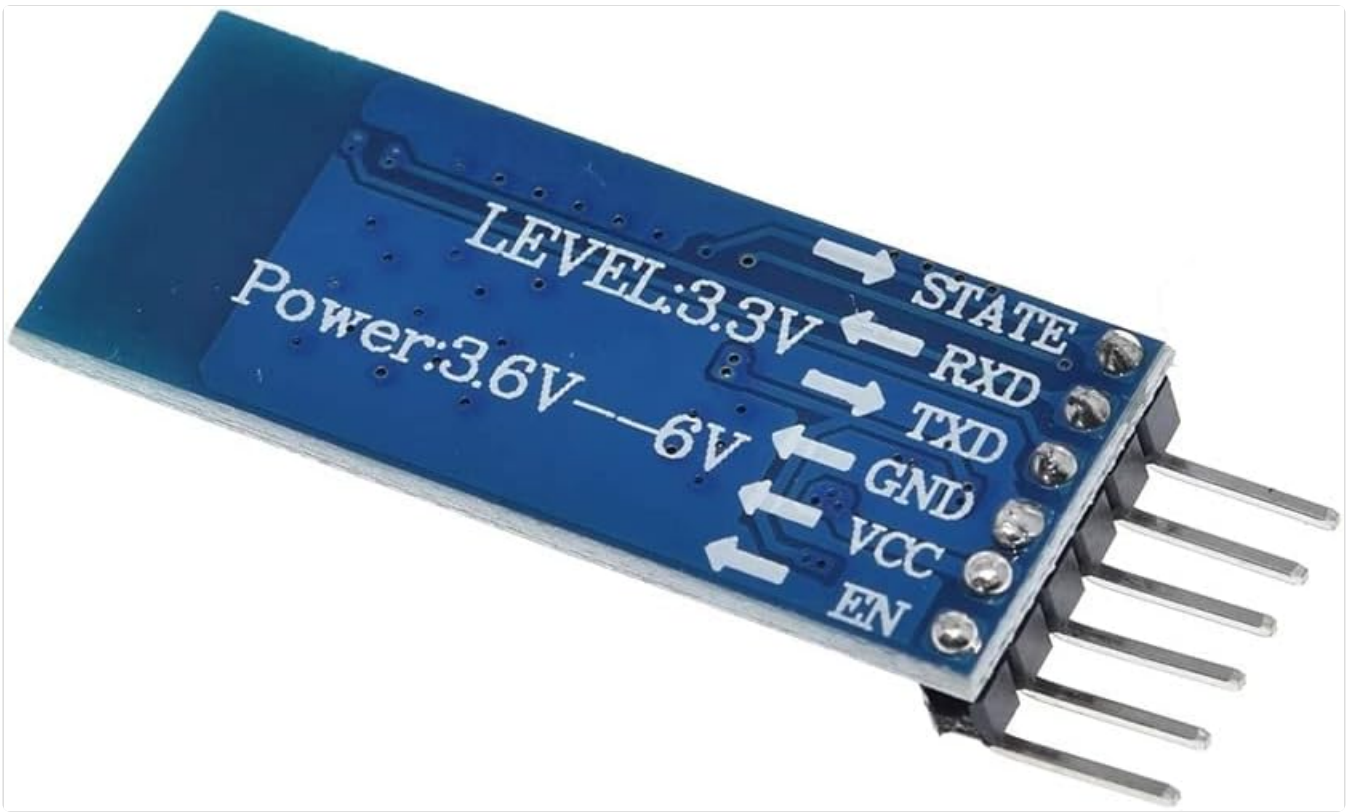


Figure 3: Bottom view of the JDY-31 SPP-C module, clearly labeling the pin functions: LEVEL (3.3V), STATE, RXD, TXD, GND, VCC, and EN, along with power input range (3.6V-6V).

Pin Descriptions:

- **VCC:** Power supply input. Recommended 3.3V, but supports 1.8V to 3.6V. The module has an onboard regulator for 3.6V-6V input.
- **GND:** Ground connection.
- **TXD:** Transmit Data. Connects to the RXD pin of your microcontroller/device.
- **RXD:** Receive Data. Connects to the TXD pin of your microcontroller/device.
- **EN:** Enable pin. Pull high to enable the module.
- **STATE:** Status indicator pin. Typically goes high when connected to another Bluetooth device.
- **LEVEL:** Voltage level selection for UART. Indicates 3.3V logic level.

