

invebo BC7A

Installation Instructions

Installation of the Bluetooth BC7A Upgrade KIT in Bose SoundDock Original Series 1

The installation of the board can be carried out without any previous experience.

Overview:

Fitting the BC7A kit Replacement is relatively straight forward but like everything the first time is more difficult and some may find it extremely fiddly. These instructions are to show the method of replacing the BC7A in a detailed step by step procedure. The Bose SoundDock is still the best sounding and most affordable compact speaker around and one of the few things that can't be upgraded by going out and buying a better sounding unit at reasonable cost.

Note the BC7A has the 30-pin legacy iPod docking connector with USB charge mode support,.

Which docks are compatible?

The BC7A kit is designed to work with all Bose SoundDock Series 1. If your dock serial number does not start in digits 0357 or 0402 or 0498 or 052398 then the BC7A is not compatible with your dock.

Before you Start: It is a good idea to watch the detailed 'how to' videos on YouTube. A full step-by-step video version of these BC7A instructions is available in the technical guide section of our

website. See the Technical Guides section at www.invebo.com

For a problem free installation watch the full BC27A Instruction procedure on YouTube: <https://www.youtube.com/watch?v=hwA8buY7qSc>

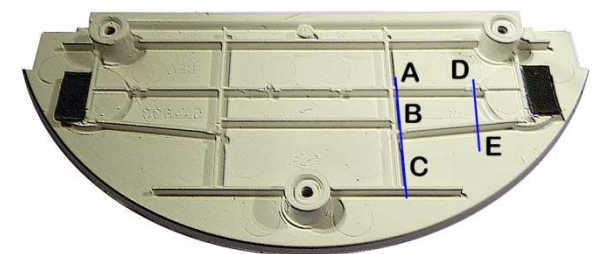
Tools Required:

1. T8 Torx Driver (from Kit)
2. Sharp craft knife
3. Pliers (flat nose)

General:

1. The full kit contains the T8 Torx screw driver, BC7A Main Board.
2. Initially it is not necessary to remove the four larger cross-head screws holding the base moulding on. The half moon moulding can be removed whilst all of these four screws are tight.
3. Three T8 screws hold the dock assembly in place. These are found on the underside of the half-round front moulding where the iPod plugs in. Once removed the assembly can be pulled out from underneath. You do this by gently carefully pulling the ribbon cable which is tucked under the lower cover. Pull it out so that about 1.5 to 2 inches (3 to 5cm) of ribbon is showing. Then hold onto the cable to prevent it coming out any further and pull it from the plug on the docking board.
4. You should now have the docking assembly, including the board and the plastic moulding, free in your hand. Put the body of the dock to one side.

5. Separation of the dock board from the base moulding requires some sharp flush side cutters or a sharp craft knife and a great deal of care. Carefully peel off the black plastic overlay and put it aside.
6. You should now see the docking board and the tops of the plastic pegs that hold the board in position. These are small pegs that have been heat-staked. This means that at the Bose factory the tops of the pegs have been melted into a mushroom shape.
7. The head of the mushroom is what holds the board in place. It is necessary to carefully cut the tops of the mushrooms with your sharp craft knife or flush-cutting side cutters. Trim the mushroom heads back until the smaller diameter of the body of the peg is visible, equivalent to roughly the diameter of the hole in the PCB.
8. Check that you have done all the pegs. Then docking PCB can now be gently levered away from the moulding.



9. **Modification of the Molding:** It is necessary to remove three plastic ribs to accommodate the electronics module located on the underside of the BC7A. It is recommended that you refer to the YouTube instruction video referenced at the top of

these instructions. . Using the craft knife make vertical cuts through the horizontal ribs at A, B C, D. The cut must be through the full height of the ribs. The position of the cuts s denoted by the lines on the diagram. Grip the section of rib between A and D with flat nosed pliers and Twist to remove this section of rib. Repeat to remove section B to E. Repeat the remove the short spar to the right of C. The root of the removed ribs must be level with the flat surface of the moulding. **If necessary trim of any remnants of the ribs with the craft knife.**

- 10.** Take the BC7A controller board in your hand and have a look at it. Notice the ribbon connector at the edge of the board. See that there is a small darker section at each end that can be moved back and forth. This is the locking mechanism.
- 11.** Using your fingernail ensure that the locking mechanism is out at both ends of the connector. In the out position the tabs are about 0.08" (2mm) out from the home position.
- 12.** If the locking mechanism isn't in the open position then the ribbon cannot be inserted. The insertion force is near to zero when it is correct. If you have to push to get the ribbon into the connector then check the lock mechanism is out at both ends.
- 13.** A supported foam overlay is supplied with the kit. Remove the backing from the adhesive strips and place the overlay over the docking connector, align and press the strips so that they adhere to the top of the docking board.

