GGB-Trio

GNSS/Bluetooth Module

User Manual

Document history

Version	Date	Updates
1.0	July 19, 2017	First formal version
1.1	Nov. 1st, 2017	Add “turn off GSM radio” notification in section 2.2.2

Contents

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1. Introduction

Together with the GB-1916 module you will find utility software. The GGB-Trio software offers a graphical interface that helps you configure the GB-1916 module.

1.1 System Hardware Configuration

You will need following items to complete your system hardware configuration.

1.1.1 System Requirements

Host Computer

- Microsoft Windows XP (32-bit) / 7 (32- or 64-bit) /10 (32- or 64-bit)
- At least 32 MB RAM
- 10 MB of hard disk space available
- VGA color monitor
- Mouse or other pointing devices
- Available USB port, USB 1.0 or higher

Note: Before opening software, you might need to install .NET Framework 4.0 or later.

1.1.2 Communication Interface

- USB A-Male to Mini-B cable

2. GGB-Trio Overview

The following guidelines will give you some brief instructions on how to use this software.

2.1 GGB-Trio Operation Window

Double click the GGB-Trio.exe that you should be able to see the operation window as Figure 1.

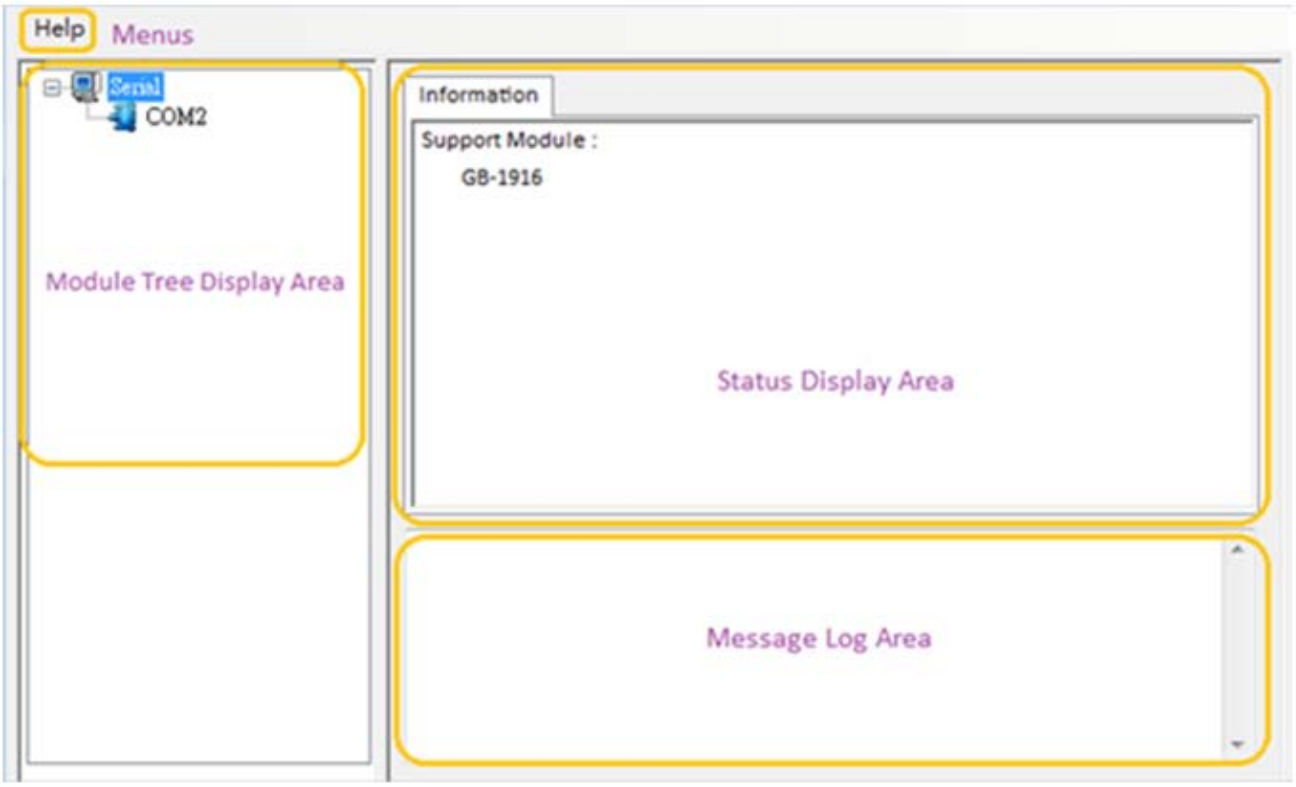


Figure 1: Operation Window

The operation window consists of four areas --- the Menu, the Module Tree Display Area, the Status Display Area and Message Log Area.

2.1.1 Menu

The menu at the top of the operation window only contains Help Menu. Choose this About option; you can see the version of GGB-Trio.

2.1.2 Module Tree Display Area

The Module Tree Display Area is on the left part of the operation window. The serial I/O Module (GB-1916) connected to the host PC will be listed in this area.

2.1.3 Status Display Area

Status Display Area, on the right upper part of the operation window, is the main screen for operation. When you select different items in Module Tree Display Area, Status Display Area will change dependently. You can do all configurations and test in this area.

2.1.4 Message Log Area

Message Log Area is on the right lower part of the operation window. You can monitor the handshaking between host PC and GB-1916 module in this area.