Basic Connection Steps:

1. Connect **VCC** to your power supply (e.g., 3.3V or 5V, ensuring it's within the 1.8V-6V range).
2. Connect **GND** to the ground of your power supply and microcontroller.
3. Connect **TXD** of the JDY-31 to **RXD** of your microcontroller.
4. Connect **RXD** of the JDY-31 to **TXD** of your microcontroller.
5. Ensure the **EN** pin is pulled high (connected to VCC) for the module to operate.

Note: When connecting to 5V microcontrollers, ensure proper voltage level shifting for TXD/RXD if the microcontroller is not 5V tolerant on its RX pin, as the JDY-31 operates at 3.3V logic levels.

4. OPERATING INSTRUCTIONS

The JDY-31 module operates as a Bluetooth SPP slave device, meaning it can be discovered and connected to by a Bluetooth master device (e.g., a smartphone, computer, or another Bluetooth module configured as master). Data is then transmitted transparently over the serial port.

Pairing and Connection:

1. Power on the JDY-31 module. The STATE pin will typically be low or blinking, indicating it's discoverable.
2. On your master device (e.g., smartphone), scan for Bluetooth devices. The JDY-31 module will usually appear as "JDY-31" or a similar name.
3. Select the JDY-31 module to pair. The default pairing code is typically "1234" or "0000".
4. Once paired and connected, the STATE pin on the JDY-31 module will usually go high, indicating an active connection.

Serial Data Transmission:

After a successful connection, any data sent to the JDY-31's RXD pin will be transmitted wirelessly to the connected master device. Conversely, any data received wirelessly from the master device will be outputted through the JDY-31's TXD pin.

The module can be configured using AT commands sent via the serial port before a Bluetooth connection is established. Common AT commands allow setting the module's name, baud rate, and pairing code. Refer to the specific JDY-31 AT command set documentation for detailed configuration options.

