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What is claimed is:

1. A method for synchronising a second signal generated and transmitted by a second device to a timebase of a first device, said method comprising the steps of:
 - (i) said first device generating and transmitting a first signal comprising first time
5 information indicating the time of transmission of said first signal according to the timebase of said first device;
 - (ii) said second device:
 - (a) receiving and interpreting said first signal;
 - (b) generating and transmitting said second signal comprising second time
10 information indicating the time of transmission of said second signal;
 - (c) receiving and interpreting said second signal;
 - (d) calculating a first time difference between said first time information and said second time information; and
 - (e) adjusting the generation of said second signal according to said first time
15 difference, thereby adjusting said second signal and said second time information;
 - (iii) said first device:
 - (a) receiving and interpreting said first signal and the adjusted second signal;
 - (b) calculating a second time difference between said first time information
and the adjusted second time information; and
 - (c) transmitting said second time difference, or a quantity related thereto; and
20
 - (iv) said second device:
 - (a) receiving said second time difference or the related quantity and obtaining
therefrom a measure of the propagation delay of said first signal; and
 - (b) adjusting the generation of said second signal according to said measure of
25 said propagation delay,
thereby synchronising said second signal to said timebase.
2. The method according to claim 1, wherein step (ii) (e) comprises adjusting the generation of said second signal so as to minimise the difference between the first time information and the second time information.

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3. The method according to claim 1 or claim 2, further comprising the steps of said first device after said second signal has been synchronised to said timebase:
receiving and interpreting said second signal and said first signal;
measuring a phase or time difference between the received and interpreted first and second
5 signals; and
transmitting the measured phase or time difference or a related quantity,
such that said second device can adjust the generation of said second signal to mitigate the effect on the synchronisation of said second signal to said timebase of environment-related variations in the propagation of said first signal.
- 10 4. The method according to claim 3, wherein said second device adjusts the generation of said second signal according to the measured phase or time difference or related quantity.
5. The method according to any one of claims 1 to 4, wherein said first and second signals are transmitted between said first and second devices via a fixed line.
6. The method according to claim 5, wherein said fixed line comprises a coaxial cable or an
15 optical fibre.
7. The method according to claim 5 or claim 6, further comprising the step of broadcasting, from a transmitter operatively associated with said second device, a third signal that is synchronised with said timebase.
8. In an apparatus in which a second device generating and transmitting a second signal has
20 nominally synchronised said second signal to the timebase of a first device generating and transmitting a first signal, using a nominal value for the propagation delay of said first signal from said first device to said second device, a method for identifying a time residual between said second signal and said timebase, said method comprising the steps of said first device:
a) receiving and interpreting said first signal and said second signal;
25 b) measuring a time difference between the received first signal and the received second signal, from which said time residual can be calculated; and
c) transmitting the measured time difference or a related quantity, such that said time residual can be corrected or compensated for.

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9. The method according to claim 8, wherein said second device utilises the measured time difference or related quantity to adjust the generation of said second signal, thereby improving the accuracy of the synchronisation of said second signal to said timebase.
10. The method according to claim 8, wherein a third device utilises the measured time
5 difference or related quantity to apply a correction to signals received from said second device.
11. The method according to claim 9, further comprising the steps of said first device after said second device has adjusted the generation of said second signal:
receiving and interpreting said second signal and said first signal;
measuring a phase or time difference between the received and interpreted first and second
10 signals; and
transmitting the measured phase or time difference or a related quantity,
such that said second device can adjust the generation of said second signal to mitigate the effect on the synchronisation of said second signal to said timebase of environment-related variations in the propagation of said first signal.
- 15 12. An apparatus for synchronising a second signal generated and transmitted by a second device to a timebase of a first device, said apparatus comprising:
a first device having a first timebase, configured to generate and transmit a first signal comprising first time information indicating the time of transmission of said first signal according to said first timebase; and
20 a second device configured to:
receive and interpret said first signal;
generate and transmit a second signal comprising second time information indicating the time of transmission of said second signal;
receive and interpret said second signal;
25 calculate a first time difference between said first time information and said second time information; and
adjust the generation of said second signal according to said first time difference, thereby adjusting said second signal and said second time information;
wherein said first device is further configured to:

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receive and interpret said first signal and the adjusted second signal;
calculate a second time difference between said first time information and the
adjusted second time information; and

transmit said second time difference, or a quantity related thereto;

5 and wherein said second device is further configured to:

receive said second time difference or the related quantity and obtain therefrom a
measure of the propagation delay of said first signal; and

adjust the generation of said second signal according to said measure of said
propagation delay,

10 thereby synchronising said second signal to said timebase.

13. The apparatus according to claim 12, wherein said second device is configured to adjust
the generation of said second signal according to said first time difference so as to minimise the
difference between the first time information and the second time information.

14. The apparatus according to claim 12 or claim 13, wherein said first device is configured
15 to, after said second signal has been synchronised to said timebase:

receive and interpret said second signal and said first signal;

measure a phase or time difference between the received and interpreted first and second
signals; and

transmit the measured phase or time difference or a related quantity,

20 such that said second device can adjust the generation of said second signal to mitigate the
effect on the synchronisation of said second signal to said timebase of environment-related
variations in the propagation of said first signal.

15. The apparatus according to claim 14, wherein said second device is configured to adjust
the generation of said second signal according to the measured phase or time difference or related
25 quantity.

16. The apparatus according to any one of claims 12 to 15, wherein said first and second
devices are configured to transmit and receive said first and second signals via a fixed line
connecting said first and second devices.

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17. The apparatus according to claim 16, wherein said fixed line comprises a coaxial cable or an optical fibre.

18. The apparatus according to claim 16 or claim 17, further comprising a transmitter operatively associated with said second device, for broadcasting a third signal that is synchronised
5 with said timebase.

19. An apparatus for identifying a time residual between a second signal generated and transmitted by a second device and a timebase of a first device generating and transmitting a first signal, said second device having nominally synchronised said second signal to the timebase using a nominal value for the propagation delay of said first signal from said first device to said
10 second device, wherein said first device is configured to:

receive and interpret said second signal and said first signal;
measure a time difference between the received first signal and the received second signal, from which said time residual can be calculated; and
transmit the measured time difference or related quantity, such that said time residual can
15 be corrected or compensated for.

20. The apparatus according to claim 19, wherein said second device is configured to utilise said measured time difference or related quantity to adjust the generation of said second signal, thereby improving the accuracy of the synchronisation of said second signal to said timebase.

21. The apparatus according to claim 19, wherein said apparatus comprises a third device
20 configured to utilise said measured time difference or related quantity to apply a correction to signals received from said second device.

22. The apparatus according to claim 20, wherein said first device is configured to, after said second device has adjusted the generation of said second signal:

receive and interpret said second signal and said first signal;
25 measure a phase or time difference between the received and interpreted first and second signals; and
transmit the measured phase or time difference or a related quantity,

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such that said second device can adjust the generation of said second signal to mitigate the effect on the synchronisation of said second signal to said timebase of environment-related variations in the propagation of said first signal.

23. In an apparatus in which a second device generating and transmitting a second signal has
5 synchronised said second signal to the timebase of a first device using a first signal generated and transmitted by said first device, a method for mitigating the effect on the synchronisation of environment-related variations in the propagation of said first signal, said method comprising the steps of:

- (i) said first device receiving and interpreting said second signal and said first signal;
- 10 (ii) said first device measuring a phase or time difference between the received and interpreted first and second signals;
- (iii) said first device transmitting the measured phase or time difference or a related quantity; and
- (iv) said second device adjusting the generation of said second signal according to the
15 measured phase or time difference or the related quantity, such that the synchronisation of said second signal to said timebase is maintained.

