Bluetooth V2.1 SPP RS-232 Serial Adapter

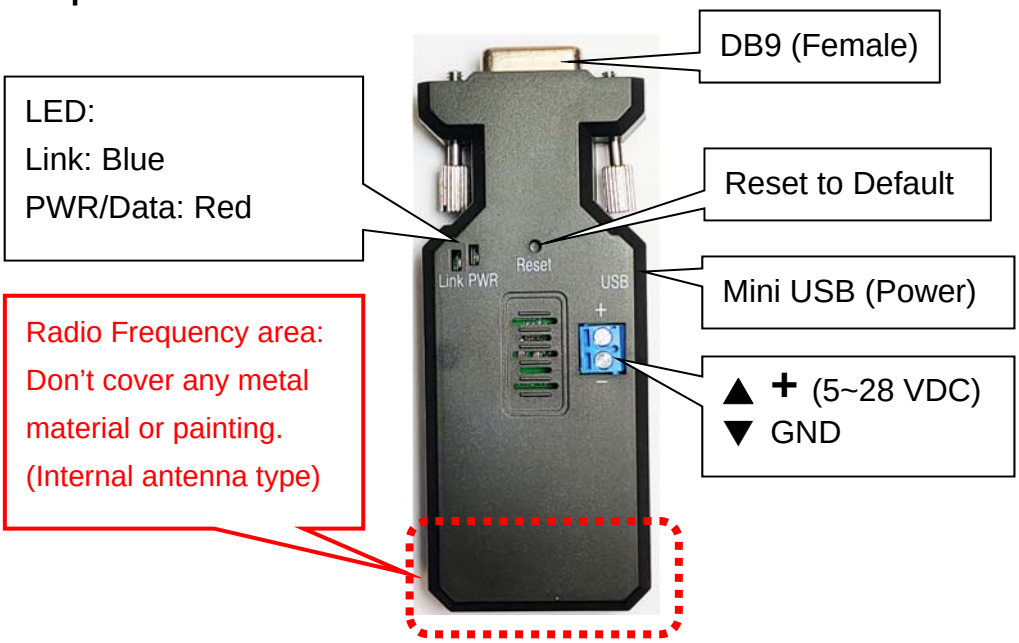
Model: S2B2232FIV2 (Internal antenna, Female DB9)

1. Package content:

Bluetooth RS-232 adapter	Package Contents:
 White Box Dimension: 11 x 6 x 5 (cm) Total Package Weight: 95 g (Internal antenna) 	● Bluetooth RS-232 adapter x 1 ● A4 User manual x 1 ● Mini USB Cable x 1

2. Profile:

2.1 Top view:



LED Status	Description
Red LED solid on	Power On
Blue LED solid on	Bluetooth Link
Blue LED flash	Bluetooth not Link
Both LED off	DFU mode

2.2 Rear Side:

3. Power supply:

3.1 Voltage: 5~28 VDC, **Don't exceed the limit.**

3.2 There're 3 ways to power the adapter: Mini USB, 2P Terminal Block (Blue) and pin9 of DB9, please choose one. **Don't power the adapter by more than one source.**

3.3 The mini USB to type A cable is inside the standard package.

4. Guide:

4.1 Default value:

- Baud rate: 9,600 bps
- Data bit: 8
- Parity: none
- Stop bit: 1
- Flow control: none
- Device Name: Serial Adapter
- Pin: (None), The value will be authenticated by each other for the S2B2232FIV2 or S2B2232FEV2 only.
- Mode: Default is "Slave", The adapter can be configured the "Master" by the command "role=m".

4.2 If the PC not built in the Bluetooth, please source the Bluetooth USB dongle or use the same adapter set as the "master". The built in Bluetooth of NB supports class 2 only, 10 meters. If you need more than 10 meters range, you will connect two adapters.

4.3 Slide Switch of "DTE/DCE"

Use the slide switch to swap the "TX/RX" and "CTS/RTS". By slide the switch, you can set the adaptor either as a DTE (towards antenna connector) or a DCE (towards DB9 connector). In most situation, switch to "DTE" if connect with the remote device.

4.4 Slave mode (default): Start the searching from the PC or smartphone and connect it.

4.5 Reset Button: Pressed with a clip or pin into the hole on the top cover. Restore the factory settings (after over three seconds' press).

