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## **Getting Start**

### **Assembly No. BT44-191 Evaluation Kit**

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## 1 Document Status

Date	Comments
January 31, 2006	First draft
March 1, 2006	Update trademark information



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## 2 References

[1] Specification of the Bluetooth System, Version 1.1, February 22, 2001.

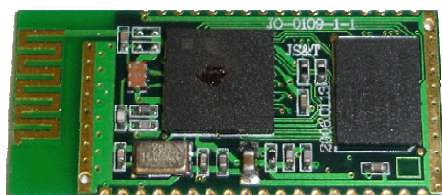
## 3 Scope

The intention of this specification is to provide the necessary components to provide a proper evaluation of the **BT24-191** Bluetooth assembly. This Evaluation kit contains the necessary items to allow two PC's to be connected together.

## 4 BT44-191 Evaluation Kit Description:

The **BT44-191 Evaluation Kit** contains the following items

- BT44-191 Module





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- BT24-191 Eval Board includes AC/DC wall adapter, Serial Cable and SPI pin connections.



- USB Bluetooth Adapter includes Blue Soleil™ upper level stack



- DB9 Cable ( not shown)
- Copy of BT24-191 Datasheet

Additional items needed (but not included in this package)

- A PC running Windows 98 SE or later with at least one DB9M com port.
- A PC Windows 98 SE or later with a USB port it could be the same PC as above

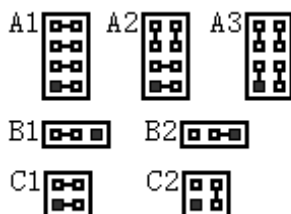
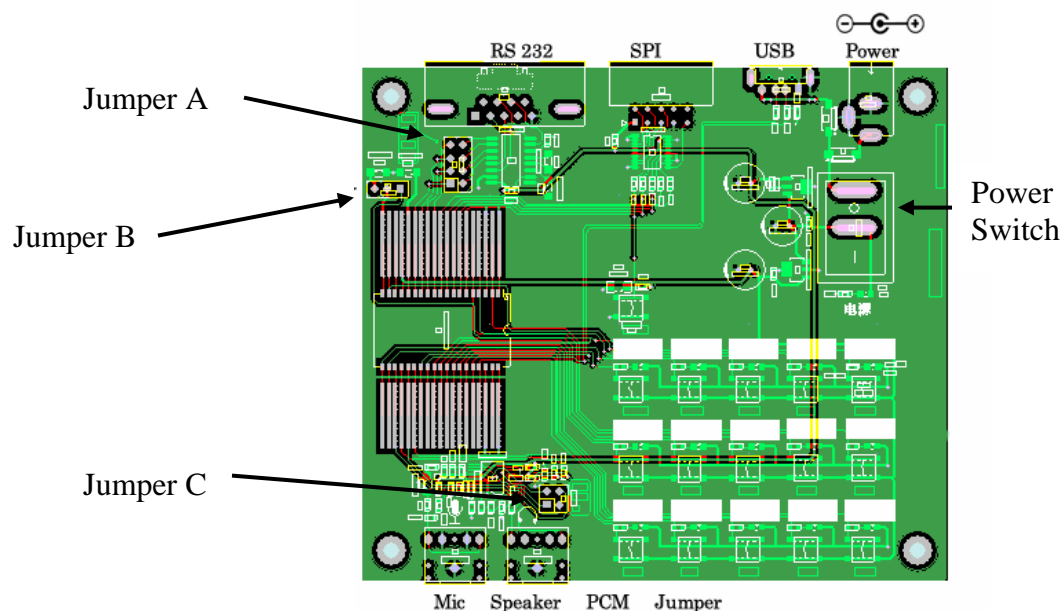
## 5 Specifications:

### 5.1 Pin-out of the DB9 port on the Eval PCB

DB9 Female Pin #	Description	
1	NC	
2	TxD	Output to PC
3	RxD	Input From PC
4	NC	
5	Ground	Input
6	RTS	Input from PC
7	CTS	Output to PC
8	NC	
9	NC	

Note: The Evaluation Kit does not allow connection to the SPI pins. IF you have any questions regarding the use of the SPI Pins please contact ZBA directly.

## 5.2 General Specifications



### Jumper Legend

A1: Standard serial connection with hardware handshake  
 A2: Standard serial connection with no handshake  
 A3: Serial signal loop back for testing purpose only (no handshake).

B1: Opens connection from AIO2 to LED/Switch  
 B2: Shorts AIO2 (pin 19) to LED/Switch Combination.

C1: Module connects to outside PCM signal.  
 C2: Module connects to outside PCM signal loop back (testing purposes)

Note 1: LED on is indicative of Port pin = Hi

Note 2: Depressing switch connects the POI and the LED/Resistor to Vcc

Note 3: PCM and analog IO not supported by SPP (Serial Port Profile).

## 5.3 AC Power Supply

Power Supply: 110V AC to 9V DC adapter unregulated North America Plug

Connector: 1.3mm barrel jack center positive.

Note: European and UK plugs also available upon request.



## 5.4 *BT USB Adapter*

The USB Adapter is ZBA Part Number USBBT02.

A Detailed Specification can be found at:

[http://www.zbausa.com/bluetooth\\_usb\\_adapter.asp](http://www.zbausa.com/bluetooth_usb_adapter.asp)

## 6 Description of Set-up and Operation

When shipped with the on-board Serial Port Profile (SPP), the module's firmware emulates a serial communications port.

