CLAIMS

1. A method for wireless communication at a user equipment (UE), comprising: identifying a base sequence for transmission of an uplink control message; receiving signaling that indicates a UE-specific initial shift to be used with the base sequence; determining a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of uplink control information for the uplink control message; determining a shifted sequence of the base sequence based at least in part on the UE-specific initial shift and the number of bits associated with the HARQ feedback in the payload of the uplink control information; and transmitting the uplink control information in the uplink control message, wherein the uplink control message is based at least in part on the shifted sequence.

2. The method of claim 1, further comprising: identifying that the payload of the uplink control information is one of a scheduling request (SR), a one-bit acknowledgement, or a two-bit acknowledgement; and determining the shifted sequence based at least in part on the payload.

3. The method of claim 2, wherein the uplink control message is formatted as a short physical uplink control channel message, and wherein the payload of the uplink control information comprises the one-bit acknowledgment or the two-bit acknowledgment.

4. The method of claim 2, wherein the payload of the uplink control information comprises the one-bit acknowledgment, and wherein determining the shifted sequence comprises: determining the shifted sequence based at least in part on a shift value that corresponds to the payload of the uplink control information, the shift value comprising a value of 0 or 6.

5. The method of claim 2, wherein the uplink control information comprises the two-bit acknowledgment, and wherein determining the shifted sequence comprises: determining the shifted sequence based at least in part on a shift value that corresponds to the payload of the uplink control information, the shift value comprising a value of 0, 3, 6, or 9.

6. The method of claim 1, wherein receiving the signaling that indicates the UE-specific initial shift comprises: receiving an explicit indication of the UE-specific initial shift.

7. The method of claim 6, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

8. The method of claim 7, wherein two raised to a number of the ARI bits is greater than a number of resources configured for the uplink control message.

9. The method of claim 1, wherein receiving the signaling that indicates the UE-specific initial shift comprises: receiving a downlink grant control message having a control channel element (CCE) index from which the UE-specific initial shift is derived.

10. The method of claim 9, further comprising: deriving a resource block (RB) index and a shift index for the UE-specific initial shift based at least in part on the CCE index of the downlink grant control message.

11. The method of claim 1, wherein receiving the signaling that indicates the UE-specific initial shift comprises: receiving an explicit indication of a subset of resources configured for the uplink control message; receiving a downlink grant control message having a control channel element (CCE) index; and deriving a resource block (RB) index and a shift index for the UE-specific initial shift based at least in part on the CCE index as applied to the subset of resources.

12. The method of claim 11, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

13. The method of claim 12, wherein two raised to a number of the ARI bits is less than a number of resources configured for the uplink control message.

14. The method of claim 1, further comprising: determining one or more shifted sequences of the base sequence based at least in part on the UE-specific initial shift and the uplink control information; and selecting the shifted sequence from the one or more shifted sequences based at least in part on the payload of the uplink control information.

15. The method of claim 14, further comprising: randomizing the selecting of the shifted sequence from the one or more shifted sequences.

16. A method for wireless communication at a base station, comprising: transmitting, to a user equipment (UE), signaling that indicates a UE-specific initial shift to be applied to a base sequence for transmission of an uplink control message; and receiving uplink control information in the uplink control message, wherein the uplink control message is based at least in part on a shifted sequence that is shifted with respect to the base sequence in accordance with the UE-specific initial shift and a number of bits associated with hybrid automatic repeat request (HARD) feedback in a payload of the uplink control information.

17. The method of claim 16, wherein the uplink control message is formatted as a short physical uplink control channel message, and wherein the payload of the uplink control information comprises a one-bit acknowledgment or a two-bit acknowledgment.

18. The method of claim 16, wherein transmitting the signaling that indicates the UE-specific initial shift comprises: transmitting an explicit indication of the UE-specific initial shift.

19. The method of claim 18, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

20. The method of claim 19, wherein two raised to a number of the ARI bits is greater than a number of resources configured for the uplink control message.

21. The method of claim 16, further comprising: transmitting additional signaling to different UEs, the additional signaling indicating different UE-specific initial shifts to be applied to the base sequence by each of the different UEs, wherein interference between transmissions of uplink control messages is randomized based at least in part on the different UE-specific initial shifts.

22. The method of claim 16, wherein transmitting the signaling that indicates the UE-specific initial shift comprises: transmitting a downlink grant control message having a control channel element (CCE) index from which the UE-specific initial shift is derived.

23. The method of claim 16, wherein transmitting the signaling that indicates the UE-specific initial shift comprises: transmitting an explicit indication of a subset of resources configured for the uplink control message; and transmitting a downlink grant control message having a control channel element (CCE) index, wherein a resource block (RB) index and shift index for the UE-specific initial shift is able to be derived based at least in part on the CCE index as applied to the subset of resources.