2.2 Search the installed module

After you have confirmed the hardware wiring between host PC and your GB-1916 module, you can find that module on the Module Tree Display Area. Launch GGB-Trio. Select the COM item on the Module Tree Display Area. Click the  button on the "Setting" tab to establish COM connection. Then right click your mouse on the COM item and select the "Search Module". GGB-Trio will then search the GB-1916 module. Please do check the COM port and related settings are as follow.

- Bits per second – 115200
- Data Bits – 8
- Parity – None
- Stop bits – 1

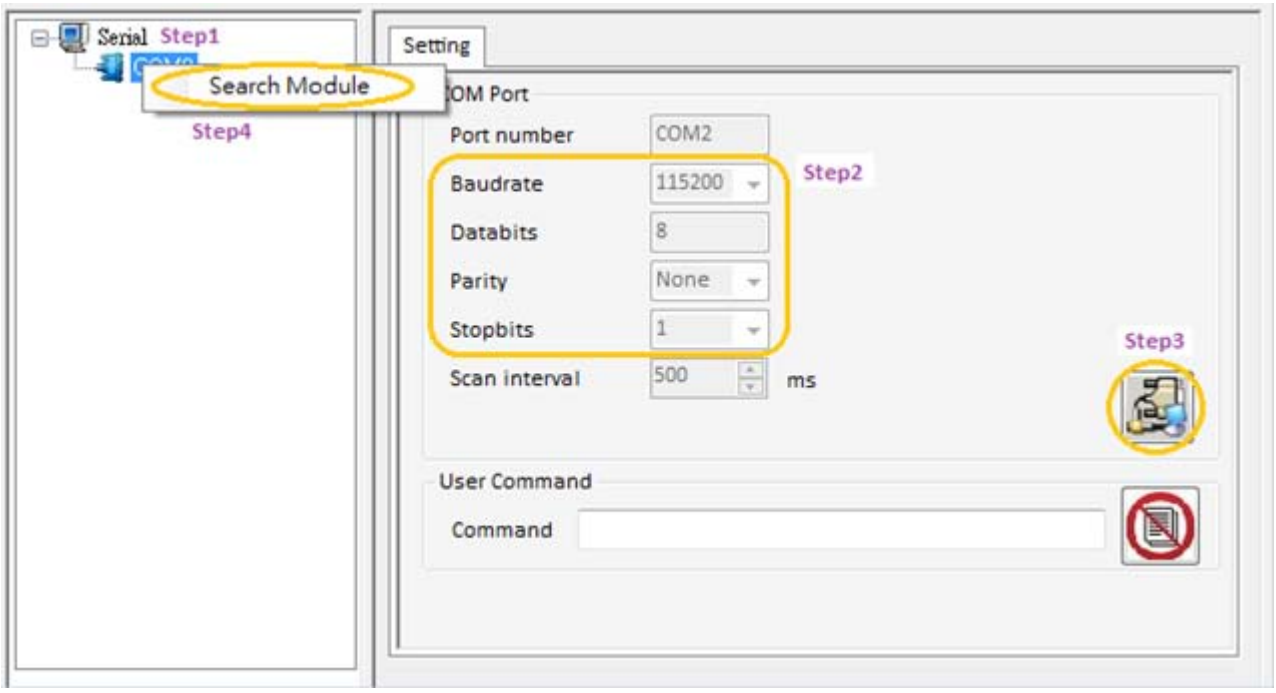


Figure 2: Search screen

Below is detailed information for the five nodes on the Module Tree Display Area and nine tabs on the Status Display Area.

2.2.1 COM Node

- **Setting - tab**

After the  button on the "Setting" tab is displayed indicating that the serial connection is established, you can send AT command to GB-1916 module in the User Command Field. You can also click the  button to start the command log function and specify the file location to record the user commands. After the  button in the "User command" field is displayed indicating that the command log function is turned on, the full path of log file will be provided in the contextual hints.

