CLAIMS

1. A method comprising:

assigning two or more forward link code division multiple access (CDMA) carriers to transmit data from a base station to an access terminal;

assigning one or more reverse link CDMA carriers to transmit data from the access terminal to the base station; and

limiting reverse link overhead transmissions corresponding to the two or more forward link CDMA carriers to a lesser number of carriers on the reverse link than the forward link.

2. The method of Claim 1, wherein each forward link carrier is 1.25 MHz wide.

3. The method of Claim 1, wherein limiting reverse link overhead transmissions comprises:

time-division multiplexing data rate control (DRC) information corresponding to the two or more forward link CDMA carriers; and

transmitting the time-division multiplexed DRC information on one reverse link CDMA carrier to the base station.

4. The method of Claim 1, wherein limiting reverse link overhead transmissions comprises:

transmitting data rate control (DRC) information and a DRC cover separately on one or more reverse link CDMA carriers to the base station, wherein the same DRC cover is transmitted for two or more forward link CDMA carriers.

5. The method of Claim 4, wherein the DRC cover is not repeated with DRC information transmitted for each forward link CDMA carrier.

6. The method of Claim 1, wherein limiting reverse link overhead transmissions comprises:

time-division multiplexing acknowledgements (ACKs) and negative acknowledgements (NAKs) corresponding to the two or more forward link CDMA carriers; and

transmitting the time-division-multiplexed ACKs and NAKs on one reverse link CDMA carrier to the base station.

7. The method of Claim 6, wherein an ACK channel transmit time is 1/4 slot.

8. The method of Claim 1, wherein limiting reverse link overhead transmissions comprises:

transmitting a channel of acknowledgements (ACKs) and negative acknowledgements (NAKs) with a time duration of half slot to one slot using in-phase and quadrature phase components of multiple Walsh codes.

9. The method of Claim 1, wherein limiting reverse link overhead transmissions comprises:

transmitting a single Data Source Channel (DSC) channel transmission on a single reverse link carrier from the access terminal to the base station.

10. The method of Claim 1, further comprising soft-combining data received from the two or more forward link carriers.

11. The method of Claim 10, further comprising:

transmitting packets of data on individual forward link carriers at different times; and

supporting soft handoff across forward link carriers with asynchronous transmissions.

12. The method of Claim 1, further comprising increasing a number of medium access control (MAC) indices for forward link traffic.

13. The method of Claim 1, further comprising using a plurality of medium access control (MAC) indices for preamble transmission to access terminals assigned with multiple forward link carriers.

14. An access terminal comprising:

receiver to receive data from a base station on two or more forward link code division multiple access (CDMA) carriers;

transmitter to transmit data on one or more reverse link CDMA carriers to the base station; and

means to limit reverse link overhead transmissions corresponding to the two or more forward link CDMA carriers to a lesser number of carriers on the reverse link than the forward link.

15. The access terminal of Claim 14, wherein means to limit reverse link overhead transmissions comprises:

means to time-division multiplex data rate control (DRC) information corresponding to the forward link CDMA carriers; and

means to transmit the time-division-multiplexed DRC information on one reverse link CDMA carrier to the base station.

16. The access terminal of Claim 14, wherein means to limit reverse link overhead transmissions comprises:

means to transmit data rate control (DRC) information separate from a DRC cover on one or more reverse link CDMA carriers to the base station, wherein the DRC cover is not repeated with DRC information transmitted for each forward link CDMA carrier.

17. The access terminal of Claim 14, wherein means to limit reverse link overhead transmissions comprises:

means to time-division multiplex acknowledgements (ACKs) and negative acknowledgements (NAKs) corresponding to the forward link CDMA carriers; and

means to transmit the time-division-multiplexed ACKs and NAKs on one reverse link CDMA carrier to the base station.