24. The method of claim 23, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

25. The method of claim 24, wherein two raised to a number of the ARI bits is less than a number of resources configured for the uplink control message.

26. An apparatus for wireless communication, comprising: a processor, memory coupled with the processor; and instructions stored in the memory and executable by the processor to cause the apparatus to: identify a base sequence for transmission of an uplink control message; receive signaling that indicates a user equipment (UE)-specific initial shift to be used with the base sequence; determine a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of uplink control information for the uplink control message; determine a shifted sequence of the base sequence based at least in part on the UE-specific initial shift and the number of bits associated with the HARQ feedback in the payload of the uplink control information; and transmit the uplink control information in the uplink control message, wherein the uplink control message is based at least in part on the shifted sequence.

27. The apparatus of claim 26, wherein the instructions are further executable by the processor to cause the apparatus to: identify that the payload of the uplink control information is one of a scheduling request (SR), a one-bit acknowledgement, or a two-bit acknowledgement; and determine the shifted sequence based at least in part on the payload.

28. The apparatus of claim 27, wherein the uplink control message is formatted as a short physical uplink control channel message, and wherein the payload of the uplink control information comprises the one-bit acknowledgment or the two-bit acknowledgment.

29. The apparatus of claim 27, wherein the payload of the uplink control information comprises the one-bit acknowledgment, and comprises: determine the shifted sequence based at least in part on a shift value that corresponds to the payload of the uplink control information, the shift value comprising a value of 0 or 6.

30. The apparatus of claim 27, wherein the uplink control information comprises the two-bit acknowledgment, and comprises: determine the shifted sequence based at least in part on a shift value that corresponds to the payload of the uplink control information, the shift value comprising a value of 0, 3, 6, or 9.

31. The apparatus of claim 26, wherein the instructions to receive the signaling that indicates the UE-specific initial shift are executable by the processor to cause the apparatus to: receive an explicit indication of the UE-specific initial shift.

32. The apparatus of claim 31, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

33. The apparatus of claim 32, wherein two raised to a number of the ARI bits is greater than a number of resources configured for the uplink control message.

34. The apparatus of claim 26, wherein the instructions to receive the signaling that indicates the UE-specific initial shift are executable by the processor to cause the apparatus to: receive a downlink grant control message having a control channel element (CCE) index from which the UE-specific initial shift is derived.

35. The apparatus of claim 34, wherein the instructions are further executable by the processor to cause the apparatus to: derive a resource block (RB) index and a shift index for the UE-specific initial shift based at least in part on the CCE index of the downlink grant control message.

36. The apparatus of claim 26, wherein the instructions to receive the signaling that indicates the UE-specific initial shift are executable by the processor to cause the apparatus to: receive

an explicit indication of a subset of resources configured for the uplink control message; receive a downlink grant control message having a control channel element (CCE) index; and derive a resource block (RB) index and a shift index for the UE-specific initial shift based at least in part on the CCE index as applied to the subset of resources.

37. The apparatus of claim 36, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

38. The apparatus of claim 37, wherein two raised to a number of the ARI bits is less than a number of resources configured for the uplink control message.

39. The apparatus of claim 26, wherein the instructions are further executable by the processor to cause the apparatus to: determine one or more shifted sequences based at least in part on the UE-specific initial shift and the uplink control information; and select the shifted sequence from the one or more shifted sequences based at least in part on the payload of the uplink control information.

40. The apparatus of claim 39, wherein the instructions are further executable by the processor to cause the apparatus to: randomize the selecting of the shifted sequence from the one or more shifted sequences.

41. An apparatus for wireless communication, comprising: a processor, memory coupled with the processor; and instructions stored in the memory and executable by the processor to cause the apparatus to: transmit, to a user equipment (UE), signaling that indicates a UE-specific initial shift to be applied to a base sequence for transmission of an uplink control message; and receive uplink control information in the uplink control message, wherein the uplink control message is based at least in part on a shifted sequence that is shifted with respect to the base sequence in accordance with the UE-specific initial shift and a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of the uplink control information.

42. The apparatus of claim 41, wherein the uplink control message is formatted as a short physical uplink control channel message, and wherein the payload of the uplink control

information comprises a one-bit acknowledgment or a two-bit acknowledgment.

43. The apparatus of claim 41, wherein the instructions to transmit the signaling that indicates the UE-specific initial shift are executable by the processor to cause the apparatus to: transmit an explicit indication of the UE-specific initial shift.

44. The apparatus of claim 43, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information (DCI) message or a radio resource control (RRC) message.

45. The apparatus of claim 44, wherein two raised to a number of the ARI bits is greater than a number of resources configured for the uplink control message.