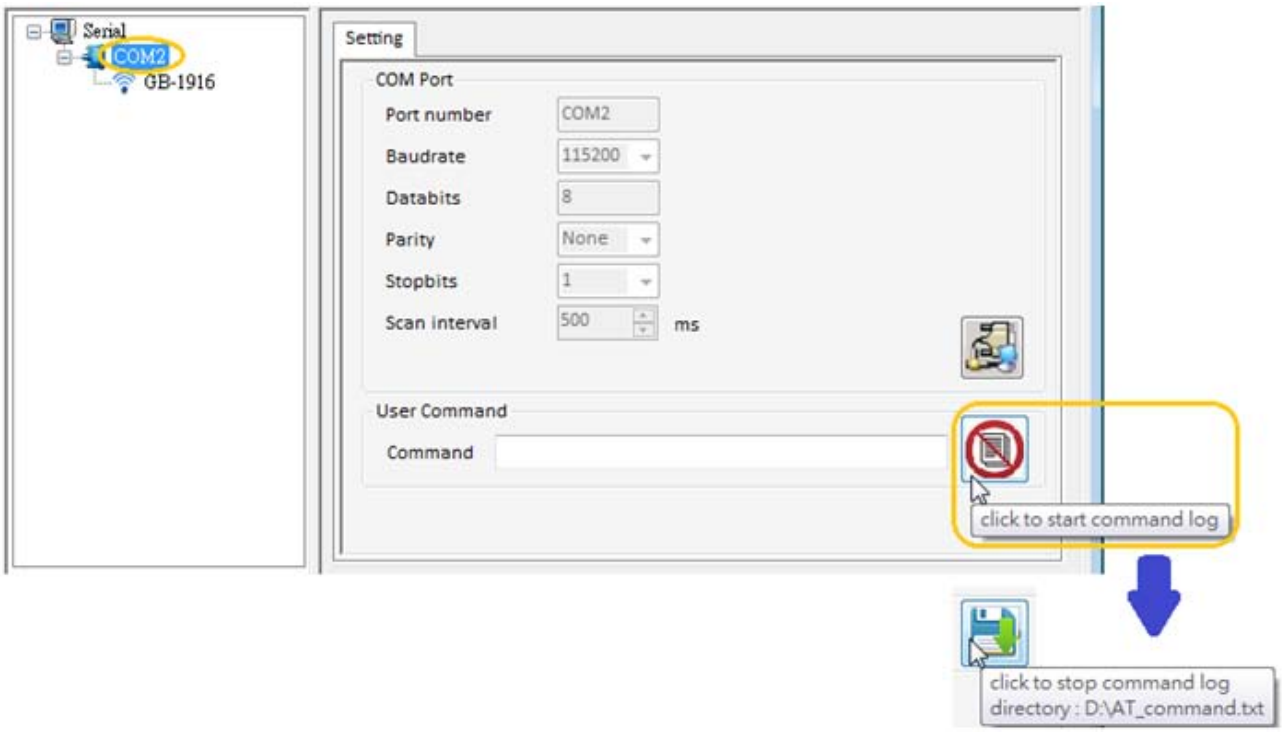


Figure 3: User Command Field

2.2.2 GB-1916 Node

- **Module - tab**

You can see the following information in the Identification field.

- GSM Radio Status

Note: You can use command "AT+CFUN=0" to turn off GSM radio and then save the power consumption of GB-1916.

- Serial Number
- Manufacturer Identification
- Model Name
- Firmware Version
- Bluetooth MAC address

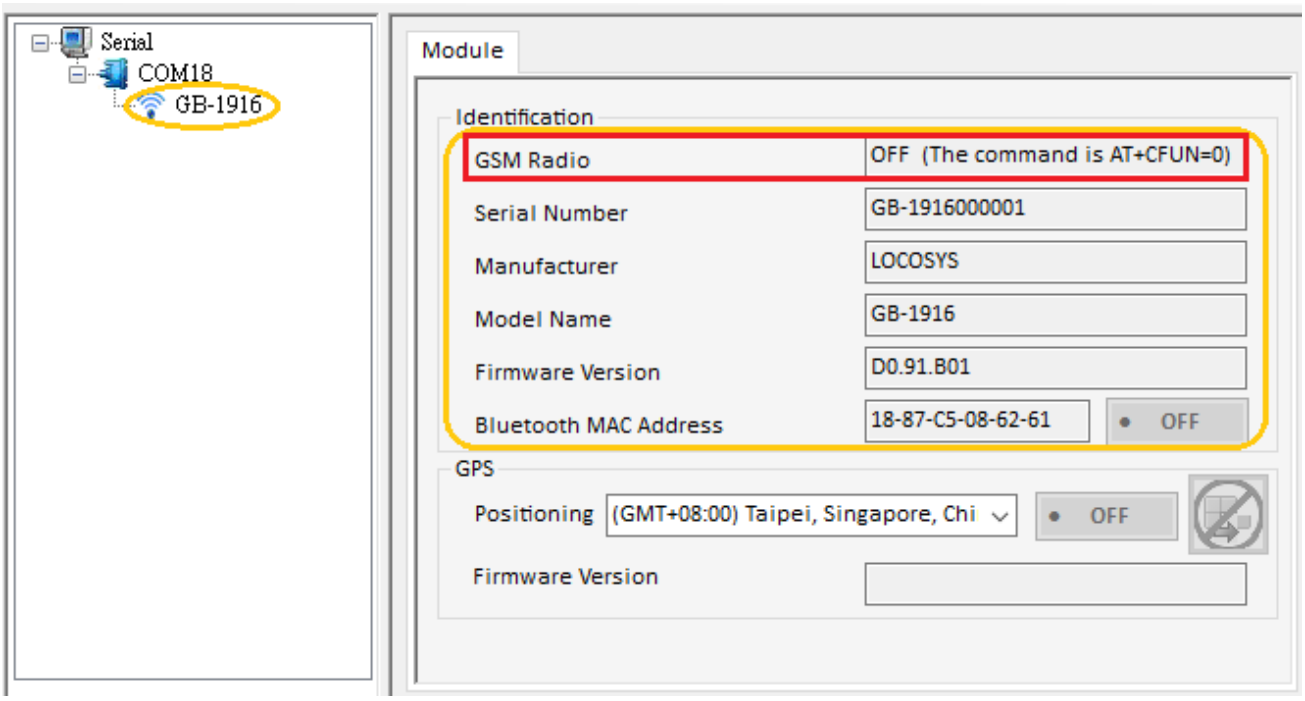
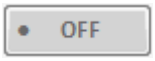


Figure 4: Identification Information Field

You can obtain a position fix through a GPS connection. In the GPS setting field, click the 

button to establish the GPS connection. After the 

button is displayed indicating that the function is turned on, there is a GPS node shown on the Module Tree Display Area and the GPS firmware version is displayed in the GPS setting field. Then you can click the GPS node to evaluate the GPS function. If you want to display NMEA sentences, please click the 
button. After the 

button is displayed, you can see the NMEA sentences on the Message Log Area.

