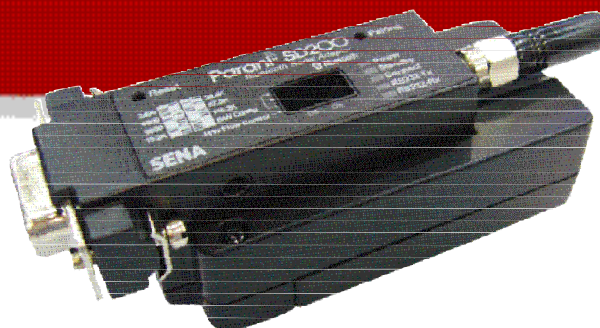
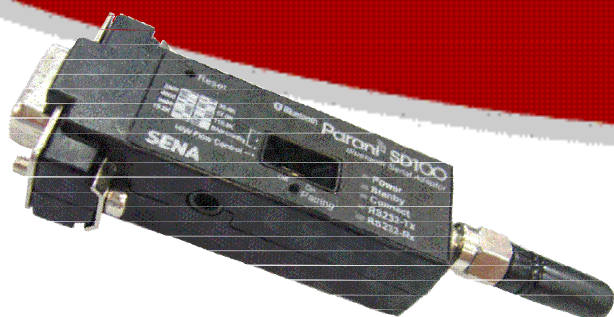


# Bluetooth Serial Adapter, Parani-SD100/200



## Features

- Provides transparent RS232 serial cable replacement.
- Supports Bluetooth stack 1.2 - improved AFH(Adaptive Frequency Hoping), Fast connection.
- Transmit Power - SD100 : Max. +18dBm  
SD200 : Max. +4dBm
- Receiving Sensitivity - SD100 : -88dBm(0.1%BER)  
SD200 : -80dBm(0.1%BER)
- Antenna gain - Stub : +2dBi, Dipole : +4dBi, Patch : +8.5dBi
- Supports Bluetooth Serial Port Profile.
- Interoperability with PDA, laptops etc.
- Supports firmware upgrade via windows-based software(ParaniUpdater)
- Working distance:  
Parani-SD100 : Class 1, Nom. 100 meters,  
up to 1000m using patch antenna  
Parani-SD200 : Class 2, Nom. 30 meters,  
up to 300m using patch antenna
- Software-free configuration support using DIP-Switch and pairing button
- Parani-SD200 : Supports battery pack (Two AA battery)
- No external drivers required.

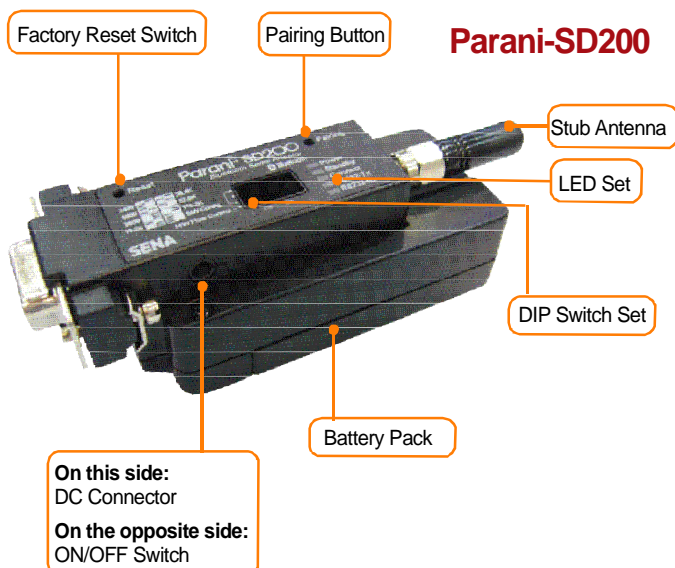
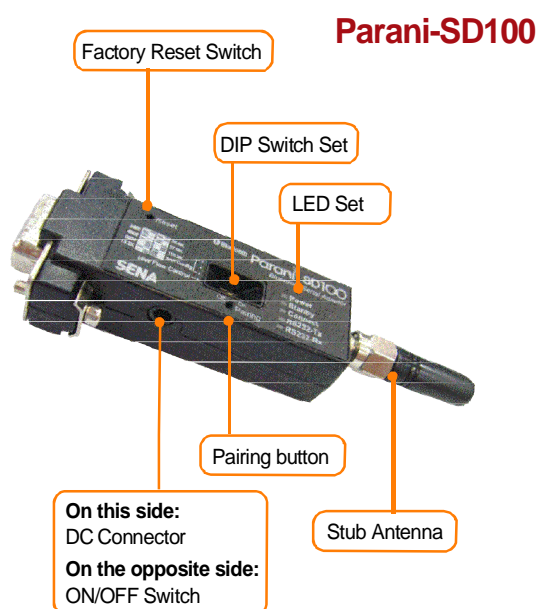
**Parani-SD Series** is a Bluetooth serial adapter product line based on Bluetooth technology. Parani-SD Series enables RS232-based serial devices to communicate wirelessly throughout the range of 30m ~ 300m (Parani-SD200-Class 2) or 100m ~ 1000m (Parani-SD100-Class 1).

Users may configure the Parani-SD Series by using combination of DIP-switch and Pairing button, easy-to-use Windows-based utility software or by using standard AT command set.