46. The apparatus of claim 41, wherein the instructions are further executable by the processor to cause the apparatus to: transmit additional signaling to different UEs, the additional signaling indicating different UE-specific initial shifts to be applied to the base sequence by each of the different UEs, wherein interference between transmissions of uplink control messages is randomized based at least in part on the different UE-specific initial shifts.

47. The apparatus of claim 41, wherein the instructions to transmit the signaling that indicates the UE-specific initial shift are executable by the processor to cause the apparatus to: transmit a downlink grant control message having a control channel element (CCE) index from which the UE-specific initial shift is derived.

48. The apparatus of claim 41, wherein the instructions to transmit the signaling that indicates the UE-specific initial shift are executable by the processor to cause the apparatus to: transmit an explicit indication of a subset of resources configured for the uplink control message; and transmit a downlink grant control message having a control channel element (CCE) index, wherein a resource block (RB) index and shift index for the UE-specific initial shift is able to be derived based at least in part on the CCE index as applied to the subset of resources.

49. The apparatus of claim 48, wherein the explicit indication is included within acknowledgement (ACK) resource indicator (ARI) bits of a downlink control information

(DCI) message or a radio resource control (RRC) message.

50. The apparatus of claim 49, wherein two raised to a number of the ARI bits is less than a number of resources configured for the uplink control message.

51. An apparatus for wireless communication, comprising: means for identifying a base sequence for transmission of an uplink control message; means for receiving signaling that indicates a user equipment (UE)-specific initial shift to be used with the base sequence; means for determining a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of uplink control information for the uplink control message; means for determining a shifted sequence of the base sequence based at least in part on the UE-specific initial shift and the number of bits associated with the HARQ feedback in the payload of the uplink control information; and means for transmitting the uplink control information in the uplink control message, wherein the uplink control message is based at least in part on the shifted sequence.

52. The apparatus of claim 51, further comprising: means for identifying that the payload of the uplink control information is one of a scheduling request (SR), a one-bit acknowledgement, or a two-bit acknowledgement; and means for determining the shifted sequence based at least in part on the payload.

53. The apparatus of claim 52, wherein the uplink control message is formatted as a short physical uplink control channel message, and wherein the payload of the uplink control information comprises the one-bit acknowledgment or the two-bit acknowledgment.

54. The apparatus of claim 52, wherein the payload of the uplink control information comprises the one-bit acknowledgment, and comprises: means for determining the shifted sequence based at least in part on a shift value that corresponds to the payload of the uplink control information, the shift value comprising a value of 0 or 6.

55. The apparatus of claim 52, wherein the uplink control information comprises the two-bit acknowledgment, and comprises: means for determining the shifted sequence based at least in part on a shift value that corresponds to the payload of the uplink control information, the shift value comprising a value of 0, 3, 6, or 9.

56. The apparatus of claim 51, wherein the means for receiving the signaling that indicates the UE-specific initial shift comprises: means for receiving an explicit indication of the UE-specific initial shift.

57. An apparatus for wireless communication at a base station, comprising: means for transmitting, to a user equipment (UE), signaling that indicates a UE-specific initial shift to be applied to a base sequence for transmission of an uplink control message; and means for receiving uplink control information in the uplink control message, wherein the uplink control message is based at least in part on a shifted sequence that is shifted with respect to the base sequence in accordance with the UE-specific initial shift and a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of the uplink control information.

58. The apparatus of claim 57, wherein the uplink control message is formatted as a short physical uplink control channel message, and wherein the payload of the uplink control information comprises a one-bit acknowledgment or a two-bit acknowledgment.

59. The apparatus of claim 57, wherein the means for transmitting the signaling that indicates the UE-specific initial shift comprises: means for transmitting an explicit indication of the UE-specific initial shift.

60. The apparatus of claim 57, further comprising: means for transmitting additional signaling to different UEs, the additional signaling indicating different UE-specific initial shifts to be applied to the base sequence by each of the different UEs, wherein interference between transmissions of uplink control messages is randomized based at least in part on the different UE-specific initial shifts.

61. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to: identify a base sequence for transmission of an uplink control message; receive signaling that indicates a user equipment (UE)-specific initial shift to be used with the base sequence; determine a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of uplink control information for the uplink control message; determine a shifted sequence of the base

sequence based at least in part on the UE-specific initial shift and the number of bits associated with the HARQ feedback in the payload of the uplink control information; and transmit the uplink control information in the uplink control message, wherein the uplink control message is based at least in part on the shifted sequence.

62. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to: transmit, to a user equipment (UE), signaling that indicates a UE-specific initial shift to be applied to a base sequence for transmission of an uplink control message; and receive uplink control information in the uplink control message, wherein the uplink control message is based at least in part on a shifted sequence that is shifted with respect to the base sequence in accordance with the UE-specific initial shift and a number of bits associated with hybrid automatic repeat request (HARQ) feedback in a payload of the uplink control information.