5. Setup Command set (any capital or lowercase combination is available)

Command	Value	Description
?		List all the command set
ADDRESS=?		This command is used to display the Bluetooth address of the local adaptor. Ex. 3C:61:A8:60:BA:72
AT		Check the connection status between control terminal and the RS-232 adapter. Response: “OK” when the connection is ok. Response: “ERROR” when the connection is not ok.
AUTO=		This command is used to enable/disable auto-connection feature. It is available only when the adaptor is in the master role. All the slaves with the head of the mac. 0012, 0019 or 3C61 will be connected w/o authenticating the pin value. Refer: page 6 section 7.
	Y	The Master role adapter will connect the latest paired Bluetooth device automatically.
(Default)	N	The user will connect the Bluetooth device manually.
	?	Inquire the current setting.
BAUD=		This command is used to specify the baud rate of COM port. The command will need 200 ms delay.
	1200	1200 bps
	2400	2400 bps
	4800	4800 bps
(Default)	9600	9600 bps
	19200	19200 bps
	38400	38400 bps
	57600	57600 bps
	115200	115200 bps
	230400	230400 bps
	?	Inquire the current baud rate.
BIT=		Data bit
	5	5 data bits
	6	6 data bits
	7	7 data bits
(Default)	8	8 data bits
	?	Inquire the data bit setting.
CONNECT=		This command is used to establish a connection manually. It is available only when the adaptor is in the master role.
	1~8	Connect the adaptor to a Bluetooth device in the neighborhood found through “SEARCH=?”
	xxxxxxxxxxxx	Connect the remote adapter by type the MAC address directly without searching.
	?	Display the MAC address of the latest paired device.
DEFAULT=Y		This command is used to restore the default settings and originate a warm start.
DFU=	Y	Switch to the firmware upgrade procedure, please disconnect the COM port when the adapter reply “OK”. Send the firmware file by the “Accessport” software, please check the link on page 6 section 9.3.
ECHO=		This command is used to specify whether the adaptor echoes characters received from the UART back to the DTE/DCE.
	N	Command characters received from the UART are not echoed back to

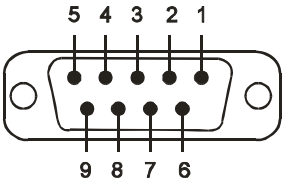
		the DTE/DCE.
(Default)	Y	Command characters received from the UART are echoed back to the DTE/DCE.
	?	Inquire the current setting.
FLOW=		This command enable or disable flow control signals (CTS/RTS) of the UART port. Note, the setting is not affected by DEFAULT. The command will need 1 second delay.
(Default)	N	Disable flow control.
	Y	Enable flow control.
	?	Inquire the current setting
KEY=		The key value will be created by the smart phone or Win10 devices when pairing with the slave adapter. Please type the same 6 numbers shown on the smart phone or Win10 devices within 15 seconds.
(Default)	N	
	Y	
	?	
MAC=		The mac. Address will be customized by the user. The master will connect the 2nd slave with the same mac. address if the 1st slave damaged.
	xxxxxxxxxxxx	The head of the address 0012, 0018, 0019 is available only.
	?	
NAME=		This command is used to specify a name for the adaptor. Max. 32 bytes. You can specify a friendly name using 0 to 9, A to Z, a to z, space and –, which are all valid characters. Note that “first space or -, last space or – isn’t permitted”. The default name is “Serial Adaptor”.
(Default)	Serial Adapter	Default device name
	xx….xx	“xx….xx” is a character string with the length from 5 to 32.
	R	Restore the default settings name=“Serial Adapter”.
	?	Inquire the name of the local adaptor.
ONE=		The master will link with one paired or any nearby slave automatically. All the slaves with the same pin code will be connected. Once connected, the master will not change the paired slave until reset to default from the slave. The command is available under the command “auto=y”. Refer: page 6 section 7.
(Default)	N	The master will link with any nearby slave automatically.
	Y	The master will link with the paired slave which is linked by the master before automatically.
	?	Inquire the current setting
PARITY=		This command is used to specify parity bit setting of COM port.
(Default)	N	None parity bit
	O	Odd parity
	E	Even parity
	?	
PIN=		This command is used to specify a PIN. The default PIN is (None) and the length is not smaller than 4. The master will connect the slave first and check the pin value sent from the slave. The command is available

