Bluetooth stereo headset / BSH-01

Bluevirtu Motorcycle Communication System User Guide

Getting Started

- BSH-01 controls- how to drive it
- BSH-01 indicators- what they mean
- BSH-01 sounds- what they mean
- Understanding pairing- what it is, what it does
- Multiple pairs- connecting with more than one other device
- Pairing modes- what they mean, how to select them
- Lets get pairing- step by step instructions
- Pairing limitations- some traps to avoid

Typical operation- commonly used modes and operation

- Channel priorities
- Volume control
- Intercom mode
- Bluetooth phone

BSH-01 controls

There are 3 buttons on the BSH-01.
Not many to control a number of setup and operating functions, so all buttons are 'over-loaded' with primary and alternate functions depending on how long you activate them, and the current operating mode of the BSH-01.

- Button A on the lower rear of the device
- Button B on the lower centre of the device
- Button C on the front outside face of the device

Button	Momentary press	Press and hold	comments
A	Volume up		Normal listening mode
		Power on/off	Hold for about 5 seconds
		Select pairing mode A	Power up hold for about 8 seconds
		Select pairing mode B	Power up hold for about 11 seconds
	Pair device 1 (BAT-01)		In pairing mode A or B
B	Volume down		Normal listening mode
		switch between device 1 (BAT-01) and device 2 (phone)	Normal Mode
	Pair device 2 (phone)		In pairing mode A or B
C	Intercom on/off		Device 3 (intercom) active
	Phone voice Dial/hangup		Device 2 (phone) active
	Audio mute/release		Device 1 (BAT-01) active
		Switch between device 1 (BAT-01) and device 3 (intercom)	Normal Mode
	Pair device 3 (BSH-01)		In pairing mode A or B

BSH-01 indicators

The BSH-01 has a red and a blue LED to indicate states and activity

Color	Flash	Meaning
None		off
Blue	every 8 seconds	standby
Blue	every 3 seconds	connecting to device
Blue	double flash every 3 seconds	communicating with device
Blue	rapid flashing	searching for device
Red	every 3 seconds	low battery
Blue/Red	slow alternating	pairing mode A
Blue/Red	fast alternating	pairing mode B

Bluetooth stereo headset / BSH-01

BSH-01 sounds

The BSH-01 also indicates events by tones in the earpiece.
Since you can't see the LEDs while wearing the BSH-01, the tones provide important feedback to the user.

Tone	Meaning	Comments
Low-high	Power on	Button A down for 5 seconds from off
High- low	Power off	Button A down for 5 seconds from normal mode
High- low	Volume limit	Maximum or minimum limit of volume (16 steps)
Blip	Volume up or down	Momentary press of button A or B
Blip	No action	Long press of button B or C with no device available
High	Intercom on/off	Momentary press of button C with device 3 (intercom) active
High	Phone voice dial/hangup	Momentary press of button C with device 2 (phone) active
High	Audio mute/release	Momentary press of button C with device 1 (BAT-01) active
Blip	Switching to device 1 (BAT-01)	Either party turning intercom off
Blip . Blip	Switching to device 2 (phone)	Selecting phone or incoming call
Blip . Blip . Blip	Switching to device 3 (intercom)	Either party turning intercom on
4 tone descending	Pairing mode A	Button A down for 8 seconds from off
4 tone descending	Pairing mode B	Button A down for 11 seconds from off

Understanding pairing

Bluetooth devices are talkative things- and they all transmit on the same band, rapidly hopping from one frequency to another, and really don't care who (if anyone) is talking at the same time. With a number of Bluetooth devices in the vicinity, there is a lot of talking and hopping going on, and there needs to be a way of ensuring that devices connect to (talk and listen) to the correct ones, and hop to the right frequency at the right time to keep talking. That is where pairing comes in.

Pairing is the process of two devices identifying and agreeing to listen only to each other, so a 2-way link is established between them. Once pairing is complete, the paired devices can communicate with each other while ignoring any other Bluetooth devices in the vicinity. The pairing information is saved in memory, so if a paired device is turned on or comes back in range, it is recognised and the connection with its mate is re-established.