14. Place the BC7A board over the pegs and push down onto the half-moon moulding. Usually the mushroom heads are an interference fit which will hold the board in position. You might even feel it click into place.

15. IMPORTANT: Make sure that the board is sitting flush with the supporting ribs on the base moulding. If the board is suspended on the mushroom heads of the pins then you could have problems with the volume controls buttons as they will sit too high and may spontaneously alter the volume. Check that step 9 has been done correctly noting that the electronics on the underside of the BC7A are clear of the removed ribs. Look at it from the side and make sure that there is no gap between the board and the supporting parts of the moulding. If there are small gaps then simply make sure that the board moves freely down onto the moulding with little finger pressure.

16. Ensure that the board is sitting down flat.

17. Hold the dock so that the base is horizontal and uppermost. Loosen the four cross head screws about one turn each. **DO NOT REMOVE** the screws completely.

18. Bend the ribbon cable backwards so that the end is parallel to and lying over the flat base moulding.

19. Hold the half moon dock assembly with the base flat on the lower base of the dock. You will see that when plugged in the half moon will flip 180 degrees and be in the correct orientation to be refitted.

20. Ensure that the ribbon connector locking tabs/bar are in the fully out position (unlocked). Feed the end of the ribbon cable into the connector and when fully engaged and it is exiting perpendicular to the connector, push the locking tabs into the engaged position. You can use your fingernail. Note that moderate force is required to do this and it is necessary engage each side more than once. Sometimes the other end pops out slightly when you push the other end in.

21. When the locking mechanism is fully engaged, give the ribbon cable a gentle tug to ensure that the ribbon is securely held in the connector. You should see a line of 24 bright tin contacts protruding an equal distance of approximately 1 millimetre out of the connector. If you can see more at one end than the other then the ribbon is not correctly inserted.

22. Note that if for any reason you want to unplug the ribbon, you must first disengage the locking mechanism to let the ribbon slide out with zero force.

23. Test fit the BC7A on the support moulding by placing over the pegs. Look between the underside of the board and the support ribs to ensure that there is no gap. i.e. The board is sitting right down on the support webs of the half moon base moulding.

24. During the next operation you must ensure that the BC7A controller PCB stays located on the pegs. Be careful. If you have cut the mushrooms just right then it will snap on and hold in place nicely. If not it may be a

little loose and you have to make sure that when the three Torx screws are put back in the board is sandwiched between the upper and lower half moon mouldings and held in place by pressure from the fascia. A piece of double-sided tape applied to the back of the board may make it easier.

25. Gently feed the ribbon cable under the flat base moulding until the half moon moulding is in back in place.
26. Refit the three Torx screws and tighten them down all the while checking that the board is engaged on the mushroom pegs.
27. Inspect your work.
28. Now tighten down the four cross head screws in the base moulding.
29. Check that the BC7A controller is located over the pegs and that all pegs are present in the holes in the BC7A board.
30. Check that both volume buttons move and you can feel them depress. If they do not depress then the BC7A is not sitting down correctly over the pegs so you have to investigate the cause and rectify.
31. Align the back edge of the Button board with the edge of the aperture in the dock cradle moulding. **Gently** lower the button panel ensuring that the 4 pins on the connector engage properly in the connector. It may be necessary to gently jiggle the button panel until you feel the pins slide in.
32. Apply power to the dock. You should hear a series of beeps indicating that the dock is powered up and ready to be used.

Invebo BC7A User Instructions

The BC7A is certified to be compliant with Bluetooth 5.0. It also supports any source device that complies with Bluetooth version 2.0 and above.