		for the S2B2232FE(I)V2 only. The master will connect the slave if the pin value is the same between both.
(Default)	(None)	The default is not authenticated by default.
	xx….xx	“xx….xx” is a 4~32 digit string or English character (no matter the capital or lower case)
	?	Inquire the current PIN.
PROMPT=		The command is used to decide whether result messages are prompted when Setup commands are executed.
(Default)	Y	Prompt result messages.
	N	Not prompt any result messages.
	?	Inquire the current setting.
ROLE=		This command is used to specify whether the adaptor is in the master or slave role. If the device role is changed, the adaptor will reboot and all paired addresses will be cleared. The command is available when the adapter is in DIP=N status. The command will need 1 second delay.
	M	Set the adaptor to the master role. Refer: page 6 section 7.
(Default)	S	Set the adaptor to the slave role.
	?	Inquire the current role of the adaptor.
SEARCH=?		This command is used to search for any Bluetooth device in the neighborhood within one minute. If any device is found, its name and its 12-digit-address will be listed. The search ends with a message “Inquiry ends. xx device(s) found.” This command is available only when the adaptor is in the master role by manual.
STATUS=		Inquire all the current setting of the adapter.
	?	Display the current setting of the adapter
STOP=		This command is used to specify one or two stop bits of COM port. The command will need 200ms delay.
(Default)	1	One stop bit.
	1.5	One point five bit
	2	Two stop bits.
	?	Inquire the current setting.
VERSION=?		This command is used to inquiry the firmware version.

Remark: If you need to customize the command, please call.

6. RS232 Interface

6.1 Pin-out: Female type



2: TX 7: CTS
3: RX 8: RTS
5: GND 9: VCC

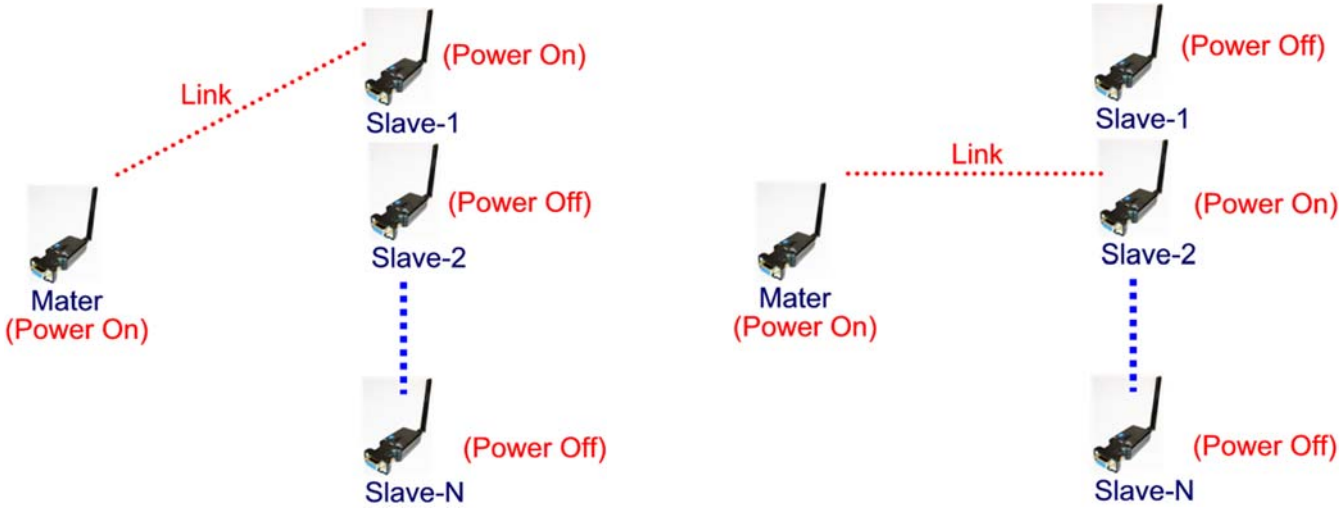
6.2 Signals:

Pin	Signal	DTE Direction	DCE Direction	Description
1	N/A			
2	TxD	Input	Output	Received data
3	RxD	Output	Input	Transmitted data

