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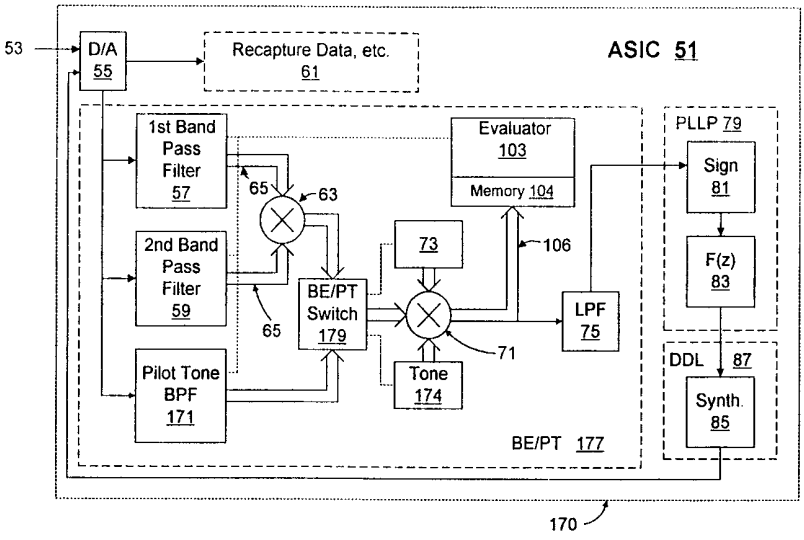

(57) Abstract

A system (170) for the evaluation of a timing vector to determine whether reliable timing recovery may be established at a predetermined center frequency, or from a specific pilot tone in the received signal (53). According to the present invention, the timing vector is created using band edge filters (57, 59), a pilot tone timing recovery band pass filter (171), or other suitable means. The timing vector is then sampled a predetermined number of times. The sampled timing vectors are plotted on a complex plane to evaluate (103) the general distribution of the sampled timing vectors. Timing recovery is then established using an acceptable timing vector as determined by comparing the distribution of the sampled vectors with a predetermined distribution threshold. In particular, a narrow distribution indicates minimun signal noise, interference, or disruption, whereas a wide distribution indicates the opposite. The instant invention also includes a means (103) of evaluating the timing vector at several center frequencies in the case of band edge timing recover until an acceptable timing vector is found.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/15471

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :H04L 7/00
US CL :375/355

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 375/355, 371, 375, 346, 326, 226, 254

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)

APS (timing recovery, clock recover, band edge filter, timing vector, timing vector distribution, timing evaluation)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, P	US 5,703,905 A (LANGBERG) 30 DECEMBER 1997, abstract, figures 3-5.	1-35
A	US 5,465,412 A (MUELLER et al) 07 NOVEMBER 1995, abstract, figures 1, 2, and 4	1-35
A	US 5,278,865 A (AMRANY et al) 11 JANUARY 1994, abstract, figures 5-6.	1-35

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer MOHAMMAD GHAYOUR Joni Hill Telephone No. (703) 306-3034

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