Using DIP-switch of the Parani-SD Series, user can simply configure baud rate and hardware flow control settings of the Parani-SD Series. Pairing-button enables two Parani-SD Series units to be connected automatically.

Flexible power supply options allow users to choose which options suits them best, i.e. Power by DC power cable, Power by external DC adapter, Power by USB power cable, Power by pin 9 of DB9 connector. The Parani-SD supports battery pack that can carry two AA batteries. Users can use both general type batteries or rechargeable ones. Battery pack allows users to recharge the batteries.

## Panel Layout



Typical application areas of the Parani-SD Series include:

- RS232 cable replacement
- Wireless Factory monitoring
- Truck/Bus monitoring system
- PLC programming
- Car Diagnostics
- Wireless Printing
- Wireless POS system
- Wireless logistics
- Wireless machine(healthcare/industrial) monitoring

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# Bluetooth Serial Adapter, Parani-SD100/200

## Specifications

### Serial Interface:

- RS232, Female DB9, 1200 – 230 Kbps
- CTS/RTS flow control: Default
- DTR/DSR for loop-back & full transfer

### Bluetooth Interface:

- Parani-SD100 :
  - Bluetooth v1.2
  - Class I
  - Level - 18 dBm
  - Protocols - RFCOMM, L2CAP, SDP
  - Profiles - General Access Profile, Serial Port Profile
  - Working distance
    - Default Antenna - Default Antenna 100 meters
    - Default Antenna - Dipole Antenna 150 meters
    - Dipole Antenna - Dipole Antenna 200 meters
    - Patch Antenna - Dipole Antenna 400 meters
    - Patch Antenna - Patch Antenna 1,000 meters
- Parani-SD200 :
  - Bluetooth v1.2
  - Class 2
  - Level - Max. 4 dBm
  - Protocols - RFCOMM, L2CAP, SDP
  - Profiles - General Access Profile, Serial Port Profile
  - Working distance
    - Default Antenna - Default Antenna 30 meters
    - Default Antenna - Dipole Antenna 50 meters
    - Dipole Antenna - Dipole Antenna 80 meters
    - Patch Antenna - Dipole Antenna 150 meters
    - Patch Antenna - Patch Antenna 300 meters

### Configuration:

- ParaniWin, Modem AT command set

### Firmware Update:

- ParaniUpdater

### Diagnostic LED:

- Power
- Standby
- Connect
- RS232-Tx
- RS232-Rx

### Power:

- Parani-SD100 :
  - 5V~12V DC, minimum 300mA nominal power consumption of 60mA@9600bps and 81mA@115Kbps speed
- Parani-SD200 :
  - 5V~12V DC, minimum 150mA nominal power consumption of 58mA@9600bps and 66mA@115Kbps speed
- Common Power supply options:
  - Power via a standard AC-plug DC-adaptor
  - Power via USB power cable
  - Power via DC power cable
  - Power via pin 9 of DB9 connector
  - Battery Pack for SD200 only

### Battery Usage Time:

- When using battery pack for SD200:
  - Typical 1.5V -AA alkaline batteries (2500mAh)
  - Avg. 11hr@9600bps
- Note : Depending on the batteries and its usage environment greatly determines how long the Parani product will last for their application, i.e. battery storage, battery capacity, battery brand and so on.

### Environmental:

- Operating temperature:
  - -10 c to 55 c
- Storage temperature:
  - -20 c to 70 c
- Humidity: 90% Non-condensing

### Physical properties:

- Dimension (L x W x H)
  - SD100 - 96 x 31 x 16 (mm), 3.8 x 1.2 x 0.6 (in.)
  - SD200 - 101 x 31 x 16 (mm), 4.0 x 1.2 x 0.6 (in.)

### Certification:

- FCC, CE, MIC, TELEC

### Warranty:

- 3-year limited warranty

## Ordering Information

**SD100** Parani-SD100 Bluetooth-Serial Adapter-Class1-DIP

**SD200** Parani-SD200 Bluetooth-Serial Adapter-Class2-DIP

### Single Pack Includes :

- DPA : Parani-DPA DC power cable for SD series
- UPA : Parani-UPA USB Power Cable
- SAT : Parani-SAT Stub Antenna-SMA Male-Left Handed
- OPA : Parani-OPA External Power Adaptor-International - 4 types: EU, America, UK, Australia or EPA : Parani-EPA External Power Adaptor-220V
- FM9GD : DB9 Female to Male Gender
- CD-ROM

### 10-Unit Bulk Pack Includes :

- SAT : Parani-SAT Stub Antenna-SMA Male-Left Handed
- DPA : Parani-DPA DC power cable for SD series

### Optional Accessories :

- UPA : Parani-UPA USB Power Cable
- OPA : Parani-OPA External Power Adaptor-International - 4 types: EU, America, UK, Australia OR EPA : Parani-EPA External Power Adaptor-220V
- BPC: Parani-BPC Battery Pack for SD200 only.
- DAT : Parani-DAT Dipole Antenna-SMA Male-Left Handed
- PAT : Parani-PAT Patch Antenna-SMA R/A Female-Right Handed
- RFC : Parani-RFC 1m Antenna Extension Cable for all antennas
- FM9GD : DB9 Female to Male Gender
- SLR : SMA-Male left handed to right handed adapter
- CD-ROM

For more information, please visit us at  
<http://www.sena.com>

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