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Bauchot et al.

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[54] **TRAFFIC SCHEDULING METHOD, SYSTEM AND ARTICLE OF MANUFACTURE FOR A WIRELESS ACCESS TO AN ASYNCHRONOUS TRANSFER MODE NETWORK**

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|-----------|--------|-------------------|---------|
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[57] ABSTRACT

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[30] Foreign Application Priority Data

Dec. 13, 1996 [EP] European Pat. Off. 96480113

[51] **Int. Cl.**⁷ **H04B 7/212**; H04J 3/16; H04L 12/43

[52] **U.S. Cl.** **370/348**; 370/437; 370/461

[58] **Field of Search** 370/461, 462, 370/321, 322, 329, 326, 337, 345, 346, 347, 348, 449; 340/825.07, 825.08

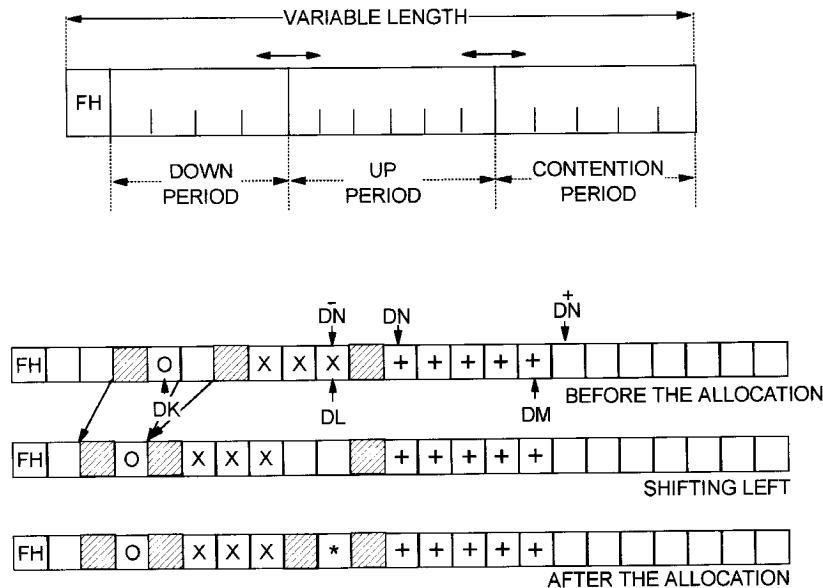
A method, system and article of manufacture for exchanging data between an asynchronous network and a synchronous network is presented. Data is exchanged between the networks in a sequence of time frames which are partitioned into downlink, uplink and contention periods. These downlink, uplink and contention periods are further divided into time slots, each of which carries either data or control cells between the networks. Cells of data are allocated to the time slots according to their cell deadlines which are proportional to the transmission delay of the network connection over which the cells are to be carried. This cell allocation is then stored in a slot map and communicated to all nodes within the networks in order to facilitate the data transmission.

[56] References Cited

U.S. PATENT DOCUMENTS

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24 Claims, 6 Drawing Sheets



FH = Frame Header

Dk, Dl, Dm = Deadlines for connections ck, cl, cm and cn

Dn+ = Slot following MPDU allocated to Dn or Dn if empty

Dn- = Slot preceding MPDU allocated to DN or Dn if empty

* NEW CELL FOR CN

OVERHEAD

O CONNECTION CK

X CONNECTION CL

+ CONNECTION CM