Title (en)

METHOD AND APPARATUS FOR DERIVING PSEUDO RANGE FROM EARTH-ORBITING SATELLITES.

Title (de)

VERFAHREN UND VORRICHTUNG ZUR BESTIMMUNG DER PSEUDO-ENTFERNUNG VON IN BAHNEN UM DIE ERDE LAUFENDEN SATELLITEN.

Title (fr)

PROCEDE ET APPAREIL PERMETTANT DE DERIVER UNE PSEUDO-DISTANCE A PARTIR DE SATELLITES PLACES SUR ORBITE TERRESTRE.

Publication

EP 0124587 A4 19860724 (EN)

Application

EP 83903713 A 19831025

Priority

US 43781982 A 19821029

Abstract (en)

[origin: WO8401832A1] The invention permits a user to derive his pseudo range from earth-orbiting, signal-transmitting satellites (10) without knowledge of the code sequence of modulation carried by the signal, if any. A modulated radio frequency signal (fm) having a component at a given frequency, which is transmitted from a satellite is intercepted at a user position. The component is recovered from the intercepted signal. The phase and frequency of the component are measured. From these measurements and similar measurements from other such satellites, the pseudo range <SIGN> of the satellite can be derived. Specifically, a fractional phase PHI is derived from the measured phase and frequency of the intercepted signal. A Doppler range value (<SIGN> D) is also derived from the measured frequencies of the satellites. The Doppler range value is divided by the wavelength of the given frequency to produce an integer and a remainder. The integer (NC/A) is added to the fractional phase to produce a value proportional to the pseudo range (<SIGN> C/A).

IPC 1-7

G01S 5/02; G01S 3/52

IPC 8 full level

B64G 1/10 (2006.01); **G01S 11/10** (2006.01); **G01S 19/42** (2010.01); **H04B 7/15** (2006.01)

CPC (source: EP)

G01S 11/10 (2013.01); **G01S 19/42** (2013.01); B64G 1/1021 (2013.01)

Citation (search report)

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- [A] WIRELESS WORLD, vol. 81, no. 1470, February 1975, pages 52-57, Haywards Heath, GB; W. BLANCHARD: "Navigation by satellite"

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DOCDB simple family (application)

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