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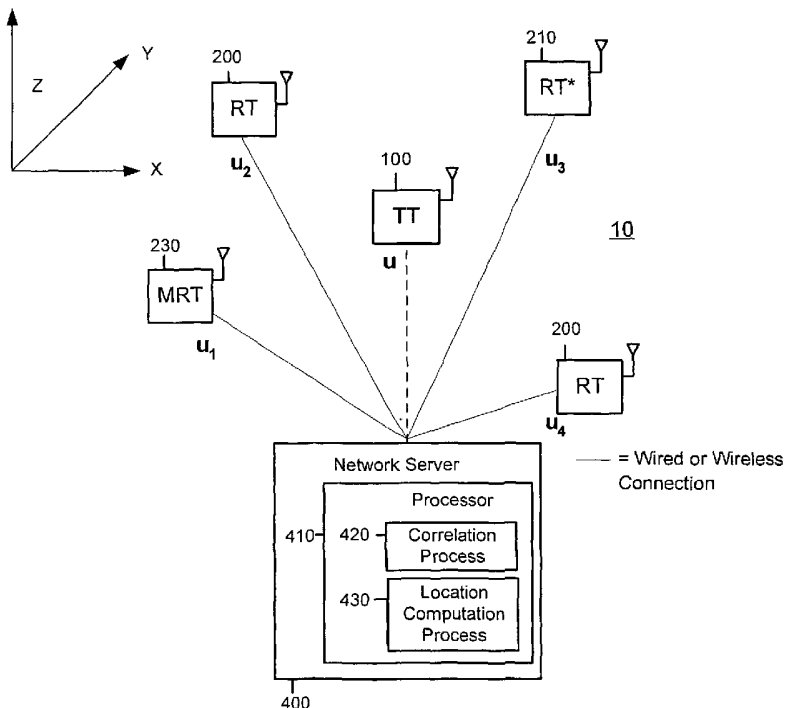
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(54) Title: SYSTEM AND METHOD FOR LOCATING SOURCES OF UNKNOWN WIRELESS RADIO SIGNALS



(57) Abstract: A system and method for determining the location of a source (target device) of a wireless radio signal of an unknown or arbitrary type for which a signal correlator is not known or available. The target device's signal is received at a plurality of known locations to generate receive sample data representative thereof at each known location. Receive signal data samples associated with the target device's signal at one of the plurality of known locations is selected to be used as a reference waveform. For example, information concerning the target device's signal received at each known location is compared to determine the known location that best receives it. The receive signal sample data obtained by the known location that best receives the target device's signal is used as the reference signal. The reference signal and the target device's signal are received at the plurality of known locations. The reference waveform is used to correlate against the received signal

data obtained at each known location to determine the time of arrival of the target device's signal. The time difference between arrival of the target device's signal and arrival of the reference signal at each of the known locations is computed. A location of the source of the wireless radio signal is computed based on the time difference of arrival measurements at the plurality of known locations.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,185,429 B1 (GEHRKE et al) 06 February 2001, see whole document	1-38
X	US 6,088,586 A (HAVERTY) 11 July 2000 see whole document	1-38
X	US 6,034,622 A (LEVINE) 07 March 2000 see whole document	39-40
A	US 5,600,706 A (DUNN et al) 04 February 1997, see whole document	1-40
X	US 6,453,168 B1 (McCRADY et al) 17 September 2002 see whole document	1-38
X	US 6,282,426 B1 (WANG) 28 August 2001 see whole document	1-38

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"
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