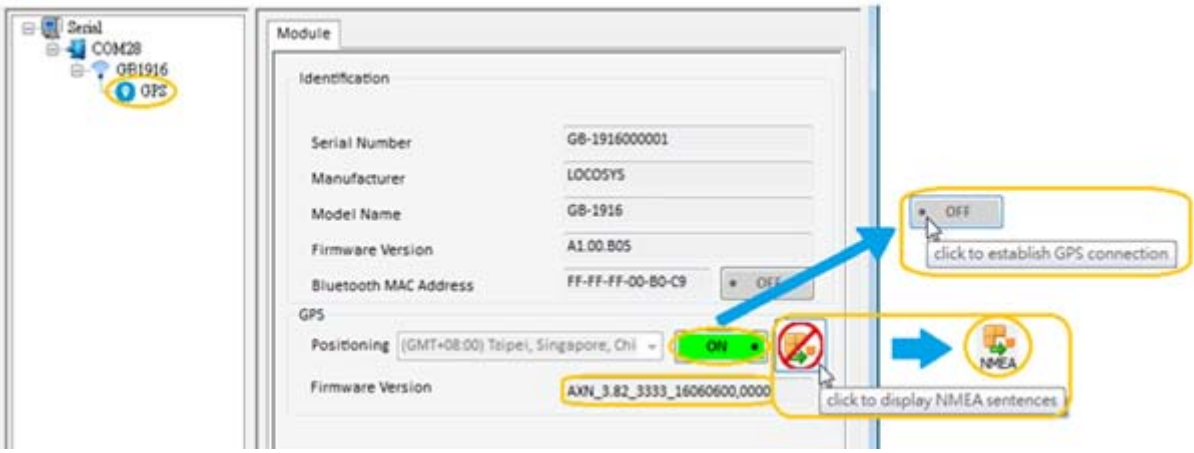


Figure 5: GPS Setting Field

2.2.3 GPS Node

Position - tab

Click the GPS node shown in the Module Tree Display Area and select Position tab, the interface contains following information:

1) The status of the GPS.
2) Your current location on the earth shown as text. When position fixed, you can also click the hyperlink "Show Map" to see your position in Google Maps.
3) Your current speed and altitude shown as text.
4) The current time read from the GPS and the local time in your current time zone.

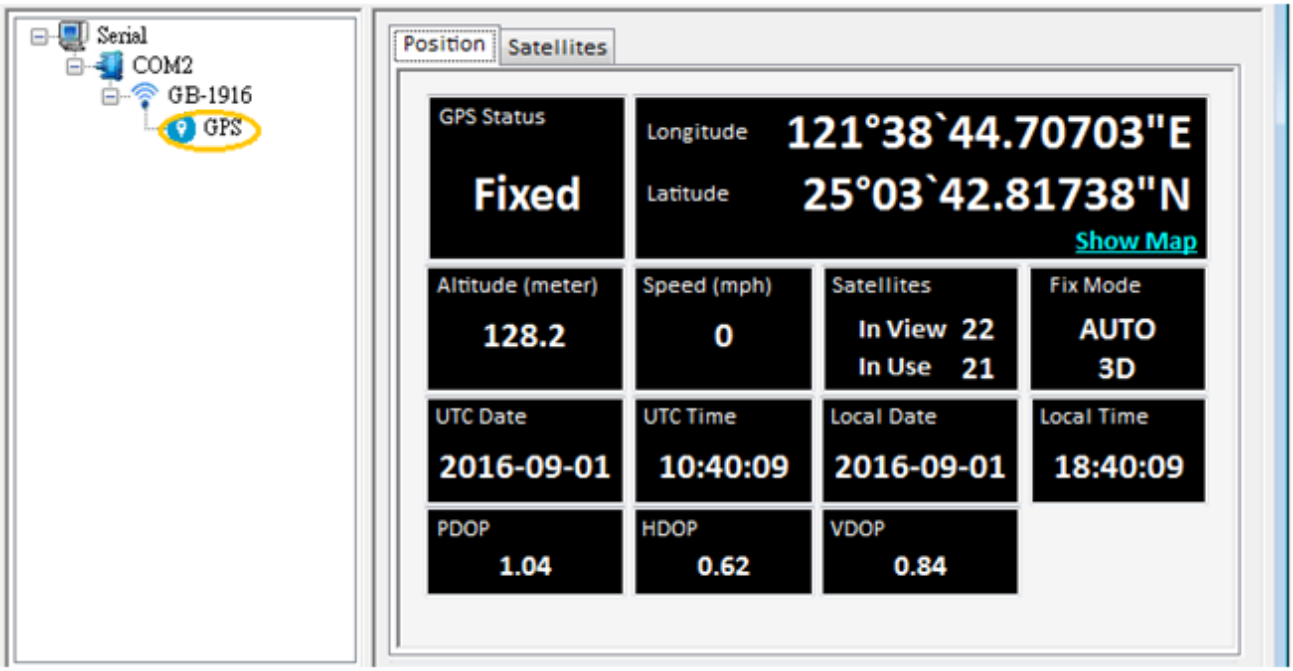


Figure 6: Position Information

Satellites - tab

On Satellite tab, the bar chart shows the signal strength and identification for each satellite. The bar color of the satellite status is:

Color	Description
Light green	Satellites being used in the position solution
Light blue	Satellites being tracked but not used

The label color of the satellite type is:

Color	Description
Light blue	GPS
Orange	GLONASS
Light red	BeiDou

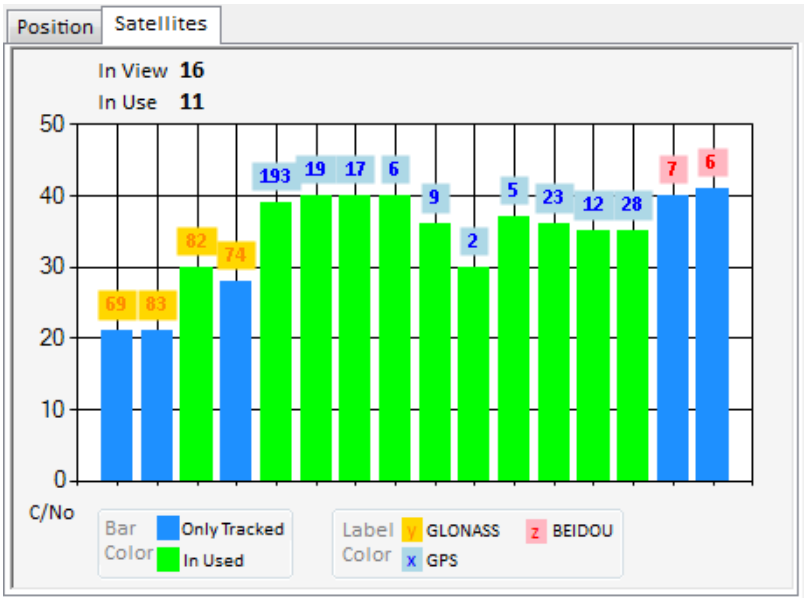


Figure 7: Satellites Information

2.2.4 Bluetooth Node

Management - tab

Click the BT node shown in the Module Tree Display Area and select Management tab, the Bluetooth connection management interface is displayed. You can see the default local device name “GB1916-BT” displayed in the Local Information field. You can also modify the local device name and then click the change button.

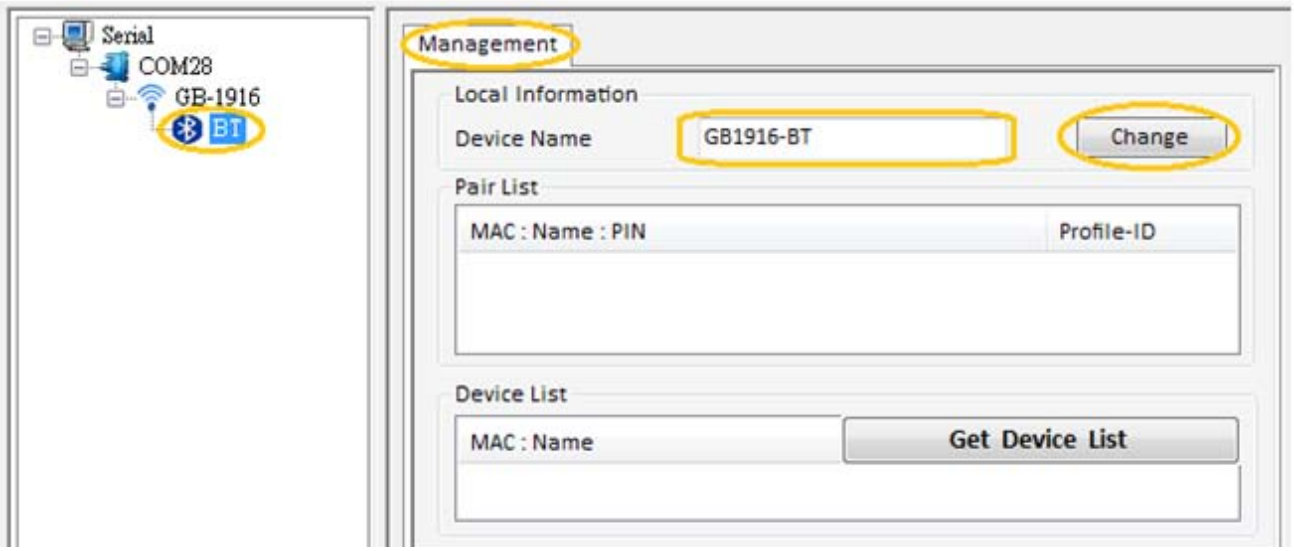


Figure 8: Local Device Name Modification

You can also click「Get Device List」button to detect the remote devices in Bluetooth networks. If you want to stop querying device, please click「Cancel Query Device」button. This Device List screen will display a list of nearby Bluetooth devices that are in discovery mode.

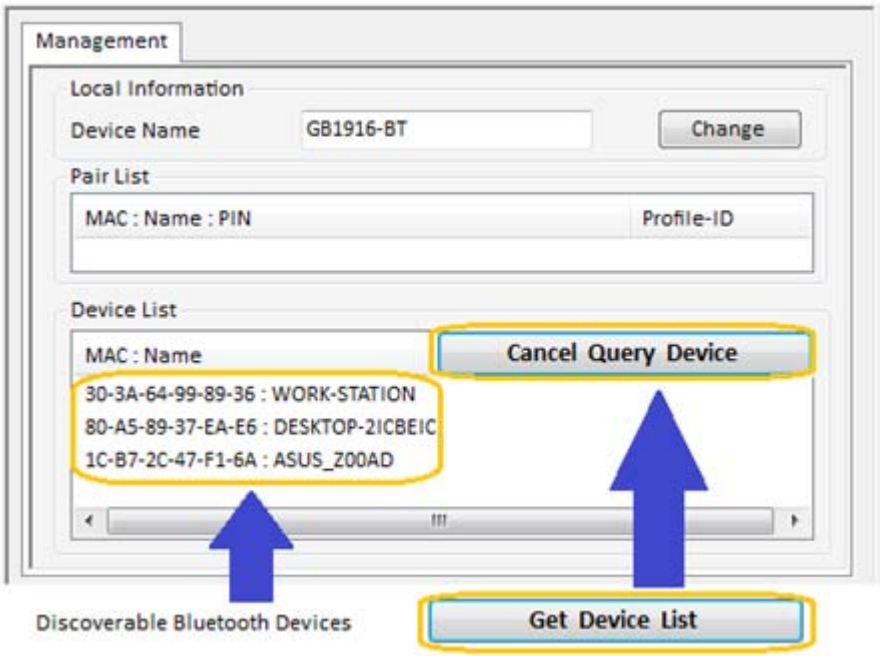


Figure 9: Bluetooth Device List Field

If the remote Bluetooth device that you want to pair is discoverable in the Device List screen. You can right click your mouse on the selected item and select the "Pair Device". You may not have to type the PIN. Instead, you may simply see the PIN displayed in Pair List screen. Just ensure each device shows the same PIN code before continuing. In Pair List screen, you can also right click your mouse on the selected item and select the "Delete Device" to edit the Pair List information.

