



Promi-SD™

User Manual


Version 1.3


by Bluetooth

Enabling Wireless Serial Communications

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Revision History: User Manual of Promi-SD™

Version	Changed Contents	Date
1.1	Draft version	01/02/2003
1.2	Added Technical Specifications/Troubleshooting.	06/14/2003
1.3	Amended Power Consumption data of Promi-SD101/102/202	06/24/2003

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1. Product Description

1.1 About Promi-SD™

Promi-SD™ is developed for long range, easy-to-install, low-cost, wireless serial communications. Provided is point-to-point wireless connection without standard RS232 cables.

For point-to-multipoint connections, please refer to our [Promi-MSP™](#), providing all the features of RS485.

Product line

Model Name	Part No.	Spec.
Promi-SD101	PSD00-10100	Class 2 / Output Power: 2.5mW (4dBm) 5V DC power supply Rechargeable Li-poly Battery, internal w/ Power Adapter w/ Setup Software & manual on CD
Promi-SD102	PSD00-10200	Class 2 / Output Power: 2.5mW (4dBm) 5V/12V DC power supply w/o Battery & Power Adapter w/ Setup Software & manual on CD w/ USB Power Cable & DC Power Cable (Optional: 5V Power Adapter)
Promi-SD202	PSD00-20200	Class 1 / Output Power: 63mW (18dBm) 5V DC power supply w/o Battery & Power Adapter w/ Setup Software & manual on CD w/ USB Power Cable & DC Power Cable (Optional: 5V Power Adapter)



Fig. 1.1.1 A CD-ROM inclusive a setup software (Promi-WIN™) and user manual

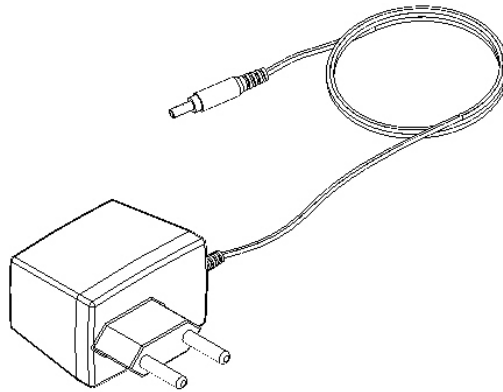


Fig. 1.1.2 Optional Power Adaptor
Part no. PSD00-00010

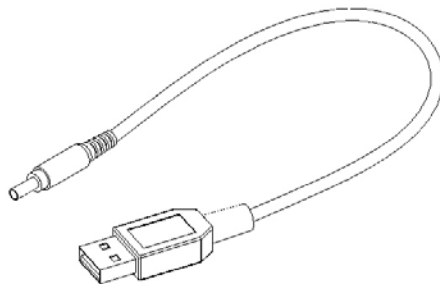


Fig. 1.1.3 USB Power Adaptor
Part no. PSD00-00020

*You may use USB port to supply power to Promi-SD™ using this USB power cable

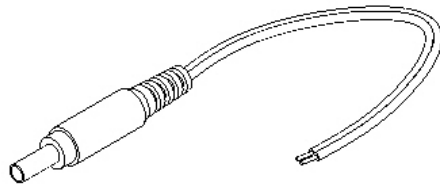


Fig. 1.1.4 DC Power Cable

Part no. PSD00-00030

*Red colored line of DC power cable is for '+'

1.2 External View

Promi-SD™

Dimensions: 60 x 26 x 16 (mm)