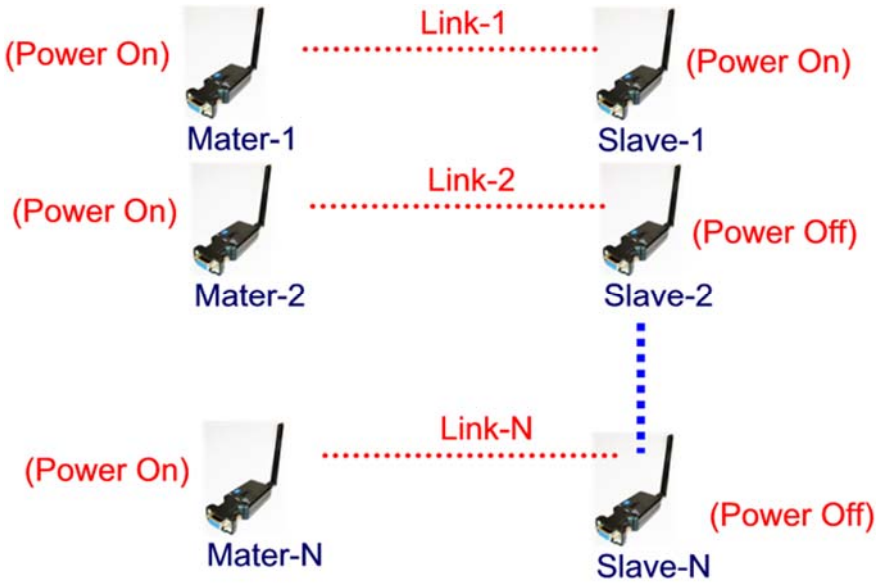
4	N/A			
5	GND			Ground
6	N/A			
7	CTS	Output	Input	Request to send (Default)
8	RTS	Input	Output	Clear to send
9	VCC			Power Input (5~40 VDC)

7. Master mode applications: Set one adapter as the master role by the command “role=m”. The “auto=y” and “one=y” command is available under the role=m. The “one=y” command is available under the “auto=y”. The pin code must be the same for the paired master and slave.

7.1 “AUTO=Y”: Auto link any slave with the start mac. Address “0012” or “0019”. The “0018” is not available. The master will re-link other slaves when the master or slave restart. The “auto=y” command is available under the “role=m”.



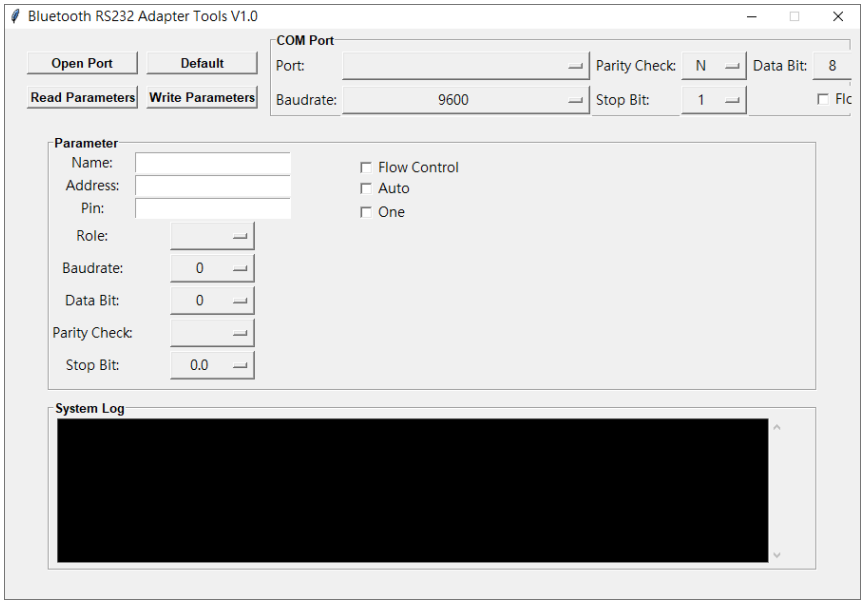
7.2 “ONE=Y”: The master will link with the first link slave after restart. It will auto link any slave with the start mac. Address “0012” or “0019”. The “0018” is not available. The master will link with the new slave when reset to default value. The “one=y” command is available under the “role=m” or “auto=y”.



