

Bluetooth USB-Headset COMBO BTH-07C



1.1 Product Description

Bluetooth USB Headset Combo (Combo will be called below) is a reference design for multi-function compact Bluetooth product. It combines the functions of a fully functional Bluetooth headset with a Class 2 Bluetooth USB dongle. The Combo works as a Bluetooth headset when it is in headset mode. The headset powered by a build-in rechargeable battery. The battery can be charged via its USB connector by simply connect it to USB port on any PC or a AC/DC adaptor. The Combo becomes a USB dongle when it is in USB mode. It works with its Windows driver to provide most of common Bluetooth profiles such as File Transfer, Object Push, Dial-up Network, LAN Access, Fax, etc. This allows the newly Bluetooth-enabled device to communicate with other Bluetooth devices.

1.2 General Features

- Compliance with Bluetooth Specification Version 1.1
- Support RF Power Class 2
- Wireless connectivity up to 10m
- Support Recharge Lithium-Polymer Battery via its mini USB port (via PC, Notebook or AC/DC power adaptor).
- Operating Frequency range in ISM band of 2.4Ghz to 2,48Ghz
- LED status indication for different mode, status of operation
- Auto switching between Headset and USB mode.
- Three Buttons control for Headset.
- SPI interface (PCB pads) is available on the PCB for firmware upgrading.

1.3 Recommend Product Package Contents

- Combo unit with build-in battery
- USB Cable
- Ear Piece
- Application Software CD (Internet Sharing and USB Driver)
- AC-DC Power adaptor w/mini USB connector (Optional)

1.4 Combo working mode

The Combo works in either Headset mode or USB mode by detecting the external connections. It will be switched to USB mode only when it is connected to a USB port on any PC via an USB cable. And Headset mode will be resumed once it is disconnected from USB port.

1.4.1 Headset Mode

When the product is in Headset mode, it works as a full function Bluetooth Headset that powered by the internal battery. In this mode, the mini USB port is used for battery charging when it is connected to the AC/DC adaptor via a USB cable.

1.4.2 USB mode

When the product is in USB mode, it works as a HCI USB device (USB dongle). Together with an external Upper layer Bluetooth Protocol Stack and relative applications, to enable the PC to communicate with other Bluetooth Devices.

At same time, the build-in battery will be charged.

1.4.3 Pairing State

This product is able to be paired when it enters Pairing state. Pairing state only applies to Headset mode and it will be entered when “No” and “Yes” button are pressed concurrently during the first 30 seconds right after Headset is switched on for four-button solution or “Y/N” and “Vol” pressed concurrently for two-button solution.

The Pairing state will be available for about 1.5 minute.

Note:

- **For entering Pairing mode in Four-Button solution, make sure “No” is pressed follow by “Yes” and then keep both pressed.**
- **For entering Pairing mode in Two-Button solution, make sure “Vol” is pressed follow by “Y/N” and then keep both pressed.**

In USB mode, the Pairing state is controlled by Applications.

1.5 Abbreviation And Acronyms And Definition

DUN:	Dial-up Networking profile.
LAP:	LAN Access Profile
OPP:	Object Push Profile
FTP:	File Transfer Profile
SPP:	Serial Port Profile
FAX:	Fax Profile
SCO:	Synchronous Connection-Oriented link
ACL:	Asynchronous Connection-Less link
USB:	Universal Serial Bus
Combo:	Bluetooth USB Headset Combo Reference Unit

On: Headset is working.
 Off: Headset is in “Sleep” mode.

1.6 Specification

Headset Mode:

Operating Frequency Band	2.4Ghz~2.48Ghz unlicensed ISM band
Bluetooth Specification	V1.1
Support Profiles	Headset
Output Power Class	Class 2
Piconet	Point to Point
Link mode	SCO
Voice coding	13 bits Linear
Type of battery supported	Rechargeable Lithium Polymer
Battery Voltage	3.7 Vdc
Charging	Build in mini USB port
Power Consumption*	
• Talking (HV3, 1s sniff mode)	55mA @3.3 Vdc
• Standby	1.8mA @3.3 Vdc
• Off	140 uA @3.3Vdc
Talk time	Up to 4hrs (base on 180mAh battery)
Standby Time *	Up to 100hrs (base on 180mAh battery)
Battery Charging Time	1.5 hrs

USB Mode

USB Standard	Version 1.1
Operating Frequency Band	2.4Ghz~2.48Ghz unlicensed ISM band
Bluetooth Specification	V1.1
Bluetooth Interface	HCI
Support Profiles (when working with ESI 1.3 upper layer stack)	• DUN • LAP • OPP • FTP • SPP • FAX
Output Power Class	Class 2
Piconet	7 slaves
Link mode	ACL
Type of power supply	From PC USB port or AC/DC adaptor
Application Software	Internet Sharing