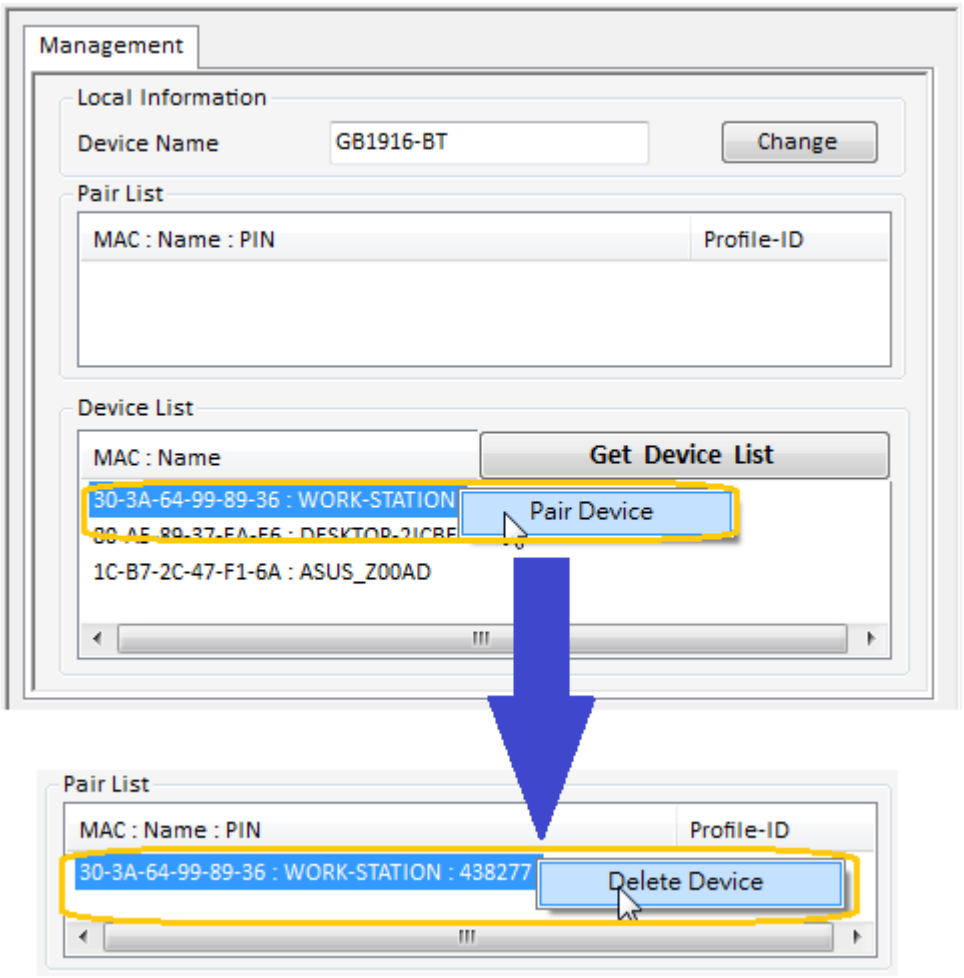


Figure 10: Pair the Device

If GB1916 accepts the pairing passively, you can also see the paired device in the Pair List screen.

