WE CLAIM:

1. A method of providing an estimate of a location of a user receiver device, the method comprising:

emitting, from at least one vehicle, at least one spot beam on Earth,

wherein the at least one spot beam comprises at least one acquisition signal that comprises at least one ring channel, and wherein the at least one ring channel comprises a frame count and X, Y, Z coordinates of the at least one vehicle relative to an Earth coordinate system;

receiving, with the user receiver device, the at least one spot beam;

calculating, by the user receiver device, the estimate of the location of the user receiver device according to the user receiver device's location within the at least one spot beam;

calculating, by the user receiver device, a time from the at least one vehicle's clock by using the frame count;

calculating, by the user receiver device, a range from the at least one vehicle to the user receiver device by using a difference between the time from the at least one vehicle's clock and a time from the user receiver device's clock; and

refining, by the user receiver device, the estimate of the location of the user receiver device by using the range and the X, Y, Z coordinates of the at least one vehicle.

2. The method of claim 1, wherein the at least one ring channel comprises at least one of a space vehicle identification (SVID); and a spot beam identification (ID).

3. The method of claim 1, wherein the at least one vehicle is at least one of a satellite, a pseudolite, a space shuttle, an aircraft, an airplane, an unmanned aerial vehicle (UAV), a balloon, and a helicopter.

4. The method of claim 1, wherein the at least one spot beam is radiated as a fixed position beam.

5. The method of claim 1, wherein the at least one spot beam is radiated as a scanning beam.

6. The method of claim 1, wherein the user receiver device uses a processor to calculate the estimate of the location of the user receiver device.

7. The method of claim 1, wherein the user receiver device uses an amplitude of the at least one spot beam to calculate the estimate of the location of the user receiver device.

8. A system for providing an estimate of a location of a user receiver device, the system comprising:

at least one vehicle, wherein the at least one vehicle emits at least one spot beam on Earth, and wherein the at least one spot beam comprises at least one acquisition signal that comprises at least one ring channel, and wherein the at least one ring channel comprises a frame count and X, Y, Z coordinates of the at least one vehicle relative to an Earth coordinate system; and

the user receiver device, wherein the user receiver device comprises:

at least one radio frequency (RF) antenna, wherein the at least one RF antenna receives the at least one spot beam, and

a processor, wherein the processor calculates:

the estimate of the location of the user receiver device according to the user receiver device's location within the at least one spot beam;

a time from the at least one vehicle's clock by using the frame count; and

a range from the at least one vehicle to the user receiver device by using a difference between the time from the at least one vehicle's clock and a time from the user receiver device's clock;

wherein the processor further refines the estimate of the location of the user receiver device by using the range and the X, Y, Z coordinates of the at least one vehicle.

9. The system of claim 8, wherein the at least one ring channel comprises at least one of a space vehicle identification (SVID); and a spot beam identification (ID).

10. The system of claim 8, wherein the at least one vehicle is at least one of a satellite, a pseudolite, a space shuttle, an aircraft, an airplane, an unmanned aerial vehicle (UAV), a balloon, and a helicopter.

11. The system of claim 8, wherein the at least one spot beam is radiated as a fixed position beam.

12. The system of claim 8, wherein the at least one spot beam is radiated as a scanning beam.

13. The system of claim 8, wherein the processor uses an amplitude of the at least one spot beam to calculate the estimate of the location of the user receiver device.

14. The system of claim 8, wherein the user receiver device further comprises:

a local clock; and

memory, wherein the memory is adapted to store successive spot beam identifying information that is recorded over time.