

## DB9024766/63/33 DB9 – DB9 over Bluetooth

### Features

- RS232 DB9 – DB9 connection over Bluetooth
- Integrated antenna
- Bluetooth Class 1 Radio
- Data encryption
- Automatic Bluetooth connection
- LED indicators
- Configuration via USB
- Touch button power switch
- Battery powered
- Battery level meter
- Battery over discharge protection (manually activate)
- Up to 45 hours continuous use (9600bps) on 2 AA batteries.



### Specifications

Bluetooth	Bluetooth v2.1 + EDR Class 1 Radio	
RS232	Connector: DB9 male/female Baud rate: 1200bps to 115200bps Parity: Even, Odd, None Data length: 8-bit Stop bits: 1-bit, 2-bit	
Power	2 AA batteries	
Part Number	DB9024766	DB9 male – DB9 male
	DB9024763	DB9 male – DB9 female
	DB9024733	DB9 female – DB9 female

### System Requirements

Configuring Bluetooth adapters on a PC requires:

- Microsoft Windows 8, Windows 7, Windows Vista, or Windows XP.
- eeTerminal (download from [www.devicefunctions.com](http://www.devicefunctions.com)).

### DB9 – DB9 Connections

The signals connected between two DB9 connectors are Pin 2, 3, and 5. The configuration for all other pins is described in section **DB9 Connector Pin Descriptions**.

<b>DB9F</b>	-	<b>DB9F</b> , Null modem configuration	<b>DB9F</b>	-	<b>DB9M</b> , RS232 extension configuration
2		3	2		2
3		2	3		3
5		5	5		5

<b>DB9M</b>	-	<b>DB9M</b> , Crossover
2		3
3		2
5		5

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## LED Indicator - Bluetooth connection

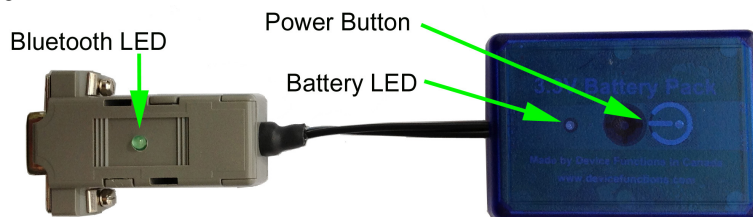
Status	LED Flash Rate
Connected	Solid on
Waiting for connection	Once per second
Configuring	10 times per second

## LED Indicator - Battery meter and battery switch


Status	LED Flash Rate
Battery switch (touch button)	Solid on while touching, otherwise off
Battery good	LED off
Battery low (Alkaline)	Once every 3 or 2 seconds
Battery extremely low (Alkaline)	Once per second
Battery low (Rechargeable)	Once per second
Battery cutoff (Rechargeable)	LED off

## Battery Power On and Power Off

Touch on power button  until battery LED lights up. Left your finger. Touch twice more consecutively. The battery LED must be on with each touch. This turns on battery power. The same procedure is used to turn off battery power.



## Battery Level Meter


The battery level meter tells the current battery power in percentage. Power on the adapter. Place your finger on  power button. The battery LED will start flashing in a few seconds. Count the number of flashing until the battery LED stops flashing. Lift your finger. The battery level is read as,

Number of Flashing	Battery Power Level
10	90% - 100%
9	80% - 90%
8	70% - 80%
7	60% - 70%
6	50% - 60%
5	40% - 50%
4	30% - 40%
3	20% - 30%
2	10% - 20%
1	Less than 10%

## Change Batteries

B102476/3 requires two AA batteries. Both Alkaline and rechargeable batteries can be used. Unscrew the screw on the battery pack. Remove the cover gently. Remove the old batteries and place the new batteries in. Align the + and - signs on the batteries with the + and - signs on the battery holder. Put on the cover and tighten the screw.

## Rechargeable Battery Overdischarge Protection

This feature can be activated when changing batteries to rechargeable batteries. It prevents rechargeable batteries degradation caused by overdischarge. To activate overdischarge protection, touch on  power

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button while placing in the second rechargeable battery. The LED must be solid on when touching. Left your finger. Touch twice more consecutively. The LED will flash three times. This indicates that the over discharge protection is activated.