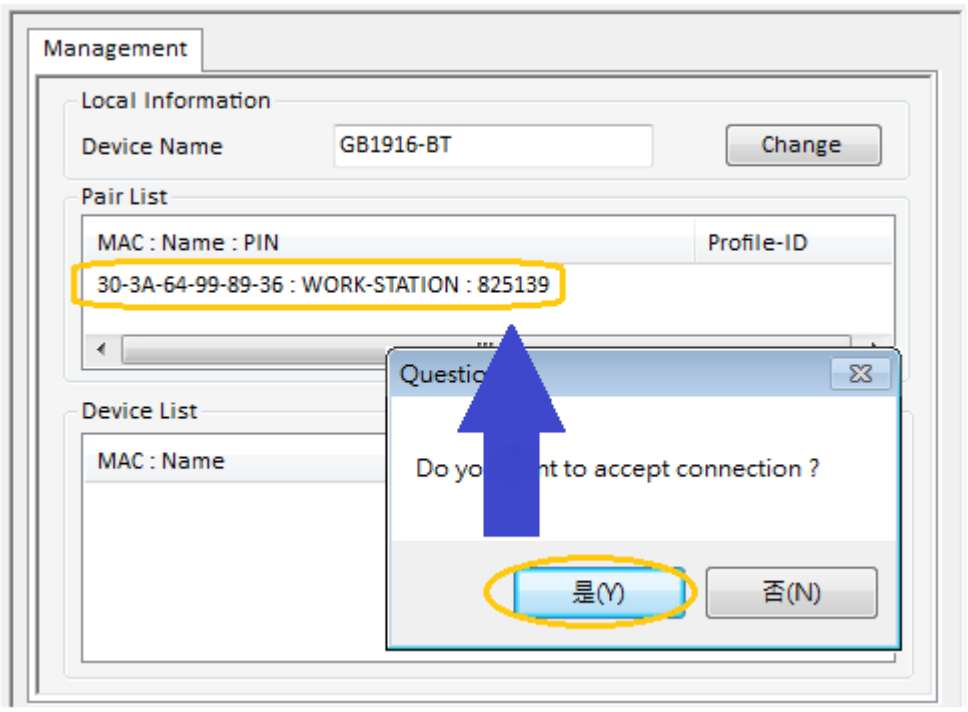


Figure 11: Pair the Remote Device Passively

After the devices are paired, the remote paired device can communicate with GB-1916 through the Serial Port Profile. By default, the function of Serial Port Profile in GB-1916 is enabled. After connecting each other, the Serial Port Profile ID「4353」will be shown in the Pair List screen.

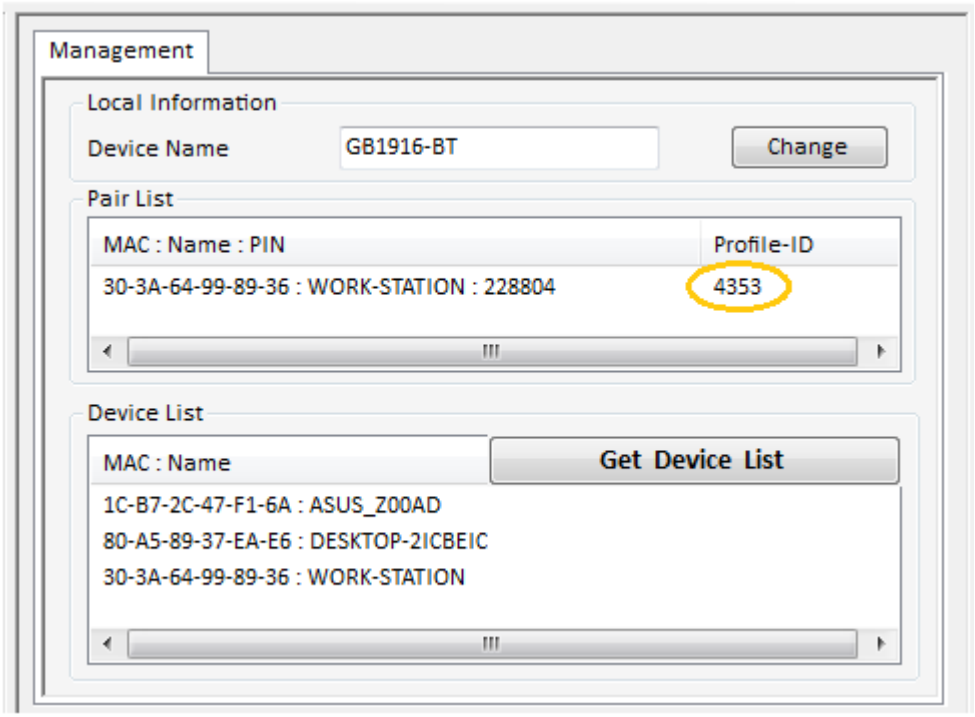


Figure 12: Connect the Device through Serial Port Profile

1. Appendix – Open/Close Talkie Walkie Bluetooth audio stream

After the Bluetooth devices are paired, the remote paired device can communicate with GB-1916 through the Hands-Free Profile. By default, the function of Hands-Free Profile in GB-1916 is enabled. You can right click your mouse on the selected item and select the "Connect Hands-Free Profile".

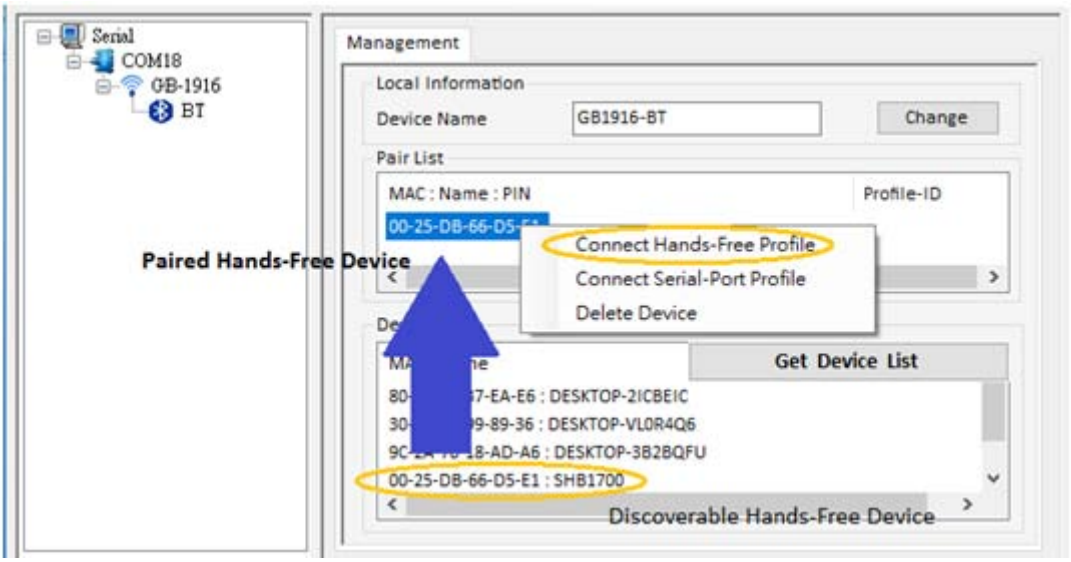


Figure 13: Pair the Remote Device actively

After connecting each other, the Hands-Free Profile ID「4383」will be shown in the Pair List screen.