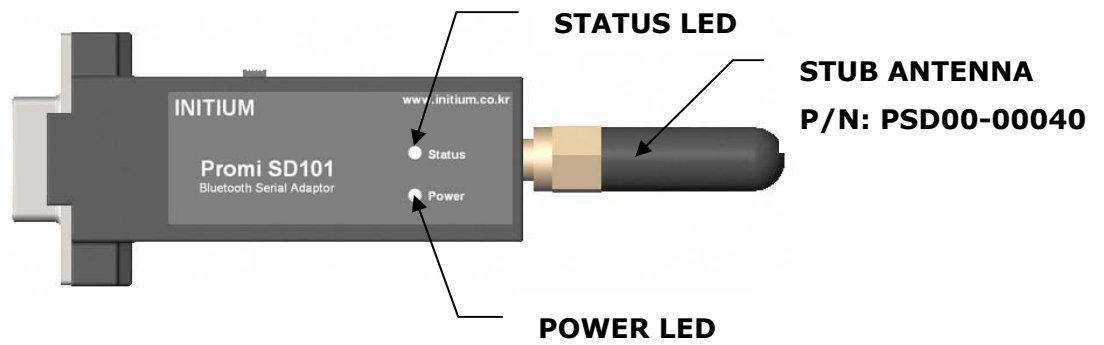


Figure 1.2.1 Promi-SD™ top view

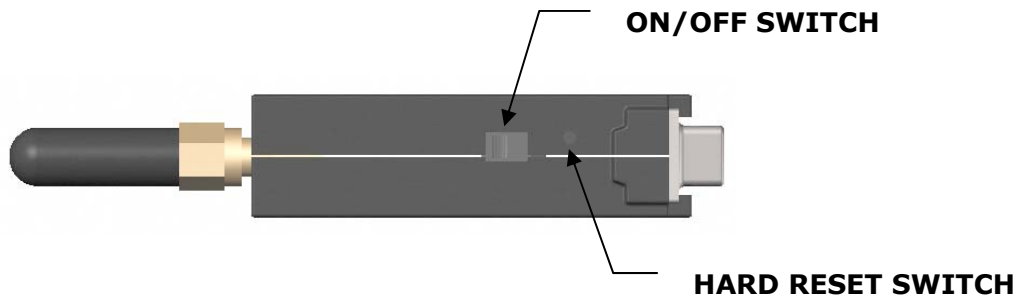


Figure 1.2.2 Promi-SD™ right side view

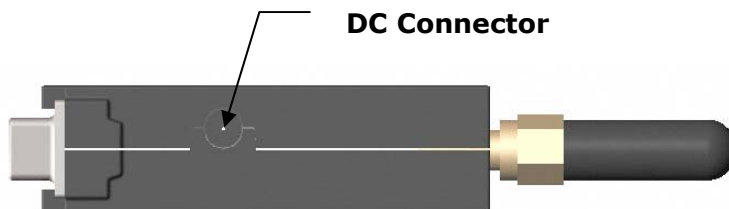


Figure 1.2.3 Promi-SD™ left side view

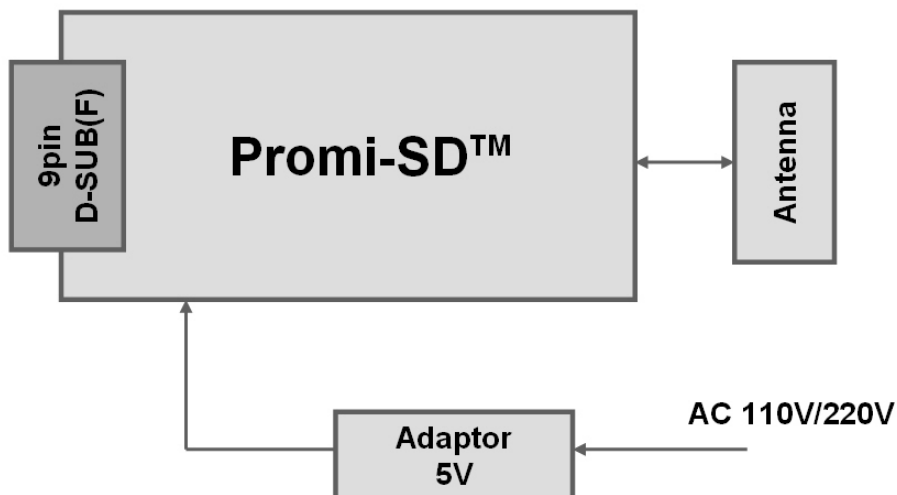
Please refer to the [1.5 Power Supply](#) section for Promi-SD™ power options

1.3 LED Indicator

The Promi-SD™ STATUS LED indicates the following:

- Amber STATUS LED indicates standard mode on Promi-SD™ power-up.
 - Green STATUS LED indicates Promi-SD™ is connected to another Bluetooth device
 - Green flashing STATUS LED every second indicates Promi-SD™ INQUIRY operation
 - Green flashing STATUS LED every 3 seconds indicates Promi-SD™ INQUIRY SCAN or PAGE SCAN operation
-
- Amber POWER LED of Promi-SD101 indicates battery is being charged.
 - Green POWER LED of Promi-SD101 indicates battery is fully charged.
 - Green POWER LED of Promi-SD102 indicates power is being supplied.

1.4 Block Diagram



1.5 Power Supply

Power may be supplied by following ways:

- Power via a standard AC-plug DC-adapter (p/n: PSD00-00010)
- Power via USB power cable (p/n: PSD00-00020)
- Power via DC power cable (p/n: PSD00-00030)
- Power via pin 9 of D-SUB connector.

Promi-SD101 can be recharged by 4 ways above.



Figure 1.5.1. DC plug polarity

Promi-SD101 (Class2): 5V+/-10%, 500mA minimum

Promi-SD102 (Class2): 4V~12V, 100mA minimum

Promi-SD202 (Class1): 4V~12V, 150mA minimum

Current Consumption Data at different speeds of serial communications:

Condition of Baud Rate	Current Consumption		Battery Life (Promi-SD101)
	(Promi-SD101/102)	(Promi-SD202)	
9600bps	35.3 mA	40 mA	5 hrs 20 min
115200bps	40 mA	72 mA	4 hrs 30 min.

1.6 Interface- RS232 / Bluetooth

1.6.1 RS232 Interface

Promi-SD™ has a 9-PIN DSUB (female) connector as shown below in Fig 1.7.1.

