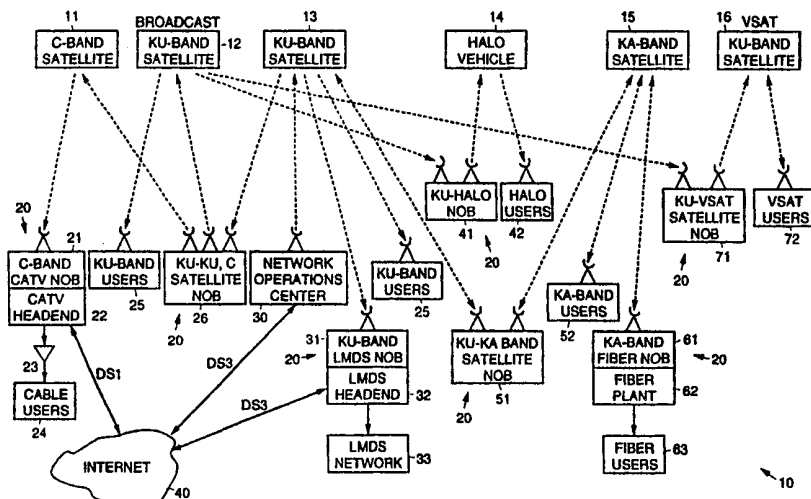




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(21) International Application Number: PCT/US99/24517 (22) International Filing Date: 20 October 1999 (20.10.99) (30) Priority Data: 09/193,976 18 November 1998 (18.11.98) US (71) Applicant: CYBERSTAR, L.P. [US/US]; 3825 Fabian Way, Palo Alto, CA 94303 (US). (72) Inventor: STILES, Herschel, W.; 5936 Killarney Circle, San Jose, CA 95138 (US). (74) Agent: GREEN, Clarence, A.; Perman & Green, L.L.P., 425 Post Road, Fairfield, CT 06430 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report. (88) Date of publication of the international search report: 20 July 2000 (20.07.00)

(54) Title: METHODS AND APPARATUS FOR MULTIPOINT-TO-MULTIPOINT HIERARCHICAL REDISTRIBUTION OF MULTIMEDIA CONTENT



(57) Abstract

Multipoint-to-multipoint hierarchical redistribution of multimedia content derived from one or more network operations centers (30) that distributes multimedia content by way of one of the satellites (11, 12, 13, 15, 16) is disclosed. Apparatus in accordance with the present invention comprises one or more network operations bridges (21, 26, 31, 41, 51, 61, 71) that communicate with and receive the multimedia content generated at the network operations center (30) by way of one of the satellites (11, 12, 13, 15, 16). Each of the network operations bridges (21, 26, 31, 41, 51, 61, 71) selectively communicate with one or more multimedia content delivery systems or user terminals that are relatively local to the respective network operations bridges (21, 26, 31, 41, 51, 61, 71). Using an exemplary method, multimedia content is then downlinked from one of the satellites (11, 12, 13, 15, 16) to one or more network operations bridges (21, 26, 31, 41, 51, 61, 71). The multimedia content is redistributed from the one or more network operations bridges (21, 26, 31, 41, 51, 61, 71) to one or more multimedia content delivery systems or user terminals.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/24517**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : HO4N 7/10, 7/14; HO4H 1/00, 1/14

US CL : Please See Extra Sheet.

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. : 709/217; 345/327; 348/12, 13, 10, 6; 455/3.1, 3.2, 5.1, 6.1, 6.2, 6.3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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

APS - satellite, c-band, ka-band, ku-band, uplink, downlink, user, hub,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,659,350 A (HENDRICKS et al) 19 August 1997, col. 3, line 5 - col. 4, line 48, fig. 1, fig. 2, fig. 3	1-20
Y	US 4,375,697 A (VISHER) 01 March 1983, col. 3, lines 52 - 59, col. 6, lines 1 - 36, col. 9, lines 36 - 52	1-20
A	US 5,594,936 A (REBEC et al) 14 January 1997	1-20
A	US 5,592,470 A (RUDRAPATNA et al) 07 January 1997	1-20



Further documents are listed in the continuation of Box C.



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INTERNATIONAL SEARCH REPORT

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