



### **Commercial Installation Procedure Recommendations**

1. Open up Bluesound Devices in your facility first.
2. Connect to your network, update players.
3. Perform factory reset on each player.

#### **Note:**

***This provides the knowledge that the players are fully functional and that any further issues at site, will be network related.***

4. Install at corporate network site.
  - a. Have corporate IT “whitelist” Bluesound Player in NAC or firewall settings. Makes the player an administrator approved device able to access. Some corporate networks mandate this. It is best to have this done before your site visit.
  - b. Test music streams and discovery of device using Bluesound App. Some iPhones and or PCs may need to be listed to be able to access players on the corporate network.
5. The following listing is what Bluesound Players require to be fully functional.

### **Router Settings and switch settings:**

Multicast (mDNS) **Enabled** - Required for Bluesound/NAD + BluOS Player Discovery. Make sure this is enabled on both, switch and access points with no filtering.

QoS/WMM **Disabled/Enabled**- Will cause certain traffic to be prioritized and potentially cause limit traffic between your players and controller app. Can be beneficial in some networks so results will vary between network equipment.

DHCP Server **Enabled** - Required to assign an IP Address to each Bluesound Player. For improved reliability, it is recommended to configure **DHCP reservations** for each device. This ensures that each player consistently receives the same IP address on the network. If a DHCP server cannot be used, and players need a static IP, refer to this document. [How Do I set a Static IP Address on my Player – Bluesound Professional](#)

IGMP Snooping **Enabled\*/Disabled** - To help connect Multicast traffic from source to destination and prevent it from being seen as malicious traffic. Can be detrimental in some networks if not set up correctly, so results will vary between network equipment.

**Note:** When enabling IGMP Snooping, ensure there is **only one device acting as the IGMP Querier** on the network. Having multiple queriers can cause conflicts and lead to unstable multicast behavior.

If IGMP Snooping is enabled, make sure the network is configured to **allow unknown multicast traffic** rather than discarding it, so that devices can communicate reliably.

\*If you are unsure how to properly configure IGMP Snooping, it is recommended to **disable this feature** or contact your network equipment provider for assistance.

Flow Control: **On**

Jumbo Frames: **Disabled.**

**Spanning Tree (R/STP):** Can remain **enabled**. This feature prevents network loops and helps maintain overall network stability. Bluesound devices do not create their own internal network structure, so Spanning Tree will not interfere with normal operation. Again, if unclear how to set this up, it is advised to **disable this feature** or contact your network equipment provider for assistance.

You will need to apply these changes to this network and test to see if this helps with discovery on the network. NOTE that these settings will need to be applied to all devices on this network. By default, some routers do not route multicast packets. Multicast routing is very different than unicast routing, and it must be specifically configured on all the routers and other devices between networks for multicast packets to be routed between networks.

In addition to the above, the ports used with the BluOS Players are as follows:

**Required TCP/IP:**

- 80 (HTTP)
- 135 (SMB)
- 139 (SMB)
- 1025 (SMB)
- 445 (CIFS)
- 3400 (UPnP incoming events)
- 443 (Rhapsody, Napster, and SIRIUS Internet Radio)
- 4070 (Spotify incoming events)
- 3689 (DAAP for iTunes Sharing and AirPlay)
- 5353 (mDNS connection to mDNS responder)

**Required UDP:**

- 136-139 (NetBIOS)
- 2000 (BluOS® Proprietary)

- 1900 (UPnP advertisements / device discovery)
- 1901 (UPnP m-search responses)
- 2869 (UPnP connection to Windows Media Player 11 Network Sharing Service)
- 6969 (Getting Started process)
- 10243 (UPnP connection to Windows Media Player 11 Network Sharing Service)
- 10280-10284 (UPnP connection to Windows Media Player 11 Network Sharing Service)
- 11000 (BluOS® Proprietary)
- 11430 (BluOS® Proprietary)
- 5354 (mDNS connection to Bonjour)

## **Helpful Diagnostic Tools**

If you need to find out the device IP address and cannot access via our internal Diagnostic Tool in our Bluesound Controller app (Help/Diagnostics), there are additional 3<sup>rd</sup> party tools that are commonly available. A good tool to have in your “toolcase” is FING, available for your PC or mobile device. <https://www.fing.com/products> and Apple Store.

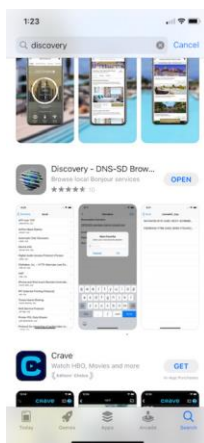
### **Note:**

If you have access to the router on the network the devices are setup on, you can usually check the Network Map of the router and look for the IP listings of the Bluesound devices.

## **Discovery Tool**

Another tool that is commonly used to check on “bonjour” device discovery (one of the discovery tools used by Spotify and Bluesound good for Spotify Connect discovery issues and Bluesound Device discovery issues) is:

### **“Discovery” (Free) from Apple Store:**



1. Open app.
2. Select Local domain
3. Scroll down list to: spotify-connect.\_tcp (can also check Tidal connect players too), (CP100's via, sovi-keypad\_tcp.)
4. Should show list of all players.
5. If list is empty then discovery (Bonjour) with Spotify is not working, may be blocked by router.

If not on discovery tool list, or not in Spotify Connect device list, check that ports are available through router as per list of ports provided earlier in document.