24. An apparatus for mitigating the effect, on the synchronisation of a second signal generated and transmitted by a second device to the timebase of a first device generating and transmitting a first signal, of environment-related variations in the propagation of said first signal, wherein said
20 first device is configured to:

- receive and interpret said second signal and said first signal;
- measure a phase or time difference between the received and interpreted first and second signals; and
- transmit the measured phase or time difference or a related quantity;
- 25 and said second device is configured to:
 - adjust the generation of said second signal according to the measured phase or time difference or the related quantity, such that the synchronisation of said second signal to said timebase is maintained.

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25. A method for determining the position of a roving position receiver in a location network comprising a reference device having a timebase, and a plurality of positioning-unit devices generating and transmitting positioning signals synchronised to the timebase of said reference device, wherein at least one of said positioning-unit devices synchronises its positioning signal to said timebase by:
- 5 said timebase by:
- (i) said reference device generating and transmitting a reference signal comprising first time information indicating the time of transmission of said reference signal according to said timebase;
 - (ii) said positioning-unit device:
 - 10 (a) receiving and interpreting said reference signal;
 - (b) generating and transmitting said positioning signal comprising second time information indicating the time of transmission of said positioning signal;
 - (c) receiving and interpreting said positioning signal;
 - (d) calculating a first time difference between said first time information and
15 said second time information; and
 - (e) adjusting the generation of said positioning signal according to said first time difference, thereby adjusting said positioning signal and said second time information;
 - (iii) said reference device:
 - 20 (a) receiving and interpreting said reference signal and the adjusted positioning signal;
 - (b) calculating a second time difference between said first time information and the adjusted second time information; and
 - (c) transmitting said second time difference, or a quantity related thereto; and
 - (iv) said positioning-unit device:
 - 25 (a) receiving said second time difference or the related quantity and obtaining therefrom a measure of the propagation delay of said reference signal; and
 - (b) adjusting the generation of said positioning signal according to said measure of said propagation delay, thereby synchronising said positioning signal to the timebase of said first device,

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and wherein said roving position receiver calculates a position solution using a selection of positioning signals received from said plurality of positioning-unit devices, including the positioning signal received from the at least one positioning-unit device.

26. A location network for enabling a roving position receiver to calculate a position solution,
5 said location network comprising:
- a reference device configured to generate and transmit a reference signal comprising time information indicating the time of transmission of said reference signal according to a timebase of said reference device; and
 - a plurality of positioning-unit devices generating and transmitting positioning signals
10 synchronised to the timebase of said reference device, wherein at least one of said positioning-unit devices is configured to:
 - receive and interpret said reference signal;
 - generate and transmit a positioning signal comprising second time information indicating the time of transmission of said positioning signal;
 - 15 receive and interpret said positioning signal;
 - calculate a first time difference between said first time information and said second time information; and
 - adjust the generation of said positioning signal according to said first time difference, thereby adjusting said positioning signal and said second time information;
- 20 and wherein said reference device is configured to:
- receive and interpret said reference signal and the adjusted positioning signal;
 - calculate a second time difference between said first time information and the adjusted second time information; and
 - transmit said second time difference or a quantity related thereto;
- 25 and wherein the at least one positioning-unit device is configured to:
- receive said second time difference or the related quantity and obtain therefrom a measure of the propagation delay of said reference signal; and
 - adjust the generation of said positioning signal according to said measure of said propagation delay, thereby synchronising said positioning signal to the timebase of said first
30 device,

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such a roving position receiver is able to calculate a position solution using a selection of positioning signals received from said plurality of positioning-unit devices, including the positioning signal received from the at least one positioning-unit device.

27. An article of manufacture comprising a non-transitory computer useable medium having a
5 computer readable program code configured to conduct the method according to any one of claims 1 to 11, 23 and 25, or to operate the apparatus according to any one of claims 12 to 22 and 24, or to operate the location network according to claim 26.