Overdischarge protection is off by default. You need to activate this feature every time when you change rechargeable batteries.

## Power Up

First, power on one Bluetooth-RS232 adapter, then power on another Bluetooth-RS232 adapter. Bluetooth LEDs will be solid on in a while. If both LEDs keep flashing, power off both adapters. Switch the power on sequence. If Bluetooth LEDs still keep flashing, the two devices need to be paired.

## Configuration

Plug H0087135 in your PC's USB port. Start eeTerminal. During configuration process, **ONLY** power on both Bluetooth adapters if they need to be paired. Otherwise, power on one Bluetooth adapter and power off the other adapter.

Step 1 Start configuration

Power on the selected Bluetooth adapter. Connect this Bluetooth adapter with H0087135.

Click *File* from eeTerminal's menu bar and click *Open Device*. A *Select Device* window, Fig 1, will popup with a list of devices.

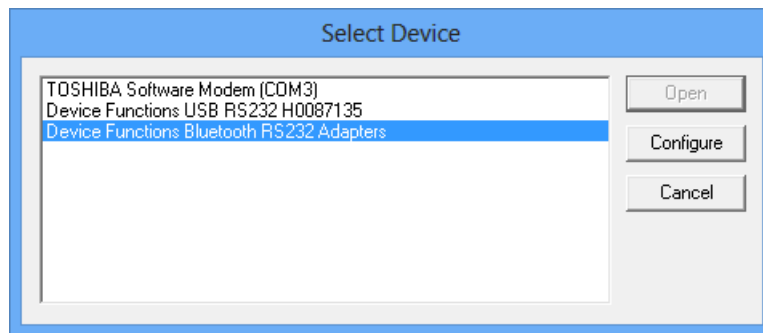


Fig 1

Select *Device Functions Bluetooth RS232 Adapters* from the device list and click *Configure* button. The *Bluetooth Adapter Serial Port Settings* window, Fig 2, will popup. If you have Bluetooth adapter's RS232 settings, select the settings and click *Ok* button. If you don't have the information, click *Auto Baud* button.

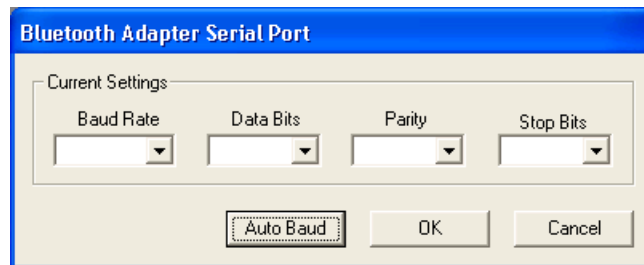


Fig 2

After H0087135 establishes communication with Bluetooth adapters, a *Bluetooth Settings* window, Fig 3, will popup.