18. The access terminal of Claim 17, wherein an ACK channel transmit time is 1/4 slot.

19. The access terminal of Claim 14, wherein means to limit reverse link overhead transmissions comprises:

means to transmit a channel of acknowledgements (ACKs) and negative acknowledgements (NAKs) with a time duration of 1 slot or 1/2 slot using a in-phases and quadrature phases of multiple Walsh codes.

20. The access terminal of Claim 14, wherein means to limit reverse link overhead transmissions comprises:

means to transmit a single Data Source Channel (DSC) channel transmission on a single reverse link carrier from the access terminal to the base station.

21. The access terminal of Claim 14, further comprising means to soft-combine data received from the two or more forward link carriers.

22. The access terminal of Claim 14, further comprising means to support soft-handoff across forward link carriers with asynchronous transmissions.

CLAIMS

1. A method comprising:

assigning two or more forward link code division multiple access (CDMA) carriers operating in different frequency bands to transmit data from a base station to an access terminal;

assigning one or more reverse link CDMA carriers operating in different frequency bands to transmit data from the access terminal to the base station; and

limiting by the access terminal reverse link overhead transmissions associated with a selected number of forward link CDMA carriers by time-division multiplexing data rate control (DRC) information corresponding to the two or more forward link CDMA carriers and transmitting the time-division-multiplexed DRC information on one reverse link CDMA carrier to the base station.

2. The method of claim 1, wherein each forward link carrier is 1.25 MHz wide.

3. The method of claim 1, wherein limiting reverse link overhead transmissions comprises:

transmitting data rate control (DRC) information and a DRC cover separately on one or more reverse link CDMA carriers to the base station, wherein the same DRC cover is transmitted for two or more forward link CDMA carriers.

4. The method of claim **3**, wherein the DRC cover is not repeated with DRC information transmitted for each forward link CDMA carrier.

5. The method of claim **1**, wherein limiting reverse link overhead transmissions comprises:

time-division multiplexing acknowledgements (ACKs) and negative acknowledgements (NAKs) corresponding to the two or more forward link CDMA carriers; and

transmitting the time-division-multiplexed ACKs and NAKs on one reverse link CDMA carrier to the base station.

6. The method of claim **5**, wherein an ACK channel transmit time is ¼ slot.

7. The method of claim **1**, wherein limiting reverse link overhead transmissions comprises:

transmitting a channel of acknowledgements (ACKs) and negative acknowledgements (NAKs) with a time duration of half slot to one slot using in-phase and quadrature phase components of multiple Walsh codes.

8. The method of claim **1**, wherein limiting reverse link overhead transmissions comprises:

transmitting a single Data Source Channel (DSC) channel transmission on a single reverse link carrier from the access terminal to the base station.

9. The method of claim **1**, further comprising soft-combining data received from the two or more forward link carriers.

10. The method of claim **9**, further comprising:

transmitting packets of data on individual forward link carriers at different times; and

supporting soft handoff across forward link carriers with asynchronous transmissions.

11. The method of claim **1**, further comprising increasing a number of medium access control (MAC) indices for forward link traffic.

12. The method of claim **1**, further comprising using a plurality of medium access control (MAC) indices for preamble transmission to access terminals assigned with multiple forward link carriers.

13. A system comprising:

a controller configured to:

assign two or more forward link code division multiple access (CDMA) carriers operating in different frequency bands to transmit data from a base station to an access terminal; and

assign one or more reverse link CDMA carriers operating in different frequency bands to transmit data from the access terminal to the base station; and

the access terminal being configured to limit reverse link overhead transmissions associated with a selected number of forward link carriers by time-division multiplexing data rate control (DRC) information corresponding to the two or more forward link CDMA carriers and transmitting the time-division-multiplexed DRC information on one reverse link CDMA carrier to the base station.

14. The system of claim **13**, wherein the controller is in the base station.

15. The system of claim **13**, wherein the controller is in a base station controller.

16. The system of claim **13**, wherein each forward link carrier is 1.25 MHz wide.

17. The system of claim **13**, wherein the controller is further configured to transmit packets of data on individual forward link carriers at different times.

