

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 October 2008 (02.10.2008)

PCT

(10) International Publication Number
WO 2008/118920 A3

(51) International Patent Classification:

H04B 7/06 (2006.01) **H04B 7/04** (2006.01)

(21) International Application Number:

PCT/US2008/058164

(22) International Filing Date: 26 March 2008 (26.03.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/908,179 26 March 2007 (26.03.2007) US
12/054,765 25 March 2008 (25.03.2008) US

(71) Applicant (for all designated States except US): **CISCO TECHNOLOGY INC.** [US/US]; 170 West Tasman Drive, San Jose, CA 95134-1706 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GUO, Li** [CN/US]; 824 W. Royal Lane, #385, Irving, TX 75039 (US). **JIN, Hang** [US/US]; 3708 Stoneway Drive, Plano, TX 75025 (US).

(74) Agents: **FLOAM, D., Andrew** et al.; Edell, Shapiro & Finnan, LLC, 1901 Research Blvd. Suite 400, Rockville, MD 20850-3164 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

24 December 2008

(54) Title: METHOD, APPARATUS AND LOGIC FOR BEAMFORMED SPACE TIME CODED COMMUNICATION BY TESTING SPATIAL SIGNATURE GENERATION

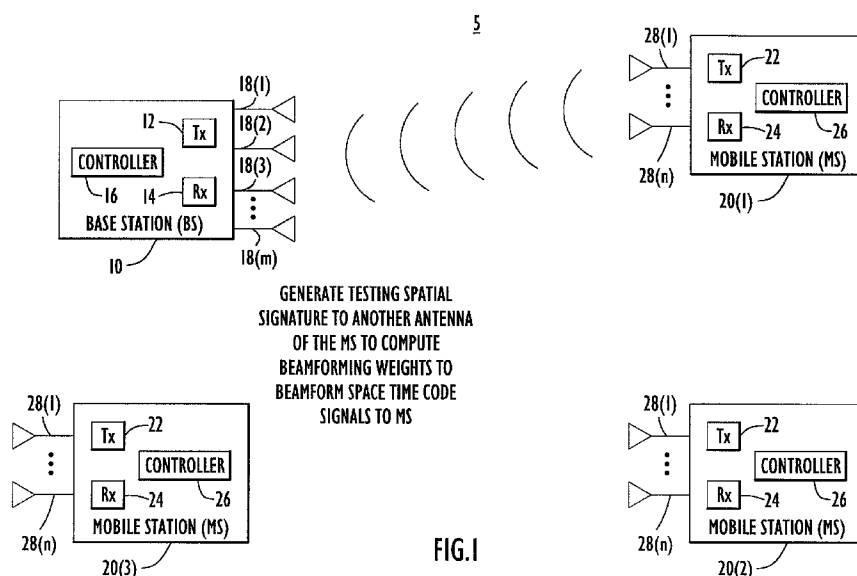


FIG. 1

(57) Abstract: A hanging liquid dispenser 10 is provided that includes a pump and valving 26 for delivering the fluid material 22 when the dispenser 10 is operated by the user in a controlled fashion. The hanging dispenser 10 includes a main body that serves as a fluid reservoir 22 and has an eyelet 23 formed therein which is suitable for use in hanging the dispenser 10 from a suitable support. In addition to including the ability to hang, the dispenser 10 preferably includes a pump 26 for metered dosing of the fluid 24 within the dispenser 22 wherein operation of the pump 26 delivers a controlled volume of the fluid 24 as desired by the user.

WO 2008/118920 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/058164

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04B7/06 H04B7/04

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)
H04B

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 practical, search terms used)

EPO-Internal, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 6 980 527 B1 (LIU HUI [US] ET AL) 27 December 2005 (2005-12-27) claims 1-4,15-19,22,24,35-40 page 6, lines 30-63 page 9, lines 11-45 page 11, lines 15-67 page 12, lines 1-67 page 13, lines 1-37 figures 3,7,10,12</p> <p style="text-align: center;">----- -/--</p>	1-30

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

17 October 2008

Date of mailing of the international search report

23/10/2008

Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

van der Pol, Edwin

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/058164

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>RUNHUA CHEN ET AL: "Multiuser space-time block coded MIMO system with downlink precoding" COMMUNICATIONS, 2004 IEEE INTERNATIONAL CONFERENCE ON PARIS, FRANCE 20-24 JUNE 2004, PISCATAWAY, NJ, USA, IEEE, vol. 5, 20 June 2004 (2004-06-20), pages 2689-2693, XP010709728 ISBN: 978-0-7803-8533-7 page 2689, column 1 page 2690, column 1 figure 1</p>	1-30
A	<p>US 6 615 024 B1 (BOROS TIBOR [US] ET AL) 2 September 2003 (2003-09-02) claims 1-5, 22, 23, 25, 45, 51 page 2, lines 39-57 page 4, lines 9-17 page 13, lines 30-34, 60-66 page 14, lines 5-9 page 18, lines 9-67 page 19, lines 1-48 page 22, lines 59-67 page 23, lines 1-26 figures 1, 2, 4, 5A, 5B, 7, 11</p>	1-30

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/058164

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6980527	B1	27-12-2005	NONE
US 6615024	B1	02-09-2003	US 2002155818 A1 24-10-2002
			US 2003050016 A1 13-03-2003
			US 2003032423 A1 13-02-2003