

Hints for Installing NEC Cordless Phones (P/N 730087, 730088, 85455, 85456D, 85457D, 80683)

When using the NEC America cordless telephones (Cordless Lite II, Cordless II, 900 MHz Cordless, 900, 900i, or 910i) poor reception or call disconnects can occur if the base is not placed in the correct location. It is also important to understand the type of battery your phone uses and the best way to recharge it for maximum life.

In ideal conditions, multiple spread spectrum type cordless phones (Cordless II or 910i) can be utilized in the same environment. However, due to the possible interference problems caused by the bases being placed in close proximity to each other, we recommend the following:

Spread Spectrum Phones (Cordless II P/N 730088, 910i P/N 85457D)

Where users require greater range on the cordless phones and 3 or less cordless phones are being used at a specific site, we recommend using the spread spectrum cordless phone.

FM Modulation Phones (Cordless Lite II P/N 730087, 900 MHz Cordless P/N 80683, 900i P/N 85456D)

Where more than 3 cordless phones are to be used at one specific site, we recommend using the FM modulation cordless phones which have 30-channel capability.

General Information

The Aspire *Cordless Lite II Telephone* (P/N 780087) and DS1000/2000 *900 MHz Cordless Telephone* (P/N 80683) have narrow band FM modulation with ADPMC (digital). There are a total of 30 channels. The frequency ranges from 902 - 928 MHz. The telephones provide manual channel scan. The battery type is NiMH. Should a connection be made directly from the system's extension port connector or the extension PCB to the base station, the line cord must be 2-wire (1-pair) (*this may occur when testing the port*). As the system will provide power to the unused pair, this can prevent the telephone from acquiring a link with the base station.

The Aspire *Cordless II Telephone* (P/N 730088) is spread spectrum and has a total of 10 channels. Its frequency ranges from 902 - 928 MHz. Its output power rating is 60 mW and it has manual channel scan. The battery type is a nickel cadmium. Should a connection be made directly from the system's extension port connector or the extension PCB to the base station, the line cord must be 2-wire (1-pair) (*this may occur when testing the port*). As the system will provide power to the unused pair, this can prevent the telephone from acquiring a link with the base station.

The i-Series *900 Cordless Telephone* (P/N 85455) is spread spectrum and has a total of 9 channels. Its frequency ranges from 904.45 - 924.45 MHz in 2.5 MHz steps. Its output power rating is 100 mW and it has auto channel scan. The battery type can be nickel cadmium or NiMH. The NiMH type has been used since November 2000.

The i-Series *900i Cordless Telephone* (P/N 85456D) is not spread spectrum, but Digital FM. There are a total of 30 channels. The frequency ranges from 902.1 - 905.0 MHz and 925.00 - 927.9 MHz in 100 KHz steps. Its output power rating is 0.28 mW and it has manual channel scan. The battery type is a sealed lead acid.

The i-Series *910i Cordless Telephone* (P/N 85457D) is spread spectrum and has a total of 10 channels. Its frequency ranges from 905.728 - 924.160 MHz in 2.048 MHz steps. Its output power rating is 60 mW and it has Manual Channel scan. The battery type is nickel cadmium.

Range

Range can vary from site to site. The range of the cordless phone depends largely on the environmental factors, such as the building structure, the size of the room, RF interference, other electronic equipment installed in the same area, and its base placement. A line of site condition is the absolute ideal condition, but unfortunately is not usually possible. This makes the base placement very critical for the optimum signal.

Place the base units at least 15 feet apart (this is not required for the 900i). The performance of the phones become more stable when the distance between the bases is greater.

Since the antenna signal from the base has a radiating sphere shape, all bases should be placed in a central location from the user. This means bases should be placed away from walls or other obstacles, especially any metallic-type materials. If the phone will also be used in an outdoor area, like a parking lot, install the base unit in an area close to the window.

Some of the following things will cause poor reception. Again, since the RF signal is line of site, base placement should be considered before installation.

- a. Placing the base against a wall. Reception will be even less if the wall has metal studs.
- b. Placing the base next to any electromechanical device such as TVs, radios, computers, fluorescent lights, fax machines, printers, speakers, etc.
- c. Placing the base in a room that has tinted windows or one-way glass (when the handset will be used on the other side of the glass).
- d. Placing the base or using the handset near any hand-held inventory device such as a Symbol or Telex manufactured inventory unit (as the common frequency ranges can conflict).
- e. Placing the base above the ceiling with insulation in between the base and the handset.