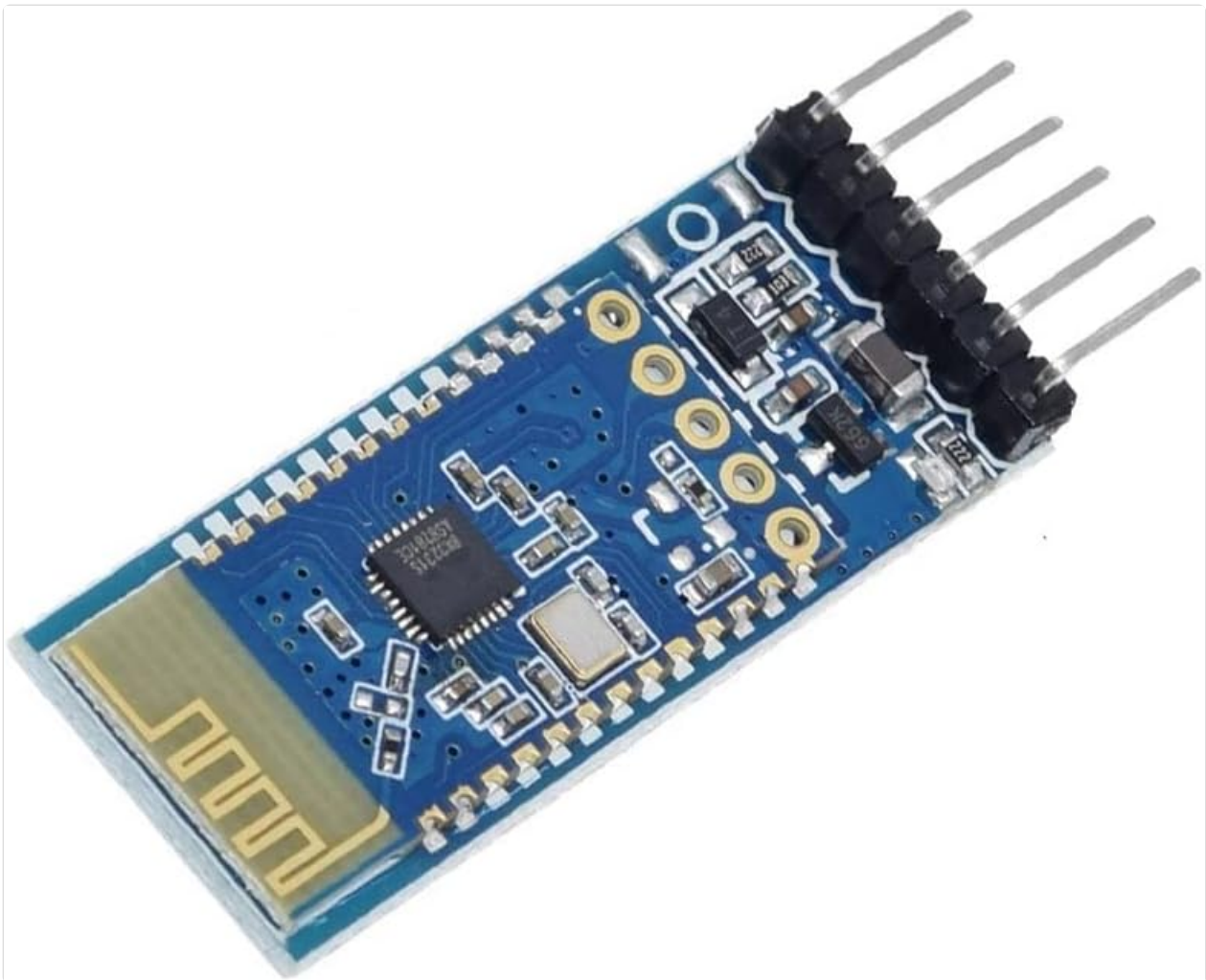


Figure 4: Top view of a single JDY-31 SPP-C Bluetooth module, highlighting the main chip and antenna.

5. MAINTENANCE

The JDY-31 module is a robust electronic component, but proper handling and care can extend its lifespan and ensure reliable operation:

- **Handle with Care:** Avoid dropping or subjecting the module to physical shock.
- **Static Electricity:** Always handle the module in an ESD-safe environment to prevent damage from static discharge.
- **Environmental Conditions:** Operate and store the module within its specified temperature range (-40°C to 80°C) and avoid high humidity or corrosive environments.
- **Power Supply:** Ensure the power supply voltage is stable and within the recommended range (1.8V-3.6V, or 3.6V-6V if

using the onboard regulator) to prevent damage.

- **Cleaning:** If necessary, gently clean the module with a soft, dry cloth. Avoid using liquids or harsh chemicals.

6. TROUBLESHOOTING

If you encounter issues with your JDY-31 module, consider the following troubleshooting steps:

- **Module Not Powering On:**
 - Verify VCC and GND connections are correct and stable.
 - Ensure the power supply voltage is within the specified range.
- **Module Not Discoverable:**
 - Confirm the EN pin is pulled high.
 - Check if the module is already connected to another device. The JDY-31 is a slave module and can only connect to one master at a time.
 - Ensure the module is powered correctly.
- **Cannot Pair/Connect:**
 - Double-check the pairing code (default is usually "1234" or "0000").
 - Ensure the master device's Bluetooth is enabled and functioning correctly.
 - Try restarting both the module and the master device.
- **No Data Transmission:**
 - Verify TXD and RXD connections are correctly cross-connected (TXD to RXD, RXD to TXD).
 - Ensure the UART baud rates on both the module and your microcontroller/device match.
 - Check if the module is actively connected (STATE pin high).
 - Confirm that the serial port on your microcontroller is correctly initialized and sending/receiving data.
- **Intermittent Connection/Data Loss:**
 - Check for interference from other 2.4GHz devices.
 - Ensure the transmission distance is within the 30-meter limit and there are no significant obstacles.
 - Verify power supply stability.

7. WARRANTY AND SUPPORT

For specific warranty information, please refer to the purchase documentation or contact the seller directly. As a general guideline, electronic components typically come with a limited warranty against manufacturing defects.

For technical support or further assistance, please reach out to the manufacturer or the vendor from whom you purchased the JDY-31 SPP-C Bluetooth Serial Pass-Through Module. Provide your product model and a detailed description of the issue to facilitate a quicker resolution.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question