

What is claimed is:

1. In a CDMA cellular network overlaid on an AMPS cellular network, a method for performing a handoff of a call from a mobile unit in a CDMA cell site of the CDMA cellular network wherein the CDMA cell site is co-located with an AMPS cell site of the AMPS cellular network, the method comprising the steps of:
 - measuring a round trip delay ("RTD") value representing a distance from the mobile unit to the CDMA cell site;
 - comparing the RTD value with a first predetermined value;
 - if the RTD value exceeds the first predetermined value, determining whether any other CDMA cell site is available for handoff;
 - comparing the RTD value with a second predetermined value;
 - if the RTD value exceeds the second predetermined value, handing off the call to a second CDMA cell site if one is available; and
 - if no other CDMA cell site is available for handoff, handing off the call to the AMPS cell site.
2. The method of claim 1 wherein the first predetermined value is an RTD threshold representing a distance from the CDMA cell site area within specific boundaries of the AMPS cell site.
3. The method of claim 2 wherein the specific boundaries of the AMPS cell site are boundaries between the AMPS cell site and other cell sites of the AMPS cellular network that are adjacent to the AMPS cell site but not co-located with cell sites from the CDMA cellular network.
4. The method of claim 1 wherein the first and second predetermined values are RTD thresholds representing a first and second radius, respectively, from the CDMA cell site defining a first and second area, respectively, completely served by the AMPS cell site such that the second radius is less than the first radius.
5. The method of claim 1 wherein the step of determining whether any other CDMA cell site is available for handoff includes the following:
 - receiving a pilot signal from any other CDMA cell site;
 - detecting a strength of the pilot signal;
 - comparing the strength of the pilot signal to a predefined limit;
 - adding the pilot signal to an active pilot list if the strength of the pilot signal exceeds the sum of the predefined limit and a hysteresis limit; and
 - after adding the pilot signal to the active pilot list, removing the pilot signal from the active pilot list if the strength of the pilot signal falls below the predefined limit.
6. In a first cellular network bordering a second cellular network, a method for handing off a call from a mobile unit being served by a first cell site and approaching a second cell site, where the first cell site is a border cell site of the first cellular network and the first cell site is co-located with a third cell site of the second cellular network, the method comprising the steps of:
 - repeatedly measuring a round trip delay ("RTD") value representing a distance from the unit to the first cell site of the call;
 - comparing the RTD value with a first predetermined value;
 - if the RTD value exceeds the first predetermined value, determining if the second cell site is in the first network;

- comparing the RTD value with a second predetermined value; and
- if the RTD value exceeds the second predetermined value and the second cell site is not in the first network, performing a handoff to the third cell site so that the third cell site may perform a handoff to the second cell site.
7. The method of claim 6 further comprising the step of:
 - if the measured parameter exceeds the second predetermined value and the second cell site is in the first network, performing a handoff to the second cell site.
8. The method of claim 7 wherein the step of determining if the second cell site is in the first network comprises:
 - collecting and measuring a pilot signal from the second cell site;
 - comparing the measured pilot signal to a predefined limit; and
 - if the pilot signal exceeds the predefined limit, determining that the second cell site is in the first network.
9. The method of claim 7 wherein the first predetermined value is an RTD threshold representing a radius from the first cell site defining an area completely served by both the first and third cell sites.
10. In a first cellular network bordering a second cellular network, a method for handing off a call from a first cell site to a second cell site, wherein the first cell site serves a border cell of the first cellular network and the second cell site serves a border cell of the second network, the method comprising the steps of:
 - repeatedly measuring a round trip delay ("RTD") value representing a distance from a mobile unit making the call to the first cell site of the call;
 - comparing the RTD value with a first predetermined value;
 - if the RTD value exceeds the first predetermined value, providing a code identifying the call to a receiver at the second cell site;
 - comparing the RTD value with a second predetermined value; and
 - if the RTD value exceeds the second predetermined value, polling the receiver to determine if the receiver has detected the call and if so, performing a handoff to the second cell site.
11. The method of claim 10 further comprising the steps of:
 - receiving a pilot signal from a third cell site;
 - determining whether the third cell site is in the first cellular network; and
 - if the measured parameter exceeds the second predetermined value and the third cell site is in the first cellular network, performing a handoff to the third cell site instead of the second cell site.
12. The method of claim 11 wherein the step of receiving a pilot signal includes the following:
 - detecting a strength of the pilot signal;
 - comparing the strength of the pilot signal to a predefined limit;
 - adding the pilot signal to an active pilot list if the strength of the pilot signal exceeds the sum of the predefined limit and a hysteresis limit; and
 - removing the pilot signal from the active pilot list if the strength of the pilot signal is less than the predefined limit.
13. The method of claim 10 wherein the first cellular network is a first CDMA network and the second cellular