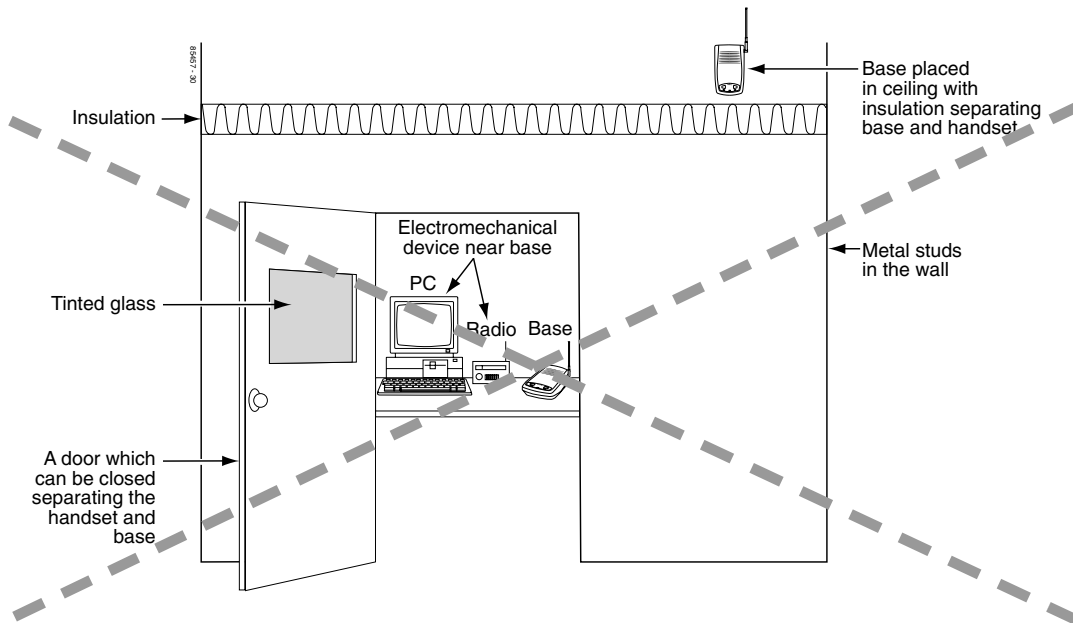
Upon installation, each handset should have its channel button changed This will prevent any problems with interference between the handsets when going off hook. This is not necessary with the 900 phone (P/N 85455) because it has auto-channel change.

Battery

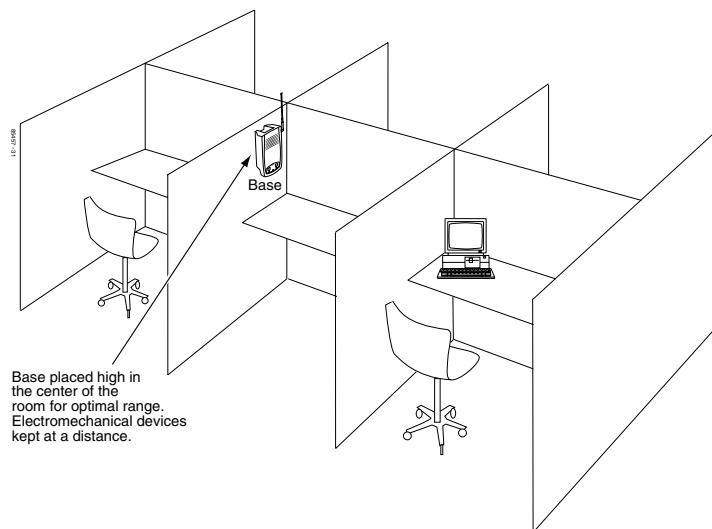
The nickel cadmium battery in the 900 (P/N 85455) prior to November 2000, 910i (P/N 85457D) and Cordless II (P/N 730088) should be discharged fully every 2 months and fully recharged in order to prevent memory effect. Memory effect is when a battery is charged over and over again when only partially discharged. If this is done regularly, the battery will remember the voltage and never get to its fullest potential.

The sealed lead acid battery in the 900i (P/N 85456D) needs to stay at a certain level all the time. It will discharge when used, but not fully. Once the battery is low, it should be placed in the charger and recharged. Unlike the nickel cadmium battery, it should never sit without being recharged regularly. The charger has a trickle charge which will prevent it from fully discharging.

The NiMH batteries in the 900 (P/N 85455) manufactured from November 2000 on, the Cordless Lite II (P/N 780087) and 900 MHz Cordless (P/N 80683) phones have no memory effects so it is not necessary to regularly discharge the battery as with the nickel cadmium battery. They can be recharged or topped off anytime. Without use, however, the NiMH batteries self discharge about half their energy in two months, so they will need to be recharged periodically.



Keep the cordless phone base away from any of these items for best reception.



This setup allows for good reception for the cordless phone base.



NEC Unified Solutions, Inc.
4 Forest Parkway, Shelton, CT 06484
TEL: 203-926-5400 FAX: 203-929-0535
www.necunifiedsolutions.com

85457SUP03

March 2004
Printed in U.S.A.