7.3 Bridge: Extend the transmission range.

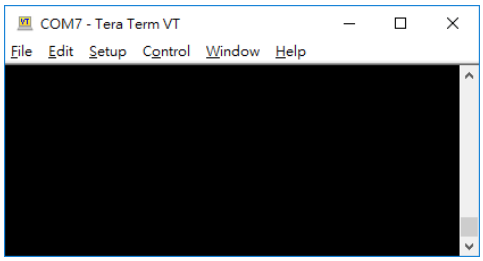
9. Configuration and test:

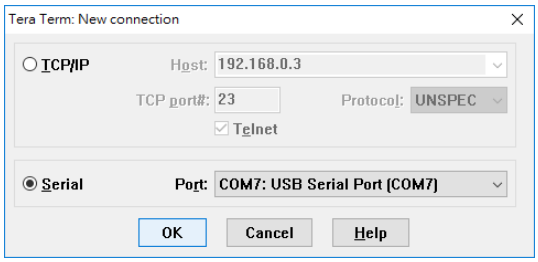
9.1 PC software: Please contact the supplier.



9.2 3rd party Terminal: Download the “Teraterm” software to set the AT command or test the data transmission. ASCII characters only.

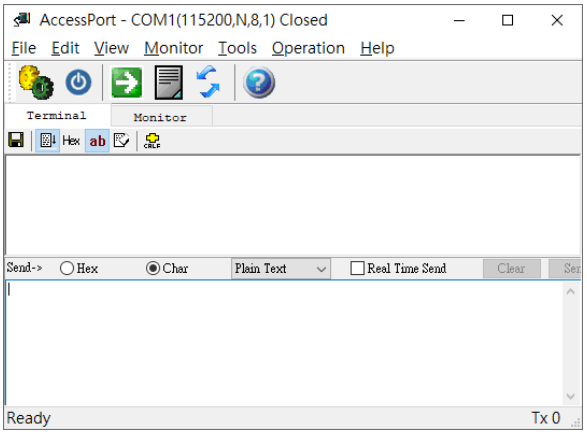
Download link: https://ttssh2.osdn.jp/index.html.en

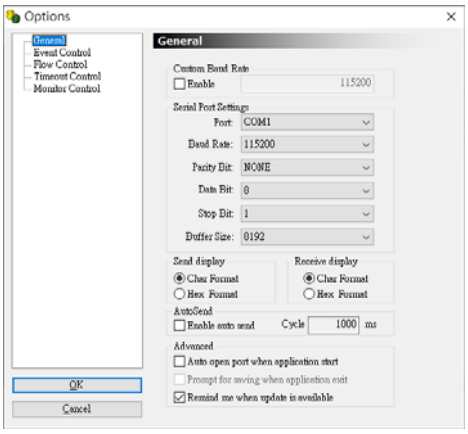




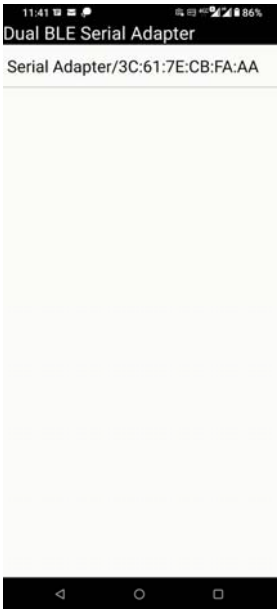
9.3 3rd party Terminal: Download the “Accessport” software to set the AT command or test the data transmission. ASCII or Hex characters is available.

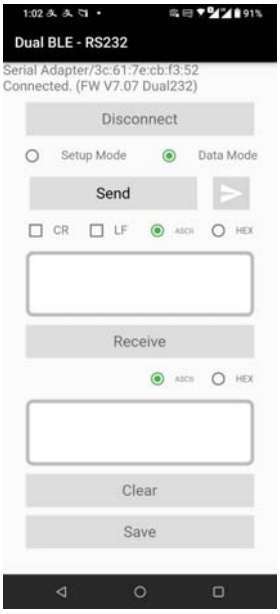
Download link: http://www.sudt.com/en/ap/

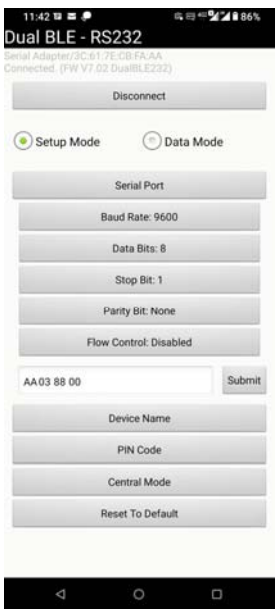




9.4 Smartphone:







Device List Terminal Configuration Serial Port

9.4.1 APP Download: Android: iOS:

Federal Communications Commission (FCC) Statement:

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

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 of the device.

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.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.