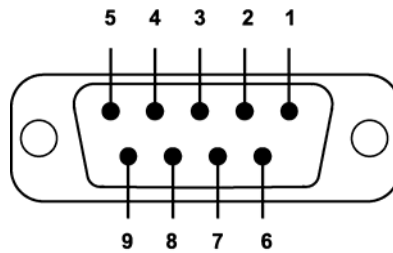


Figure 1.7.1 9-PIN DSUB (Female)

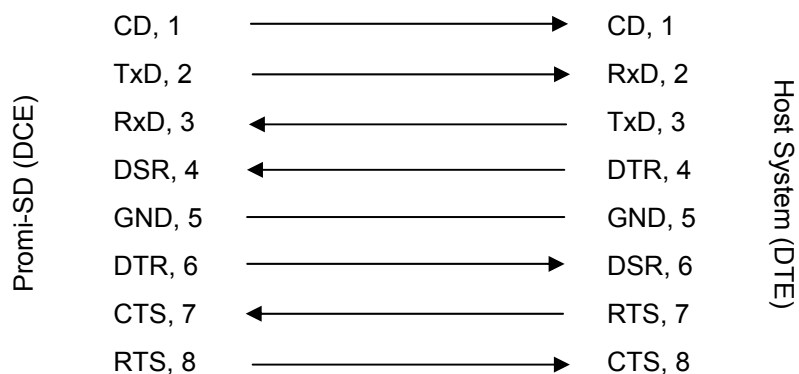
- The serial interface is RS232 DCE configured; a DTE device can be connected.
- Baud rate: 1200~115200 bps
- Hardware flow control (RTS/CTS)

Pin	Signal	Direction
1	CD	Not connected
2	TxD	Output
3	RxD	Input
4	DSR	Input
5	GND	-
6	DTR	Output
7	CTS	Input
8	RTS	Output
9	Vcc	Input

Table 1.7.1. Promi-SD™ 9-PIN Specification

***NOTE:** Promi-SD™ series, starting from version no. v2i will include an [Automatic Detection Feature of hardware flow control.](#)

Promi-SD™ is designed to operate as DCE (Data Communications Equipment). To connect to DTE (Data Terminal Equipment), for example a PC or a laptop, a straight cable must be used as in below.



*DTR/DSR of Promi-SD™ of v2i will be functioned for either Loop-back operation or Communications. Users may select a function of DTR/DSR using AT command- ATS14. **Default value of ATS14 is 0.**

- ATS14=1<cr>: Users may use DTR/DSR lines for communications
- ATS14=0<cr>: Users may use DTR/DSR lines for Loop-back only.
- ATS14?: To see current status of ATS14.

1.6.2 Bluetooth Interface

Bluetooth Specification	V 1.1
Level	4 dBm (Promi-SD101/102) 18 dBm (Promi-SD202)
Range	~30m (Promi-SD101/102) ~100m (Promi-SD202)
Bluetooth protocols	RFCOMM, L2CAP, SDP
Supported Profiles	General Access Profile Serial Port Profile

Figure 7.

3. Turn off both SD power supplies. From now, when both SD units are powered up again, they will automatically connect. (To release this feature, reset both SD units. Amber SD STATUS LED indicates successful reset process.)

2.2. Using a Terminal Program

Promi-SD™ units are easily controlled and configured via PromiWIN™. Likewise functions are accomplished via any terminal program such as HyperTerminal. AT command sets supported by Promi-SD™ add sophistication to Promi-SD™ control.

2.2.1 Connecting Promi-SD™ to host.

For SD use, follow the simple instructions below:

1. Connect an SD to a host serial port. Then, turn on the SD.
2. Check the STATUS LED color. Amber indicates standard mode.
3. Execute any terminal program and activate Local Echo.
4. Configure the host serial port to match the SD unit configuration. The SD default configuration is 9600 bps Baud, 8 Data bit, No Parity, 1 Stop bit and H/W flow control.
5. Enter 'AT' command at the prompt. An SD 'OK' reply indicates proper operation.

2.2.2 Making the first Promi-SD™/Bluetooth connection

As stated before, Bluetooth wireless connections can be made with any other

28)	<p>ATS14=1<cr>: Users may use DTR/DSR lines for communications</p> <p>ATS14=0<cr>: Users may use DTR/DSR lines for Loop-back only.</p> <p>Default value of ATS14 is 0.</p> <p>ATS14?: To see current status of ATS14.</p>
29)	<p>ATS15=1<cr>:</p> <p>If users set ATS15=1, users may use DTR signal to disconnect Bluetooth connection.</p> <p>If ATS15=1, and DTR signal is changed from state ON to OFF, your connection will be disconnected.</p> <p>ATS15=0<cr>: If ATS15=0, users may NOT use DTR signal to disconnect the Bluetooth connection.</p> <p>ATS15?: To see current status of ATS15.</p>