# RBS25 REMOTE BASE STATION SETUP QUICK REFERENCE
(Ver.1.41_30 JULY 2015_10 RBS)

1) Locate the Base Station(BS) and Remote Base Station(RBS)

Consider the best locations for the BS and RBS at the installation site. If BS and RBS will be located on each individual floor level or there is an obstruction wall between the spaces that totally separate out, you may not needed to consider the overlapping area between the BS and RBS. If the BS and RBS will be co-located in one open space where no wall, test and check out the coverage for each BS and RBS and install them at the best locations as higher as possible not allowing wide overlapping area. The antennas of BS can be disconnected with termination caps if the BS signals need to weaken depending on the site environment, conditions of installation and system operation.
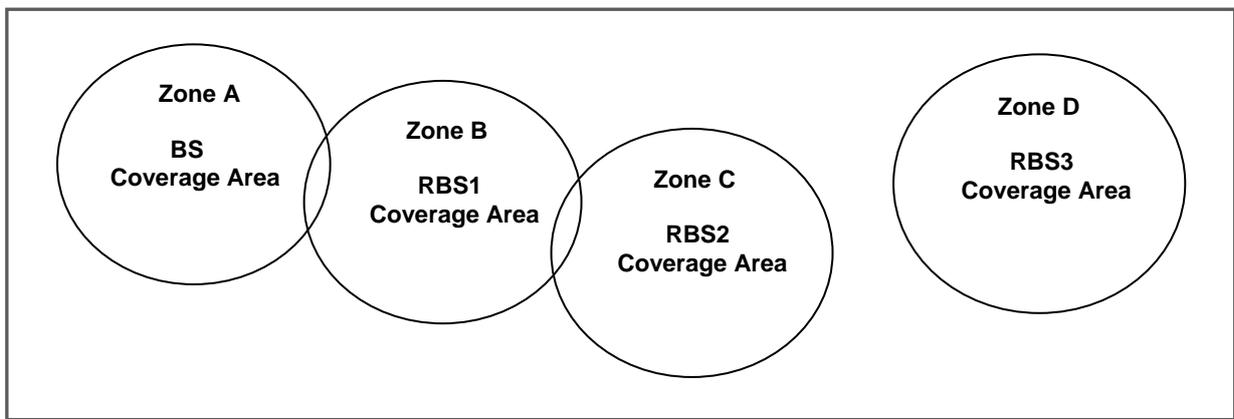


[Figure 1] Mapping coverage zones

2) Connection between the BS and RBS

Connect the BS and RBS through LAN cable. The LAN port can be found from the rear panel of the BS and bottom of the RBS. If the cable length is excess 80m, STP cable is strongly recommended to secure stable network environment.

◼ Cable length ≤ 80M: Connect with CAT-5 STANDARD LAN Cable

◼ 80M ≤ Cable length ≥ 100M: Connect with CAT-5e STP LAN Cable

◼ Cable length ≤ 100M: Connect with OPTICAL FIBRE Cable



[Figure 2] LAN ports of BS and RBS

For multiple RBSs connections, it is necessary to connect through Power of Ethernet (PoE) Hub. For sole RBS connection, either direct connection or connection via PoE Hub should work. It is recommended to use PoE Hub when the user prefers convenient power supply to RBS.