Pairing is a fairly simple process- if you have a number of devices (A,B,C,D etc) and you want to establish a connection between A and C, and B and D- you need to pair A and C (so A and C recognises and listen to each other), and then pair B and D (so they recognise and listen to each other).

Pairing is done by putting both devices into pairing mode, so they can learn and save the identity of the other device. **It is simpler to have ONLY the devices to be paired powered up and in range, otherwise you may pair up with some other device.**

Multiple pairs

The BlueVirtu BSH-01 can pair with 3 other devices- typically another BSH-01 for intercom function; your mobile phone for handsfree talking; and a BAT-01 for non-Bluetooth audio sources, phones and radio transceivers.

This makes pairing a little more time consuming and complicated than normal, but if you follow the steps in a careful and logical manner, everything works out fine. If you get it wrong, you just do the pairing process again and it will discard the previously paired device.

And you only have to do it once- unless you decide to change the phone, BSH-01 or BAT-01 you want to connect with.

The BSH-01 has 3 memory 'slots' for paired devices- Device 1, Device 2, and Device 3. You can pair any Bluetooth device to any slot, but it is best to follow the allocation table below so switching between devices and controlling them via the buttons is simple and logical- in particular, so button C lets you easily jump between the currently selected device and intercom mode, and back again.

Button	Device	Preferred Bluetooth devices
A	Device 1	BAT-01 for music, GPS navigator, radar detector, radio transceiver, mobile phone
B	Device 2	Bluetooth mobile phone
C	Device 3	BSH-01 for intercom

If you don't have the allocated Bluetooth device, leave the slot vacant, or you can pair with another type of Bluetooth device in that slot.

Bluetooth stereo headset / BSH-01

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Pairing modes

The BlueVirtu supports two different pairing modes.

- **Mode B** is a special mode used when pairing with another BSH-01 (or any other Bluetooth headset) for **intercom mode**. It lets either headset open or close the channel by tapping button C. **Note: Select pairing mode B on one BSH-01, and pairing mode A on the other. If you select pairing mode B for both they will not pair up.**
- **Mode A** is used for all other Bluetooth devices.

Pairing modes are entered from the power off state by holding button A down for an extended time beyond normal power up (5s), and are indicated by red/blue flashing **LEDs** and a 4-tone sequence in the headset.
Once in the desired pairing mode, the target device number is selected by pressing button A, B or C for device 1, 2 or 3.

Button A time	LEDs	Tones	State	Comments
Approx 5 seconds	Blue flash	Low-high	Power up	
Approx 8 seconds	Slow blue/red	4 tone descending	**Pairing mode A**	Release to enter mode A, then select device number with button A, B or C
Approx 11 seconds	Fast blue/red	4 tone descending	**Pairing mode B**	Release to enter mode B, then select device number with button A, B or C

Lets get pairing

- Follow these step-by-step instructions to pair up you BlueVirtu system.
- If you don't have the Bluetooth device, you can skip that sequence of steps and leave that device slot vacant, or you can pair with another Bluetooth device in that slot.
- You can always come back later to pair up with new devices or overwrite existing pairings.
- **If you have two BSH-01s it is helpful to label them to avoid confusion, as you may be pairing them up with different Bluetooth phones and BAT-01s**

Pairing with another BSH-01 for intercom function

This uses pairing Mode B (for intercoms) and pairs into Device 3 slot

1. Ensure both BSH-01s are powered OFF
2. Take the first BSH-01, hold button A down for about 11 seconds until you hear **4 ascending** tones and the LEDs flash **fast** red/blue
3. Release button A- it is now in **pairing mode B**
4. Tap button **C** to select **Device 3** slot. You will hear 3 blips indicating Device 3 selected
5. Take the second BSH-01, hold button A down for about 8 seconds until you hear 4 descending tones and the LEDs flash **fast** red/blue
6. Release button A- it is now in **pairing mode A**

7. Tap button C to select **Device 3** slot. You will hear 3 blips indicating Device 3 selected
8. Place the two BSH-01s in proximity to each other (within 2m) and wait until both stop the alternate red/blue flashing
9. **Intercom pairing is complete!**

Note- Put only the first BSH-01 into pairing mode B, and the second into pairing mode A. They will sort themselves out for correct intercom operation.