Note: Indicator LEDs are only visible if Invebo cradle support is fitted

Power on Auto Power Up: When the mains power is applied the dock will power up with a series of tones in rising note and the RED power LED will illuminate.

THE DOCK WILL REMAIN IN LOW-POWER STANDBY MODE UNTIL MUSIC IS REQUIRED

Manually Powering Down the Dock: If the red standby LED is annoying then the dock can be completely powered down by pressing and holding both volume buttons until a series of tones falling in pitch are heard. The Red LED extinguishes and the dock is fully powered off.

Manually Powering Up the Dock: When the dock is powered down, hold the + volume button down until you hear a series of tones rising in pitch. Release the button. The dock powers up and the unit is now in standby. The red LED illuminates.

Auto Standby: The dock will automatically place itself in Standby if no audio has been played for a few minutes.

LED Indicator Modes

NOTE THE INDICATOR LEDS WILL ONLY BE VISIBLE IF THE CRADLE SUPPORT UPGRADE IS FITTED

RED Power status LED Illuminates when powered up and ready to play or perform Bluetooth operations.

Blue LED Off: BC7A is not in pairing mode and not connected to another Bluetooth Device.

Blue LED Fast Flash: BC7A has entered the pairing process.

Blue LED Short flash every 3 seconds: A source device is connected but is not streaming

Blue LED Permanently Illuminated: A Bluetooth device is connected and is currently streaming audio.

Docking and Playing an iPod

Any Apple 30 Pin iPod or iPhone that supports USB charge Mode* will charge and play when plugged into the 30-pin socket. The docks can be controlled as before using the standard infrared remote control, the volume buttons and the controls on the iPod/iPhone.

* (USB Charge Mode is an Apple term and does not mean that there is an USB charging socket – it refers to the USB signals present on the 30-pin iPod dock socket)

Audio Source Priority

Bluetooth audio has priority over the docked iPod and will take over the dock and play. (even if an iPod is playing at the time). The iPod audio is disconnected when a connected Bluetooth source commences streaming. Approximately 10 seconds after Bluetooth Streaming ceases the iPod audio will be reconnected.

Bluetooth Operations

To stream audio over Bluetooth: Your Bluetooth device must be paired and connected to the BC7A. Refer to the instruction for your phone or tablet. The playback volume can be adjusted to the desired setting using the dock's + and – buttons and on your mobile device, the Dock remote control or the volume buttons on the dock.

Amazon Alexa Support: When connected to Amazon Echo the auto power down feature is disabled. This is to ensure reliable operation with the Amazon devices. Instead the unit maintains the connection and puts the hardware into standby mode when no sound is streaming.

Note: If paired with Amazon Echo Dot These products not surrender the Bluetooth audio channel when silent. . This means that it may override the dock connector. If you have this problem then disconnect Alexa from Bluetooth.

Pairing

BlueTooth pairing: When the dock is powered up (Red LED is on), momentarily press and release the both volume buttons. The dock will emit a tone and the Blue Status LED when pairing starts. The BC7A will remain discoverable and ready to pair for 150

seconds after which, if no device has been paired it will exit pairing mode and emit a low tone and the Blue LED will go off.

When will the BC7A Pair? You can pair with the BC7A providing another device is not streaming. If another device is connected it is necessary to disconnect the Bluetooth connection to that device.

Force Bluetooth to Disconnect: Momentarily press and release both volume buttons. The dock will be ready to pair to another device. The BC7A can pair and remember 8 devices but can only connect to one device at a time. It is important to remember to disconnect or switch off the Bluetooth on paired devices that aren't required to operate the dock. You will be unable to connect one device to the dock whilst another is still connected by Bluetooth. This situation can happen when several people have phones and have paired with the dock and they are still in range and they have not disconnected their Bluetooth connection. If this happens you can force disconnection by following the procedure below.

To simplify:

Only **ONE** device can be connected to the innexxis-BC7A at any time.

If you have paired more than one device with the BC7A and you are if you are unable to connect to the innexxis-BC7A then force disconnection of other devices by momentarily pressing both volume buttons simultaneously to enter pairing mode (see above). **Note:** Turning off the Bluetooth on the other devices will also force disconnection.