To cover wide communication area, RBS can be added and connected through PoE Hub as shown from below system configuration.
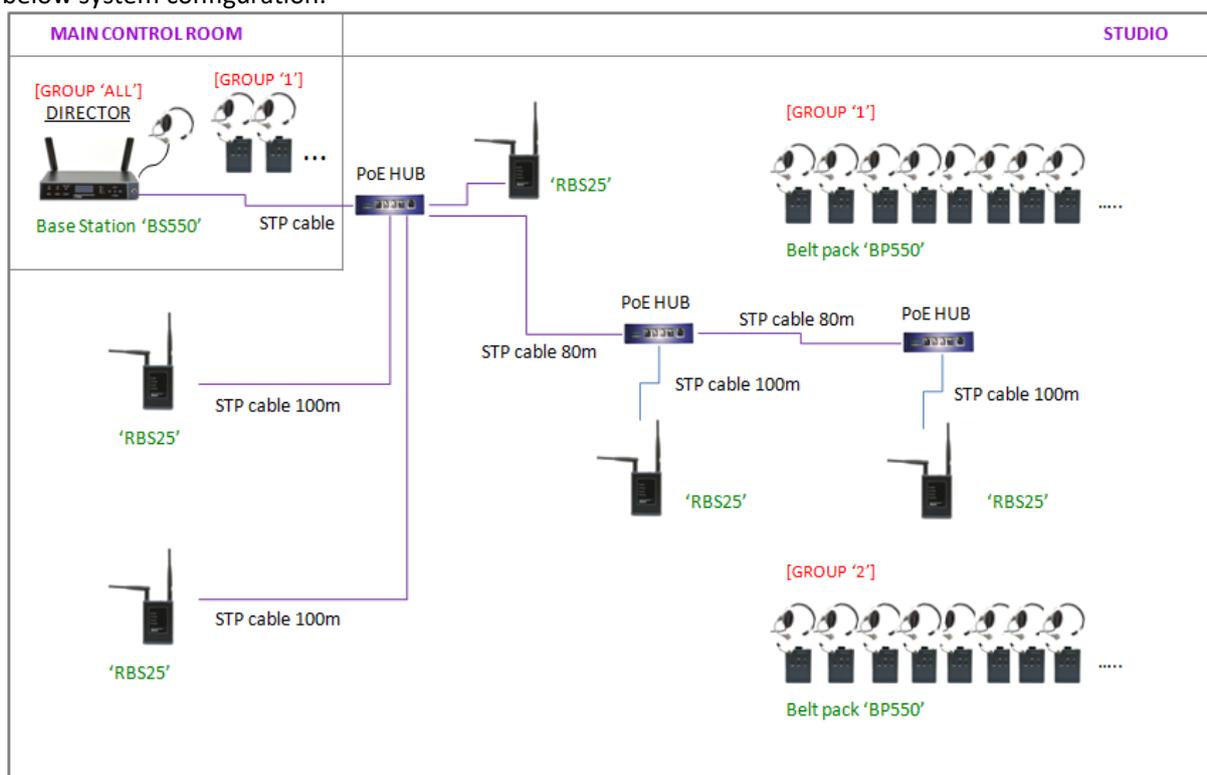


[Figure 3] System usage example

3) Power supply to BS and RBS

Supply power to BS and RBS. There are two ways to supply power to RBS as following;

- ▣ Power of Ethernet(PoE) Hub
- ▣ LaON provided power adapter

Upon the power supply to the RBS, system will be booted up automatically without pushing the power button. (Version after August 2014)
When the BS and RBS are properly connected, The BS LINK LED light on the front panel of the RBS and the RBS LINK LED light on the front panel of the BS will go on in green.

4) Pairing up the RBS with BS

BS and RBS or RBSs should link with pairing-up process before initially using. When BS and RBS are ready with all required steps with above procedures, implement the pairing by controlling the BS OLED display menus on BS. Pairing-up process can be done for one(1) RBS at once. Therefore, connect the LAN cable with the applicable RBS only and disconnect all other cables for the rest of RBSs. Short LAN cable will be enough to connect between BS and the applicable RBS for pairing process.

Once the pairing is done, reboot BS while the RBS or RBSs are turned on then wait for one minute for BS booting and then 20 seconds for each RBS. (Version after April 2015)
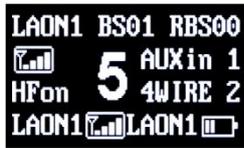
 [Figure 4] Initial display of BS
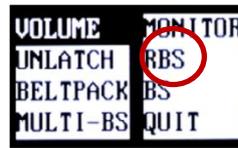
 [Figure 5] Menu selection

The menu display of BS and BP go in sleep mode if no touch or press is made for a while. Touch or press any button on the BS and BP will have them waken up.

