**Potential applications**

**GNSS transmitters**
- Satellites, land-based beacons
- Ground test bench, GNSS simulator

**GNSS receiver**
- Ground and on-board, all vehicles
- Receiver manufacturers for space, civil aviation, consumer applications, etc.

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**Invention overview**

A method and device for transmitting and receiving a radio navigation signal having a spreading waveform composed of a real linear combination of two binary waveforms (BOC) with different frequencies.

A clever phasing of these components enables bringing the constant-envelope signal to transmission. Two receiving architectures are possible:
- composite signal search
- signal broken down into BOC components, then recombined.

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**Technological benefits**

**Use of innovative signals**
Performance optimisation solution for new navigation signals within the constraints of pre-existing signals
Transmitting and receiving device for “M-BOC” implementation in GALILEO, which capitalises on the increased performance of these innovative signals

**Optimised performance**
Reduced measuring noise and multi-path impacts
Possibility of using only the low frequency component of CBOC

Reception with the signal being broken down into elementary BOC optimises the use of computing resources

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**Commercial benefits**

A modern and adaptable system
Process already in place on GALILEO satellites
Ability to have two receiver ranges:
- basic receiver using only the low-frequency component
- high-end receiver using the entire signal

**TRL : 9**

Invention patented by CNES