Pairing with your Bluetooth mobile phone for phone function

This uses pairing Mode A and pairs into Device 2 slot

1. Ensure the BSH-01 is powered OFF
2. Take you mobile phone and follow the manufacturer's instructions to enter pairing mode.
3. If your phone requires a password for the headset enter "**0000**"
4. Take your BSH-01, hold button A down for about 8 seconds until you hear **4 descending** tones and the LEDs flash **slow** red/blue
5. Release button A- it is now in **pairing mode A**
6. Tap button B to select **Device 2** slot. You will hear 2 blips indicating Device 2 selected
7. Place the BSH-01 and mobile phone in proximity to each other (within 2m) and wait until both stop the alternate red/blue flashing
8. **Mobile phone pairing is complete!**

Pairing limitations

Pairing two BSH-01s for intercom mode

- Select pairing mode B on ONE only, and pairing mode A on the other
- If you select pairing mode B on both, they will not pair up.
- If you get stuck, turn both BSH-01s off and start again.

The panic button

The two places where you are likely to get stuck are during pairing, and switching modes on the BSH-01.

Pairing escape routes

- Hold down button A to switch off, then start again
- You can overwrite existing pairing data, and you can pair devices at any time, or leave pairing slots free, so no need to panic
- But if you really need to, you can reset the BSH-01
    o power off
    o hold button B down
    o power up (with button A) while continuing to hold button B down
    o all pairing will be cleared and you will have to start again

General operation escape routes

- Check battery is ok with no low battery indication (red flash)
- You are most likely to get lost switching between devices and losing your way
- Just power off and back on again to get back to a stable state
- Use the state diagram to get used to navigating your way round

Bluetooth stereo headset / BSH-01

Channel priorities

There are 6 possible sound sources in a typical BlueVirtu configuration.
It could get real messy with them all on at the same time!
But the system sorts that out for you by assigning priorities to all the channels, and switching to the highest priority active channel at any time.
You can also manually select a device and park on it for outgoing calls (intercom, phone, radio).

Priorities	Device	Source	Tones	Comments
1 highest	3	BSH-01 intercom	Blip-Blip-Blip	Tap button C on either BSH-01 to open/close this channel
2	2	Bluetooth phone	Blip-Blip	Opens automatically on incoming call, hold button B to manually switch to this channel
3	1	BAT-01	Blip	the 'background' device
3.1		Phone		mutes any lower priority sources until quiet for about 5 seconds
3.2		Radio		mutes any lower priority sources until quiet for about 5 seconds
3.3		Audio 1		mutes any lower priority sources until quiet for about 5 seconds
3.4 lowest		Audio 2		mutes any lower priority sources until quiet for about 5 seconds

Volume control

- Tap button A to **increase** volume
- Tap button B to **decrease** volume
- You will hear a blip each time
- There are 16 steps to the volume control
- When you reach the limit of minimum or maximum volume you will hear a high-low tone

Intercom mode

This assumes you have paired up two BSH-01s in pairing mode B on device 3

- Tap button C on either unit to open the intercom channel
- Adjust volume as required with buttons A (increase) and B (decrease)
- Tap button C on either unit to close the intercom channel

Bluetooth mobile phone

- Once you have paired up with your Bluetooth phone on device 2 (button B) you are ready to roll.
- Incoming calls will switch you to device 2 (assuming no higher priority channel active) with 2 beeps.
- Tap button C to answer, have your conversation, then tap button C to hang up.
- For outgoing calls, hold button B to switch to device 2 (2 beeps), then tap button C to connect to voice dial, have a talk, and tap button C to hang up.

Note that you need voice dialing to make handsfree outgoing calls

Guidelines for safe use

- Do not expose your product to fire or extreme high temperature.
- Do not inverted battery.

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.

This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may 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.