CLAIMS

1. A satellite positioning receiving apparatus of a satellite positioning system comprising one or more positioning satellites that transmit a first signal and a second signal having different frequencies, wherein

the satellite positioning receiving apparatus applies conversion processing to a frequency and phase information of the second signal on the basis of a frequency and phase information acquired when reception of the first signal is started or continuously performed.

2. The satellite positioning receiving apparatus according to claim 1, wherein the satellite positioning receiving apparatus decodes message information included in the second signal on the basis of the converted frequency and the converted phase information of the second signal.

3. The satellite positioning receiving apparatus according to claim 1, wherein the satellite positioning receiving apparatus continuously performs tracking of the second signal on the basis of the converted frequency and the converted phase information of the second signal.

4. The satellite positioning receiving apparatus according to any one of claims 1 to 3, wherein the satellite positioning receiving apparatus measures a distance between the positioning satellite and the satellite positioning receiving apparatus on the basis of the frequency and the phase information of the first signal or the converted frequency and the converted phase information of the second signal.

5. The satellite positioning receiving apparatus according to any one of claims 1 to 4, wherein the first signal is a C/A signal in an L1 frequency band (a 1575.42MHz band).

6. The satellite positioning receiving apparatus according to any one of claims 1 to 5, wherein the second signal is a LEX signal in an E6 frequency band (a 1278.75MHz band).

7. The satellite positioning receiving apparatus according to any one of claims 1 to 6, wherein, in the conversion processing of the frequency and the phase information of the second signal, the conversion processing is performed on the basis of an ionosphere delay error component caused by a difference between the frequency of the first signal and the frequency of the second signal.

8. The satellite positioning receiving apparatus according to any one of claims 1 to 7, wherein, in the conversion processing of the frequency and the phase information of the second signal, the conversion processing is performed after a plurality of candidates are set in the phase information of the second signal on the basis of errors included in the phase information of the first signal and the phase information of the second signal.

9. A satellite positioning signal receiving method in a satellite positioning system including a positioning satellite that transmits a first signal and a second signal having different frequencies and a satellite positioning receiving apparatus, wherein the satellite positioning receiving apparatus converts a frequency and phase information of the second signal on the basis of a frequency and phase information acquired when reception of the first signal is started or continuously performed.

10. (Amended) The method according to claim 9, wherein message information included in the second signal is decoded on the basis of the converted frequency and the converted phase information of the second signal.

11. (Amended) The method according to claim 9, wherein reception of the second signal is continuously performed on the basis of the converted frequency and the converted phase information of the second signal.

12. (Amended) The method according to any one of claims 9 to 11, wherein a distance between the positioning satellite and the satellite positioning receiving apparatus is measured on the basis of the frequency and the phase information of the first signal or the converted frequency and the converted phase information of the second signal.

13. (Amended) The method according to any one of claims 9 to 12, wherein the first signal is a C/A signal in an L1 frequency band (a 1575.42MHz band).

14. (Amended) The method according to any one of claims 9 to 13, wherein the second signal is a LEX signal in an E6 frequency band (a 1278.75MHz band).

CLAIMS

1. A satellite positioning receiving apparatus of a satellite positioning system comprising one or more positioning satellites that transmit a first signal and a second signal having different frequencies, wherein

the satellite positioning receiving apparatus applies conversion processing to a frequency and phase information of the second signal on the basis of a frequency and phase information acquired when reception of the first signal is started or continuously performed,

wherein the satellite positioning receiving apparatus decodes message information included in the second signal on the basis of the converted frequency and the converted phase information of the second signal, and

wherein decoding of the message information is performed independently from tracking of the second signal on the basis of the converted frequency and the converted phase information of the second signal.

2. The satellite positioning receiving apparatus according to any one of claim 1, wherein the satellite positioning receiving apparatus measures a distance between the positioning satellite and the satellite positioning receiving apparatus on the basis of the frequency and the phase information of the first signal or the converted frequency and the converted phase information of the second signal.

3. The satellite positioning receiving apparatus according to any one of claims 1 to 2, wherein the first signal is a C/A signal in an L1 frequency band (a 1575.42MHz band).

4. The satellite positioning receiving apparatus according to any one of claims 1 to 3, wherein the second signal is a LEX signal in an E6 frequency band (a 1278.75MHz band).

5. The satellite positioning receiving apparatus according to any one of claims 1 to 4, wherein, in the conversion processing of the frequency and the phase information of the second signal, the conversion processing is performed on the basis of an ionosphere delay error component caused by a difference between the frequency of the first signal and the frequency of the second signal.

6. The satellite positioning receiving apparatus according to any one of claims 1 to 5, wherein, in the conversion processing of the frequency and the phase information of the second signal, the conversion processing is performed after a plurality of candidates are set in the phase information of the second signal on the basis of errors included in the phase information of the first signal and the phase information of the second signal.

7. A satellite positioning signal receiving method in a satellite positioning system including a positioning satellite that transmits a first signal and a second signal having different frequencies and a satellite positioning receiving apparatus, wherein the satellite positioning receiving apparatus converts a frequency and phase information of the second signal on the basis of a frequency and phase information acquired when reception of the first signal is started or continuously performed,

wherein message information included in the second signal is decoded on the basis of the converted frequency and the converted phase information of the second signal, and

wherein decording of the message of information is performed independently from tracking of the second signal on the basis of the converted frequency and the converted phase information of the second signal.

8. The method according to any one of claim 7, wherein a distance between the positioning satellite and the satellite positioning receiving apparatus is measured on the basis of the frequency and the phase information of the first signal or the converted frequency and the converted phase information of the second signal.

9. The method according to any one of claims 7 to 8, wherein the first signal is a C/A signal in an L1 frequency band (a 1575.42MHz band).

10. The method according to any one of claims 7 to 9, wherein the second signal is a LEX signal in an E6 frequency band (a 1278.75MHz band).