Bluetooth Pairing Trouble-Shooting

- Ensure that you have turned on Bluetooth on your phone or Tablet and, if necessary scan f devices while the BC7A is in pairing mode (see above).
- If you are unable to connect then press and release the pairing button on the dock.
- You may receive a message 'innexxis BC7A wants to pair' or something similar. (The exact message depends on the version and manufacturer of your phone or tablet).
- Confirm any requests that appear on your phone/tablet display.
- The device should now be paired with your innexxis-BC7A and 'connected' should be displayed.

To stream audio from your phone or table it is necessary to select media to be routed to Bluetooth audio option. Refer to the instruction for your phone or tablet.

When streaming starts the innexxis-BC7A will power up the main dock electronics dock and begin to play. The playback volume can be adjusted on the dock and on your mobile device.

For best streaming quality set the volume control on your mobile device >50% and set the volume control on the dock to a comfortable listening level.

If you are Unable to connect then try one or more of the following:

1. Ensure no other Bluetooth devices are in range and connected.
2. Reset the Bluetooth on your phone by turning the Bluetooth off and back on again.
3. Follow the pairing procedure.

4. Instruct your phone to forget the BC7A and then follow the pairing procedure.
5. Turn the dock power off, wait 20 seconds and power up the dock.

If you can connect and stream but hear no audio:

1. Try another mobile device.
2. Ensure that the audio is routed to Bluetooth streaming on your device.
3. Press the dock + volume button (Turn up the volume on the dock).
4. Check the video on the website that shows how to check and re-plug your sound processor amplifier ribbon.

IPOD Trouble-Shooting

No Audio:

- Ensure that the dock is connected to power
- Ensure that the Apple device is fully plugged in

iPod Plays but fails to Charge

- Ensure that the dock power is connected.
- Check that your iPod supports USB charge mode*

* A few of the very early 8GB and 16GB iPods support Firewire charge mode only. Please contact Invebo support to solve this issue.

Technical Support

If you have installation issues then please refer to the video and check each step carefully.

I can connect by Bluetooth but No Sound:

- Check that all ribbon cables are correctly plugged in, as detailed in procedure then please see YouTube video on checking and re-plugging sound processor ribbon.
- If your dock serial number begins with 0498 or 052398 then disconnect BC7A and power up the dock. You should hear two beeps. If you do not hear the beeps then your sound processor in the base of the dock is faulty. Contact Invebo.
- If your dock serial starts in 0357 or 0402 and you can connect by Bluetooth your sound processor requires the reliability modification. Contact Invebo.

I can't see or hear any signs of life BC7A no illuminated LEDs:

- Check that the power adaptor is plugged into the sound processor correctly. (Correct orientation).
- Watch the power adaptor/supply diagnostic video listed in the Invebo Tech Guide on the website.

Contacting Invebo Support

Please email details of your issues to support@invebo.com. Please include as much information and description of the problem. Describe what working and what is not working and if possible send photographs of your sound processor and the BC7A so we can spot any issues. If you supply comprehensive information then our support will be faster and more effective. We endeavour to answer all queries within one working day of receipt.

CERTIFICATION NOTICES

Bluetooth Module has received the regulatory approval for the following:

BT SIG/QDID: 121137

United States: FCC ID: A8TBM20SPKXYNBZ

Canada- IC: 12246A-BM20SPKS1- HVIN: BM20SPKS1

Europe/CE

Japan/MIC: 202-SMD048

Taiwan/NCC: CCAN15LP0460T2

China/SRRC: CMIIT ID: 2015DJ7134

Brazil/ANATEL: 01888-19-08759

Mexico/IFT: RCPMIBM19-0454

Argentina/CNC ID: C-22800

EU – Declaration of Conformity: Button Brand Designs Limited declares that innexis-BC7A complies with the applicable requirements and other relevant provisions of Directive 1999/5/EC. Button Brand Designs Limited, Unit 1, Blounts Farm. Blounts Court Road, Sonning Common, Oxon, RG4 9PA. UK

ROHS Compliance Statement: On 6 July 2006, the European Union adopted the "Restriction on Use of Hazardous Substances in Electrical and Electronic Equipment" (RoHS) EU Directive 2002/95/CE. Button Brand Designs Limited achieved and maintains full compliance with RoHS directives for all electronic devices sold in Europe.

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