18. An access terminal comprising:

a receiver configured to receive data from a base station on two or more forward link code division multiple access (CDMA) carriers operating in different frequency bands;

a transmitter configured to transmit data on one or more reverse link CDMA carriers operating in different frequency bands to the base station; and

means to limit reverse link overhead transmissions associated with a selected number of forward link carriers by time-division multiplexing data rate control (DRC) information corresponding to the two or more forward link CDMA carriers and transmitting the time-division-multiplexed DRC information on one reverse link CDMA carrier to the base station.

19. The access terminal of claim **18**, wherein means to limit reverse link overhead transmissions comprises:

means to transmit data rate control (DRC) information separate from a DRC cover on one or more reverse link CDMA carriers to the base station, wherein the DRC cover is not repeated with DRC information transmitted for each forward link CDMA carrier.

20. The access terminal of claim **18**, wherein means to limit reverse link overhead transmissions comprises:

means to time-division multiplex acknowledgements (ACKs) and negative acknowledgements (NAKs) corresponding to the forward link CDMA carriers; and

means to transmit the time-division-multiplexed ACKs and NAKs on one reverse link CDMA carrier to the base station.

21. The access terminal of claim **20**, wherein an ACK channel transmit time is ¼ slot.

22. The access terminal of claim **18**, wherein means to limit reverse link overhead transmissions comprises:

means to transmit a channel of acknowledgements (ACKs) and negative acknowledgements (NAKs) with a time duration of 1 slot or ½ slot using a in-phases and quadrature phases of multiple Walsh codes.

23. The access terminal of claim **18**, wherein means to limit reverse link overhead transmissions comprises:

means to transmit a single Data Source Channel (DSC) channel transmission on a single reverse link carrier from the access terminal to the base station.

24. The access terminal of claim **18**, further comprising means to soft-combine data received from the two or more forward link carriers.

25. The access terminal of claim **18**, further comprising means to support soft-handoff across forward link carriers with asynchronous transmissions.

26. An access terminal comprising:

a receiver configured to receive data from a base station on two or more forward link carriers operating in different frequency bands;

a transmitter configured to transmit data to the base station on one or more reverse link carriers operating in different frequency bands; and

a processor configured to limit reverse link overhead transmissions associated with a selected number of forward link carriers by time-division multiplexing data rate control (DRC) information corresponding to the two or

more forward link CDMA carriers and transmitting the time-division-multiplexed DRC information on one reverse link CDMA carrier to the base station.

27. The access terminal of claim **26**, wherein said processor is configured to transmit data rate control (DRC) information separate from a DRC cover on one or more reverse link carriers to the base station, wherein the DRC cover is not repeated with DRC information transmitted for each forward link carrier.

28. The access terminal of claim **26**, wherein said processor is configured to:

time-division multiplex acknowledgements (ACKs) and negative acknowledgements (NAKs) corresponding to the forward link carriers; and

transmit the time-division-multiplexed ACKs and NAKs on one reverse link carrier to the base station.

29. The access terminal of claim **28**, wherein an ACK channel transmit time is ¼ slot.

30. The access terminal of claim **26**, wherein said processor is configured to transmit a channel of acknowledgements (ACKs) and negative acknowledgements (NAKs) with a time duration of 1 slot or ½ slot using a in-phases and quadrature phases of multiple Walsh codes.

31. The access terminal of claim **26**, wherein said processor is configured to transmit a single Data Source Channel (DSC) channel transmission on a single reverse link carrier from the access terminal to the base station.

32. The access terminal of claim **26**, wherein said processor is configured to soft-combine data received from the two or more forward link carriers.

33. The access terminal of claim **26**, wherein said processor is configured to support soft-handoff across forward link carriers with asynchronous transmissions.