

CLAIMS

- 5 1. An information transmission method, comprising:
 sending a synchronization signal according to a target numerology set, the target
 numerology set being determined from multiple numerology sets.
2. The method of claim 1, further comprising:
10 determining the target numerology set from the multiple numerology sets.
3. The method of claim 1 or 2, wherein the target numerology set is determined from
 the multiple numerology sets according to at least one of the following information:
 a carrier frequency for sending the synchronization signal;
15 a transmission environment of the synchronization signal;
 coverage of a carrier, a cell or a transmission node for sending the
 synchronization signal;
 transmit power for sending the synchronization signal; or
 form, height, direction and a number of antenna array elements of a transmit
20 antenna for sending the synchronization signal.
4. The method of any one of claims 1-3, wherein the synchronization signal comprises
 a Primary Synchronization Signal (PSS) and a Secondary Synchronization Signal (SSS)
 corresponding to the PSS.
- 25 5. The method of claim 4, wherein a numerology set configured for sending the PSS in
 the target numerology set is the same as a numerology set configured for sending the
 SSS.
- 30 6. The method of claim 4, wherein a difference of time-domain starting locations of the
 PSS and the SSS corresponding to the PSS is determined according to a carrier
 frequency of the synchronization signal.
7. The method of claim 4 or 5, wherein the target numerology set comprises a first

numerology set and a second numerology set;

determining the target numerology set from the multiple numerology sets comprises: selecting the first numerology set from a first subset of the multiple numerology sets, wherein the first subset comprises at least one of the multiple numerology sets, and selecting the second numerology set from a second subset of the multiple numerology sets, wherein the second subset comprises at least one of the multiple numerology sets, the first subset and the second subset comprise at least one different numerology set; and

sending the synchronization signal according to the target numerology set comprises: sending the PSS according to the first numerology set, and sending the SSS according to the second numerology set.

8. The method of claim 7, wherein a time-domain difference of time-domain starting locations of the PSS and the SSS corresponding to the PSS belongs to a time-domain difference set and the time-domain difference set is a finite set; and/or,

a difference of frequency-domain starting locations of the PSS and the SSS corresponding to the PSS belongs to a frequency-domain difference set and the frequency-domain difference set is a finite set.

9. The method of claim 8, wherein at least one of the time-domain difference of the time-domain starting locations of the PSS and the SSS corresponding to the PSS or the difference of the frequency-domain starting locations of the PSS and the SSS corresponding to the PSS is not zero.

10. The method of claim 8 or 9, wherein

a time-frequency location occupied by the PSS and a time-frequency location occupied by the SSS corresponding to the PSS are not overlapped.

11. The method of any one of claims 1-10, further comprising:

sending master system information.

12. The method of claim 11, wherein sending the master system information comprises:

sending the master system information according to a numerology set

corresponding to the master system information, wherein the numerology set corresponding to the master system information is the same as or different from the target numerology set.

5 13. The method of claim 11 or 12, further comprising:

determining a time-frequency location of the master system information according to a time-frequency location of the synchronization signal;

wherein sending the master system information comprises:

10 sending the master system information according to the time-frequency location of the master system information.

14. The method of any one of claims 1-13, wherein the synchronization signal comprises a PSS and a SSS corresponding to the PSS.

15 15. The method of claim 14, wherein determining the time-frequency location of the master system information according to the time-frequency location of the synchronization signal comprises:

20 determining a time-domain starting location of the master system information according to at least one of a time-frequency starting location of the PSS, a time-domain starting location of the SSS or a time-domain difference of time-domain starting locations of the PSS and the SSS corresponding to the PSS.

25 16. The method of claim 11 or 12, wherein the synchronization signal is configured to indicate at least one of a time-frequency location, a modulation manner or a corresponding numerology set of the master system information.

30 17. The method of claim 16, wherein all or part of a sequence corresponding to the synchronization signal or a mask of the synchronization signal is configured to indicate at least one of the time-frequency location, the modulation manner or the corresponding numerology set of the master system information.

18. The method of any one of claims 1-17, wherein the numerology set comprises at least one of the following parameters:

a subcarrier spacing, a subcarrier number at a specific bandwidth, a number of subcarriers in a Physical Resource Block (PRB), a length of an Orthogonal Frequency Division Multiplexing (OFDM) symbol, a length of a Cyclic Prefix (CP) of the OFDM symbol, a point number of Fourier transform or inverse Fourier transform for generating an OFDM signal, a number of OFDM symbols in a Transmission Time Interval (TTI) or a number of TTIs in a specific length of time.

19. The method of any one of claims 1-18, wherein the multiple numerology sets for determining the target numerology set exist in a time period from establishment to disabling of a carrier, a cell or a transmission node for sending the synchronization signal.

20. An information transmission method, comprising:
performing blind detection on a target signal by use of multiple numerology sets;
and
acquiring the target signal according to a result of the blind detection.

21. The method of claim 20, wherein the target signal is a synchronization signal and the synchronization signal comprises a Primary Synchronization Signal (PSS) and a Secondary Synchronization Signal (SSS) corresponding to the PSS.

22. The method of claim 21, wherein performing blind detection on the synchronization signal by use of the multiple numerology sets comprises:
performing blind detection on the PSS by use of part of the multiple numerology sets.

23. The method of claim 22, wherein blind detection on the SSS corresponding to the PSS is performed by use of part of the multiple numerology sets.

24. The method of any one of claims 21-23, wherein a difference of time-domain starting locations of the PSS and the SSS corresponding to the PSS is determined according to a carrier frequency of the synchronization signal.

25. The method of any one of claims 20-24, wherein the numerology set comprises at least one of the following parameters:
- a subcarrier spacing, a subcarrier number at a specific bandwidth, a number of subcarriers in a Physical Resource Block (PRB), a length of an Orthogonal Frequency Division Multiplexing (OFDM) symbol, a point number of Fourier transform or inverse Fourier transform for generating an OFDM signal, a number of OFDM symbols in a Transmission Time Interval (TTI), a number of TTIs in a specific length of time or a length of a signal prefix.
26. The method of any one of claims 20-25, wherein the multiple numerology sets for performing blind detection on the target signal exist in a time period from establishment to disabling of a carrier, a cell or a transmission node for sending the target signal.
27. An information transmission device, comprising:
- a transceiver unit, configured to send a synchronization signal according to a target numerology set, the target numerology set being determined from multiple numerology sets.
28. An information transmission device, comprising:
- a transceiver unit, configured to perform blind detection on a target signal by use of multiple numerology sets; and
 - a processing unit, configured to acquire the target signal according to a result of the blind detection.