



Repeater installation

Installing repeaters requires both hardware installation and software installation.

Increase coverage

The repeater is a building block to be used to extend the coverage area in a system. The repeater does not increase the number of traffic channels, however it provides a larger physical spreading of the traffic channels and thereby increases the coverage area established with the base stations. The repeaters are mainly used in areas with limited traffic.

Repeaters are wireless and does not need any physical connection to the base station, making it very easy to install, it only need mains power. The repeater has an external antenna connection which allows a possibility to get radio coverage on the other side of e.g. metal wall.

There can be 4 talk channels on each repeater and it is only possible to repeat the sound on one group, although it is possible to have a talk channel on any of the activated groups on the repeater. When using repeaters it is recommended to be on a talk channel since it will give the better performance.

Repeater types and part numbers

Part description	Part number
DECT-Com II 1.8GHz Repeater (excl. mains adapter).	DC2821
DECT-Com II 1.9GHz Repeater (excl. mains adapter).	DC2921
Mains adapter for repeater.	DC2822
Repeater programming kit.	DC2094

Repeater indicator

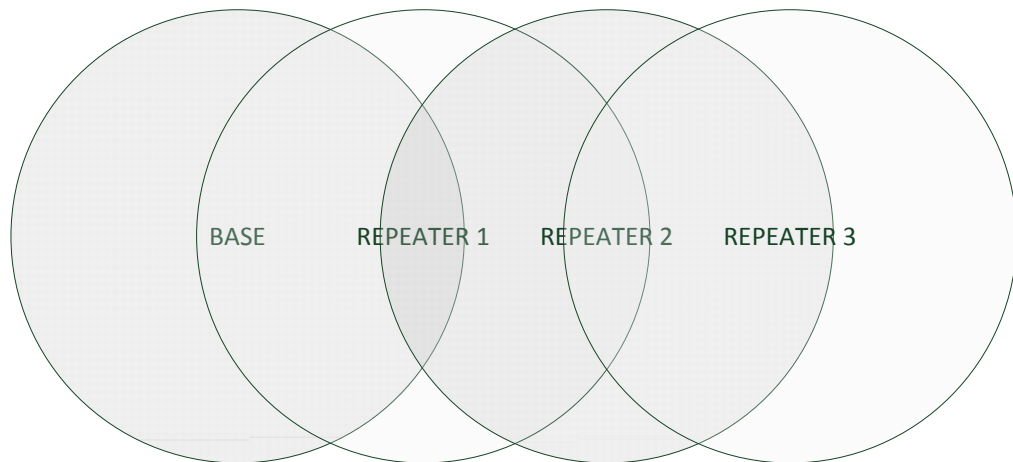
The repeater has one LED indicator the describing the repeater operations: When the indicator is off, the repeater has not been powered up. When the LED flashes, sync with the base has not been established, as soon as the repeater has sync with the base, the LED is constantly lit. For a correct function the repeater must be in synchronization with the base station or the repeater before in the system. Each time a portable makes a handover to the repeater the LED will flash once to indicate it has completed a handover.

Repeater installation

- Radio coverage depends on building construction materials, methods of construction, and the surrounding environment. Therefore, each installation is unique regarding the location of base stations.
- Avoid placing base stations and repeaters near other electronic equipment, large machinery, metal constructions, etc., as the range can be severely affected. Base station and repeaters should be placed between 6- 12 feet/1.8-3.6 meters in height on a wall or up to 30 feet/10 meters when suspended from a ceiling. If they are placed any lower, persons walking around could interfere with the radio signal. The coverage area can be adversely affected if the base station and the repeater are mounted improperly.

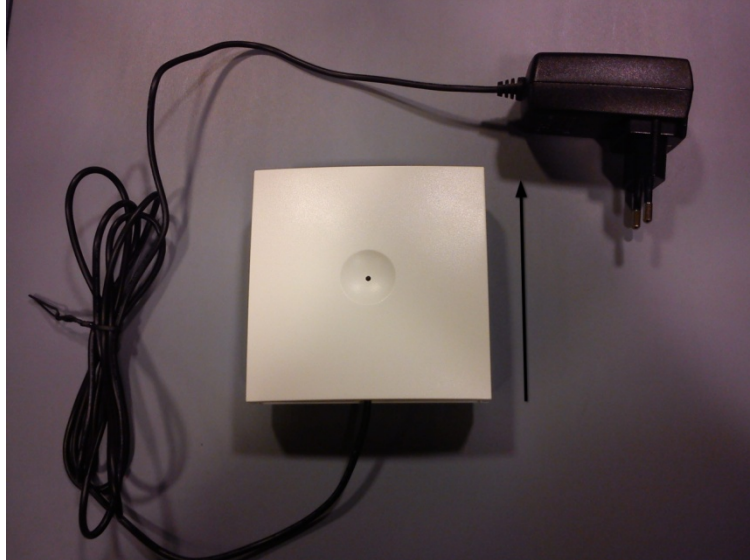
- For efficient handover of conversations between base stations, deploy repeaters with sufficient overlap of radio coverage. Coverage overlap occurs when the radio fields of base station and repeaters overlap each other. Base station and repeaters must be placed in such a way that the radio coverage from one base station to a repeater overlaps by 30 to 45 feet/10-15 meters. Overlaps are necessary to give the handset time to do a handover to a base station or repeater from which it receives a better signal quality.