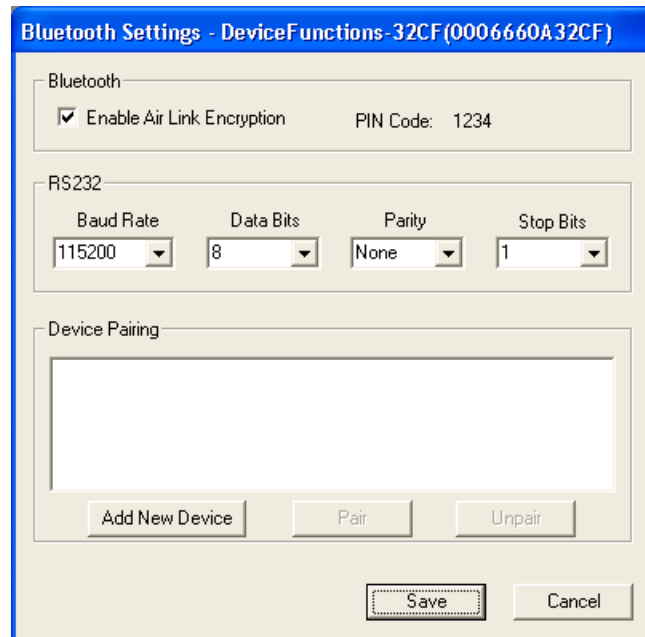


Fig 3

## Step 2 Configure Bluetooth adapters

- Encryption support is always enabled. The paired device must also support link encryption in order to set an encrypted connection.
- Authentication pin code is 1234. Authentication is turned off by default.
- RS232 settings. Set serial port's baud rate, parity, and stop bits.
- Device Pairing. In order to make a Bluetooth connection, two Bluetooth devices must be paired. Click *Add New Device* button. Visible Bluetooth devices in range will be listed in a few seconds. You may need to click *Add New Device* multiple times to find Bluetooth devices. Select a Bluetooth device and click *Pair* button.
- Device Unpairing. Click *Unpair* button if enabled to erase pairing information.

## Step 3 Save Bluetooth adapters' settings

Click *Save* button to save new settings or click *Cancel* button to cancel any modifications. The new settings will take effect immediately once saved.

## Step 4 Disconnect Bluetooth adapter from H0087135. Turn off this Bluetooth-RS232 adapter.





## Step 5 Configure the second Bluetooth adapter


Repeat Step1 to Step 4 to configure the second Bluetooth adapter.

## Step 6 Pair Bluetooth adapters



Turn on both Bluetooth-RS232 adapters. If they are paired, they will connect with each other automatically and the LEDs will be solid on in a while. If the LEDs keep on flashing, the two devices are not paired. Follow Step1 to Step 3 to pair the Bluetooth adapters. You can only save the pairing information in one Bluetooth-RS232 adapter.

## Touch Button Adjustment

Unscrew the screw and gently remove the cover. Remove one battery. Touch on  power button while placing back the battery. The LED is solid on. Keep touching on  power button until LED off. Lift your finger. Wait until the LED is solid on again. Place your finger over  power button. Keep your finger on  power button until LED starts flashing. Lift your finger. When the LED stops flashing, the touch button recalibration is done.

The following procedure can be used to restore manufacture's touch button setting. Unscrew the screw and gently remove the cover. Remove one battery. Touch on  power button while placing back the

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battery. The LED is solid on. Keep your finger on  power button until LED off. Continue keeping your finger on  power button until LED starts flashing. Lift your finger. When the LED stops flashing, the touch button is restored.

## DB9 Connector Pin Descriptions

Pin #	DB9 Male Connector	DB9 Female Connector
1	1 - 4 - 6	1 - 4 - 6
2	Rx	Tx
3	Tx	Rx
4	1 - 4 - 6	1 - 4 - 6
5	GND	GND
6	1 - 4 - 6	1 - 4 - 6
7	7 - 8	7 - 8
8	7 - 8	7 - 8
9	NC	NC

## Contents

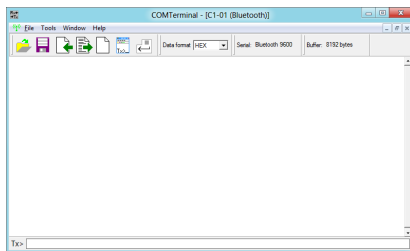
All models include two Bluetooth RS232 adapters and one USB RS232 adapter. The two Bluetooth adapters create an air link that connects two DB9 serial interfaces. The USB adapter is for configuring Bluetooth adapters.

DB9024766	Two B102476 Bluetooth-RS232 adapters, one H0087135F USB-RS232 adapter
DB9024763	One B102476 Bluetooth-RS232 adapter, one B102473 Bluetooth-RS232 adapter, one H0087135M USB-RS232 adapter
DB9024733	Two B102473 Bluetooth-RS232 adapters, one H0087135M USB-RS232 adapter

## Accessories

### eeTerminal

Configure, read, and write Bluetooth adapters. Upload/download files.



## Environmental Conditions

Operating temperature range	0°C TO +45°C
Storage temperature range	-20°C TO +35°C
Relative humidity	0% to 90%, non-condensing

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