Press 'SET' button when the initial display of the BS appears as shown from the Figure 4, then it will lead to menu selection display as shown from the Figure 5. Move to the 'RBS' and press 'SET' button which will bring you to the menu display of RBS pairing up setting as shown from the Figure 6.

 [Figure 6] Menu display of RBS pairing up setting

; Press 'right' button from the QUIT position to indicate the RBS #6 to 10.

Implement the RBS pairing from the number '1' on the display in order. Move onto '1' and press 'SET' then the pairing will start by changing the pairing icon indication from ![icon] to ![icon] . If the pairing setup is successfully completed, the icon will be changed to ![icon] and the LINK indication on the bottom line of the display will be changed from 'X' to 'O'. You may observe the change of LINK indication after getting out from the current display with QUIT button and return again. When failed, the pairing icon will be returned to the initial indication. Reboot the system as instructed in 4) above.

With this pairing up process, each Belt Packs(BP) within the RBS coverage will be linked to the respective RBS and the wireless intercom communication between BPs, or BS and BP will be activated. As shown from the figure 7 below, BP users will be able to confirm to which device the BP in use is linked. If the BP is linked to BS within the BS coverage, the display appears 'BS' and if a 'RBS', 'R1' 'R2' 'R3'…

 [Figure 7] Initial display of Belt pack

Indeed, when there are data exchanges by communication, the 'RBS Active' LED light of the BS and 'BS Active' LED light of the RBS will go on.

When users changed any settings by accident, there could possibly a disconnection of the pairing between the BS and RBS. If you have any issue on communication, check out the LAN cable connection status and implement the pairing up process again to retrieve.

5) Hand off between coverage
When BP users move between BS coverage and RBS coverage or between RBSs coverage, the applicable BP will be automatically linked to the device(BS/RBS) within the located coverage. When the automatic roaming is done, user can confirm the change from the display of the BP as shown from the Figure 7. If the site environment and installation condition don't allow an automatic roaming due to wide overlapping area between coverage and etc., manual hand off operation is also available. Approach to the BS or RBS where you want to make the link and double click the power button on the BP or, while pressing the power button(PWR), press the group selection button(GRP) and release your hands from the two buttons quickly. Expect a beep sound with an instant red LED indication upon the new link to the BS or RBS. Confirm the link indication in the BP display as well, if the manual hand off is successfully completed. Please take a caution to not press the power button longer than 2 seconds for this button operation. It will make the BP power off.
Also, you can adjust the handsoff sensibility level from 'high' to 'low' with a 'Handoff sens.' menu on the

Beltpack for the smooth handsoff between areas within the non-ideal installation environments.

**[Trouble shooting]**

When you have any issue on connecting between BS and RBS;

- Confirm if the LAN cable you are using is appropriate for the specification, cable length and etc.
- Check out if the cable or connectors are broken.
- Reboot the system and confirm if the LINK LED indications on both BS and RBS are correct.
- Implement the pairing process again between the BS and RBS or RBSs and try again. See if the pairing setup could be lifted by inappropriate operating by accident.
- When connecting multiple RBSs, please process the pairing one by one from the ID number from 1 to 10. The RBS which is already paired up should be turned off or disconnected and the RBS to be paired up should exclusively be connected and turned on. In order to confirm where the BP in use is linked, see the BS monitor menu or BP display. It will display the linked device ID such as BS, R1, R2… and RA(for R10).
- During scanning process of BS and RBS/RBSs after booting or rebooting, audio communication will be inactivated. Also, if a Beltpack is under pairing process, the communication will be blocked as well with red LED flashing.
- If the system will be installed on the existing network, please refer to the section, 'Remote Base Station Setup' of LT550 Expert system manual or LT250 Basic system manual. Please note that configuring an exclusive dedicated network is still strongly recommended to secure a stable network communication environment.
- If there are too many RBSs should be installed in same or near areas and possible frequency conflict happens, we provide an option to assign a specific frequency channel to each BS and RBS with LaON provided configuration program. Please contact the maker or distributor in your region for further instruction on this.
- If the issue is still not solved out though above actions, please contact the designated service center or distributer in your local or LaON Technology at support@laon-tech.com.