Coverage overlap



- If the overlap area is not enough - less than 30 – 45 feet/10-15 meters there is a risk of the connection being dropped while moving from one coverage area to another. However, too much overlap results in a wasted coverage area.
- Base stations and repeaters are omni-directional, which means that the RF signal is propagated vertically and horizontally from the base stations and repeaters. Depending on building materials the base station or repeater coverage area will typically extend to more than one floor of a structure.
- The handset will not necessarily switch over to the base station or repeater from which the strongest signal is received. The handset will remain connected to a base station or repeater as long as the quality of the received signal is acceptable.
- Different weather conditions can influence radio coverage. For example, a wet roof or wall can act as a shield. Also, new leaves on trees in the spring might affect the radio coverage of base stations and repeaters.
- If the construction materials of the building contain metal, signal reflection may occur. When signal reflections occur, the signal may be affected even when the handset is very close to the base station. You should document these areas with the help of the customer. If you are aware of metal in the building construction, you have to carry out a very thorough site survey.
- The repeater does not add channels, it only adds additional coverage area.

- For best RF coverage, the repeater must be mounted vertically on wall. The antennas must always be perpendicular to the floor.
- CAUTION: The repeater must not be installed at any angle other than vertical. If the repeater is placed upside down (power inlet pointing upwards), the coverage area is decreased by 40 – 50 %.



After completing the installation of the repeaters, record the location of each repeater.

Powering the repeaters

Insert the cord from the mains adaptor (DC2822) into the bottom of the repeater, see picture below.



Power supply for the repeater is 9VDC, 300mA.

Programming a repeater with the programming kit (DC2094)

Content of the programming kit (DC2094).

- Splitter
- Serial cable

Set up of the hardware (DC2094) for repeater programming

- Insert the splitter into the repeater.
- Connect the repeater power supply into the splitter and mains. LED starts to flash.
- Connect the serial cable to the splitter and the Com port of your computer. The repeater is now ready for programming via the Peltor Dect-Com II repeater tool.

Note : the above mentioned order of the setup is very important!

Programming a repeater with the programming kit (DCS9)

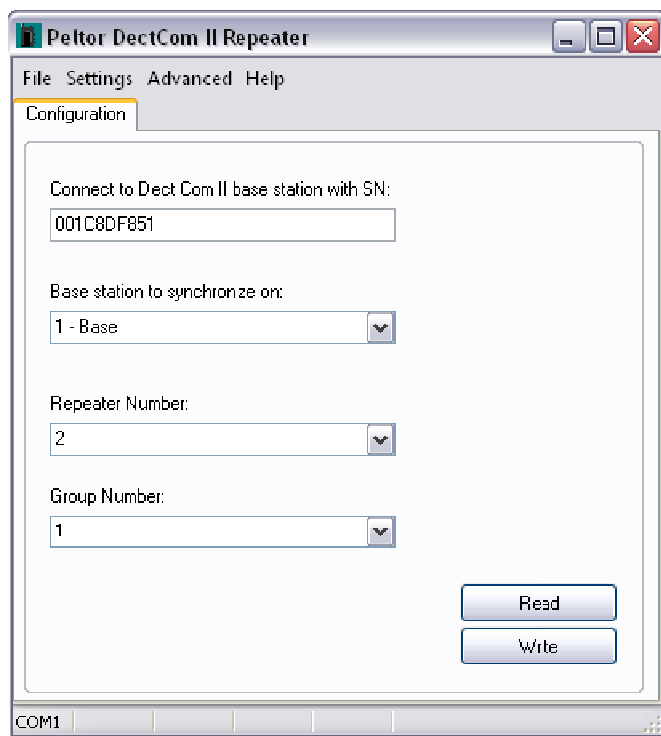
It is also possible to program the repeaters with the old DCS9 programming device.

Set up of the hardware for repeater programming

- Insert the correct connector into the repeater.
- Connect the power supply to DCS9. LED starts to flash.
- Connect DCS9 to the com port on the computer.
- The repeater is now ready for programming via the Peltor Dect-Com II repeater tool.

Note : the above mentioned order of the setup is very important!

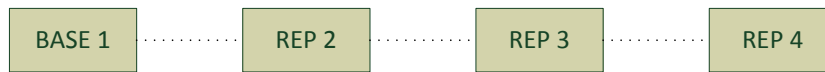
Peltor Dect-Com II repeater tool



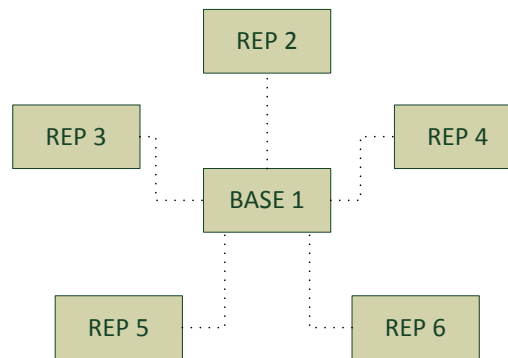
- Write the BASE S/N number into the first field in the program.

- Set if the repeater shall synchronize on the base or a repeater depending if there is a chain connection (maximum 3 repeaters in a chain) or star connection (star connection: all repeaters shall synchronize to the base, chain connection: repeater 2 shall synchronize on the base, repeater 3 shall synchronize on repeater 2, see picture below).

Chain connection



Star connection



- Set which number the repeater (base station is always number one, there after must the repeater numbers be counting upwards in order).
- Set which group sound it shall repeat.
- Press the "Write" button and the repeater is set up ok.
- Power cycle the repeater to get the changes activated in the repeater.