To test the operation of the BT44-191 Eval board connect the devices as follows

Steps 1: On a PC side having at least one free USB port , install the Blue Soleil firmware from the CD included in the box

Step 2: On a PC side Plug in the USB adapter into an available USB port

Step 3: Connect the DB9 cable to the PC and the other end to the Eval PCB's DB9 connector

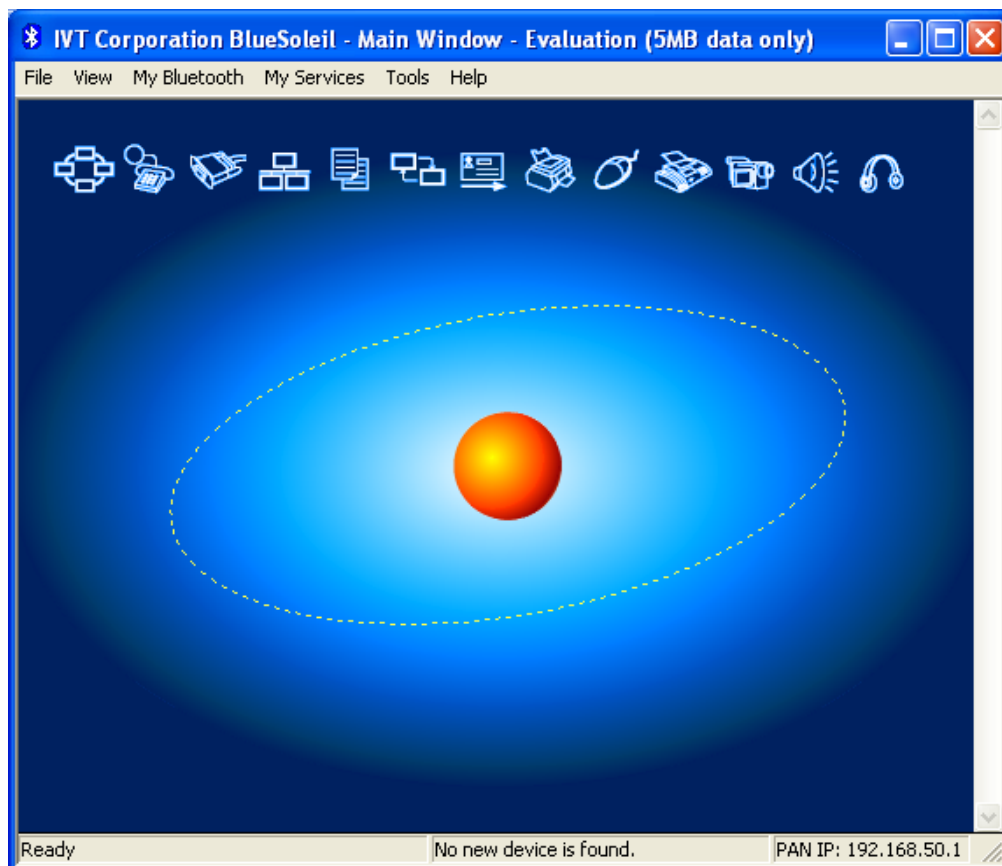
Step 4: Plug in the Power supply DC jack and then plug the adapter into an 110V wall outlet.

Step 5: Turn on the Eval board by flipping the power switch to 1 . Note an LED next to the switch should illuminate

Step 6: From the Desktop open Blue Soleil. The following screen should pop-up



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Step 7: Double click on the image of the Sun, as a shown above, and the USB adapter should begin **searching** for any Bluetooth device in the neighborhood.

Step 8: After the device has been discovered, right click on the discovered icon to obtain available services.

Step 9: After the services has been obtained and Blue Soleil should prompt you for a PIN number. Enter BT44-191 default PIN # which is 1111. then a small check will appear near the icon.

Step 10: Right click the mouse again on the icon and connect. Blue Soleil will then assign a virtual serial comm. port to the USB adapter/BT44-191 combination.

Step 11: Now you can open the appropriate communication programs (Hyper-terminal comes default with Windows OS). Set the comm. parameters to the following:

Default Comm. parameters = 9600, N,8,1

If you open two HyperTerminal sessions 1) the physical comm. port that the Evaluation board is connected to, and 2) for the virtual com port that Blue Soleil generates complete test connection



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If you followed the above directions correctly you will be able to type in comm. program #1 and have the data appear in comm. program 2; and of course the opposite is also true.

This will verify that the Evaluation board is operating correctly.

## Conclusion

Now it is time to proceed with you actual application development work. Please consult the BT44-191 Datasheet for further information regarding the set-up of that module.

## 7 Default Configuration for BT44-191 Eval board

- Profile: Serial Port Profile
- UART Baud Rate: 9600 baud
- Number of Bits: 8
- Stop bit: One
- Parity: None
- H/W Flow Control: Disable
- PIN: 1111
- Device Name: ZBA-SPP
- Mode: Slave
- Sleep Mode: Disabled
- Partner pairing is dropped at power off or un-pairing by master

## 8 Ordering Information

Ordering P/N	Description
<b>BT44-191</b>	Class 2 Bluetooth Module with on board antenna Solder down connectors and Serial Port Profile (SPP)
<b>BT44-191C</b>	Class 2 Bluetooth Module with on board antenna 12 Pin 2mm dual row female connector and Serial Port Profile (SPP)
<b>BT44-147</b>	Class 2 Bluetooth Module Solder down connectors and Serial Port Profile (SPP), external antenna required
<b>BT24-147-1</b>	Class 1 Bluetooth Module DIPconnectors and Serial Port Profile (SPP), MMCX antenna connector for external antenna (included)



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<b>BT44-191-Evalkit</b>	Contains: 1) Class 2 Bluetooth Module with on board antenna & SPP, 2) USB adapter with software (Blue Soleil) , 3) EVAL PCB, 4)AC/DC wall adapter power supply, 5) DB9 Serial cable.6) 25 PIN connector for access to SPI PINS
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Blue Soleil<sup>™</sup> is a trademark of IVT Corporation.

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