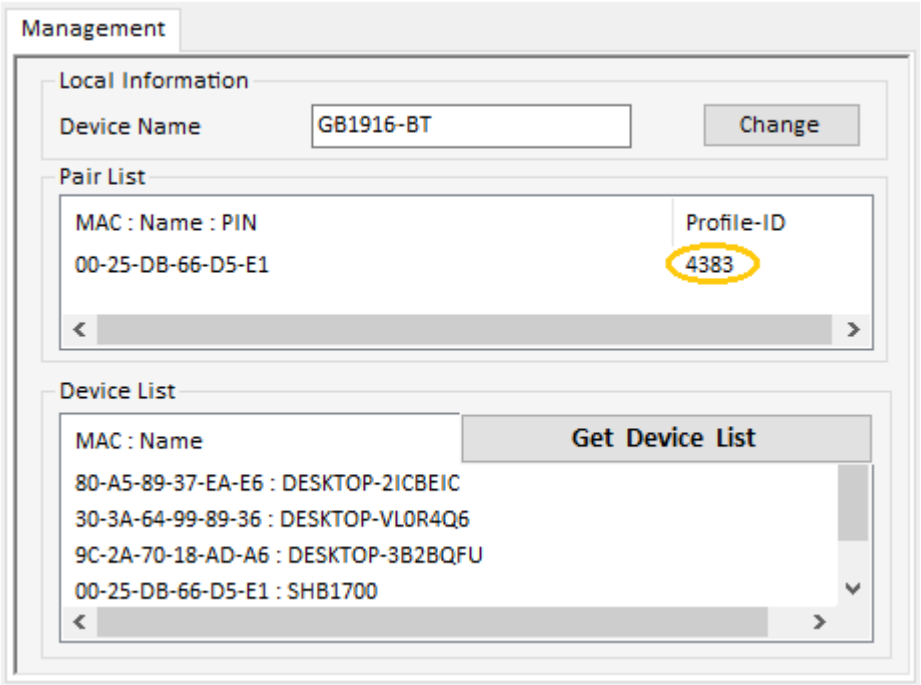


Figure 14: Connect the Device through Hands-Free Profile

Click the COM node shown in the Module Tree Display Area and select Setting tab. In the User command field, input command “AT+LSTALKWALK=1” to open Talkie Walkie Bluetooth audio stream. After the stream is established, you can communicate via Bluetooth. Then you can input command “AT+LSTALKWALK=0” to close Talkie Walkie Bluetooth audio stream.

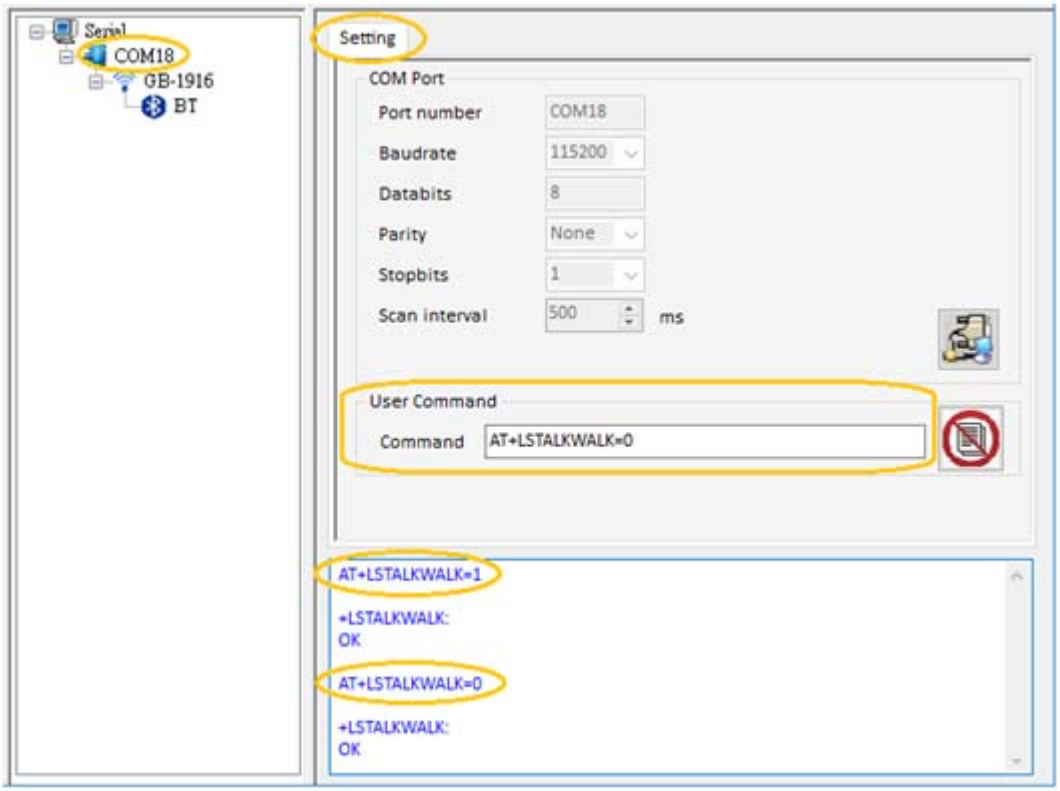


Figure 15: Open/Close Talkie Walkie Bluetooth audio stream