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## (12) United States Patent Hayes et al.

## (54) SYSTEM AND METHODS FOR HOME APPLIANCE IDENTIFICATION AND CONTROL IN A NETWORKED ENVIRONMENT

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U.S.C. 154(b) by 0 days.

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### (65) Prior Publication Data

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### Related U.S. Application Data

- (60) Division of application No. 11/047,441, filed on Jan. 31, 2005, now Pat. No. 7,155,305, which is a continuation-in-part of application No. 10/978,860, filed on Nov. 1, 2004, now Pat. No. 7,136,709.
- (60) Provisional application No. 60/517,283, filed on Nov. 4, 2003.
- (51) **Int. Cl. G06F 19/00** (2006.01) **G06F 7/00** (2006.01)

(10) **Patent No.:** 

(56)

(45) Date of Patent:

## U.S. PATENT DOCUMENTS

References Cited

4,623,887 A 11/1986 Welles, II 4,894,789 A 1/1990 Yee 4,959,810 A 9/1990 Darbee et al. 5,005,084 A 4/1991 Skinner

(Continued)

### FOREIGN PATENT DOCUMENTS

EP 0561435 A2 9/1993 EP 0967797 A2 12/1999

(Continued)

#### OTHER PUBLICATIONS

Universal Electronics Inc., PRONTO User Guide, 1999, pp. 1-56.

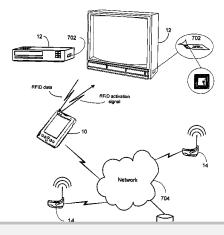
(Continued)

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### (57) ABSTRACT

A home control and automation system and method. The system generally includes one or more wireless remote controls, a plurality of appliances (including network enabled appliances and traditional legacy appliances in the exemplary system), associated control centric devices, and associated content centric devices. Various methods for control and operation of appliances in the networked home control and automation environment are disclosed. Specifically, methods are disclosed which enable advanced home control features such as location based control setup and operation, network enabled legacy appliances and system integration, save and recall capabilities for appliance and media states, generic command based appliance controls, dynamic/complex macro command generation, and Internet based control capabilities from remote locations are disclosed in conjunction with the system of the current invention.

### 20 Claims, 7 Drawing Sheets





U.S. PATENT	DOCUMENTS	6,177,931			Alexander et al.
5 101 101 A 2/1002	MacEndyon et al	6,195,589			Ketcham
	MacFadyen et al. Welty	6,211,856			Choi et al.
	Hallenbeck	6,219,694			Lazaridis et al.
	Baskin et al.	6,225,938			Hayes et al.
, , ,	Goldstein	6,256,019			Allport
, ,		6,278,499			Darbee et al.
, , ,	Darbee et al.	6,285,357			Kushiro et al.
, ,	Lenchik	6,341,374			Schein et al.
5,565,888 A 10/1996		6,369,840			Barnett et al.
	Hamlin	6,408,435		6/2002	
	Hayes et al.	6,437,836			Huang et al.
	Rothmuller	6,448,886			Garber et al 340/10.1
	Small et al.	6,463,463			Godfrey et al.
* * *	Kumar	6,466,971	В1		Humpleman et al.
	Lazarus et al.	6,532,589			Proehl et al.
	August et al.	6,563,430	B1	5/2003	Kemink et al.
, ,	Nelson	6,577,350	B1	6/2003	Proehl et al.
	Autry et al.	6,587,067	B2	7/2003	Darbee et al.
	Forson	6,753,790	B2	6/2004	Davies et al.
	Wolzien	6,774,811	B2 *		Kaufman et al 340/825.49
	Lee et al.	6,792,323	B2	9/2004	Krzyzanowski et al.
, ,	Bedard	6,823,188	B1 *	11/2004	Stern 455/456.1
/ /	Schein et al.	6,832,251	B1	12/2004	Gelvin et al.
* *	Bruette et al.	6,996,402	B2 *	2/2006	Logan et al 455/456.1
	Diehl et al.	2003/0076240	A1	4/2003	Bae et al.
, ,	Montalbano	2004/0203592	A1	10/2004	Kermode et al.
, ,	Huemoeller et al.	2005/0035846	A1	2/2005	Zigmond et al.
, ,	Haitani et al.	2005/0138785	A1	6/2005	Moore et al.
, ,	Nakano et al.	2005/0242167	A1	11/2005	Kaario et al.
, ,	Black 340/10.1				
* * *	Mankovitz	FOREIGN PATENT DOCUMENTS			
, ,	Bertsch	EP	0087	7000 A 1	2/2000
	Goulden et al.	EP EP		7888 A1	3/2000
	Darbee et al.	EP EP		1275 A2	5/2002
	Yuen et al.			3650 B1	9/2003
, ,	Yuen et al.	GB JP 02		3073 A	4/2000
	Schein et al.	JP 02001209551 A WO WO 00/40016			8/2001
	Darbee et al.				7/2000
	Darbee et al.		O 00/58	933 9572 A1	10/2000 3/2001
	Etheredge	WO WO	J 01/20	03/2 A1	3/2001
	Naughton et al.	OTHER PUBLICATIONS			
6,028,599 A 2/2000	Yuen et al.		011	illicit i O.	BEIC: HIONS
	Croy et al.	"The untold RFID Story: Product innovations in Electronics" —			
	Allport	IBM Business Consulting Services, ibm.com/bcs, Sep. 2004.			
	Allport	"Interacting with Home and Home Appliances in a Hand-Held			
6,127,941 A 10/2000	Van Ryzin	Terminal", Aaltonen et al. Nokia Research Center.			
6,130,726 A 10/2000	Darbee et al.	"A Method of Appliance Detection Based on Features of Power			
6,133,909 A 10/2000	Schein et al.	Waveform" -Masahito et al. Tokyo University of Technology			
6,137,549 A 10/2000	Rasson et al.	School of Computer Science, 2004 IEEE			
6,151,059 A 11/2000	Schein et al.	•			
6,172,674 B1 1/2001	Etheredge	* cited by examiner			



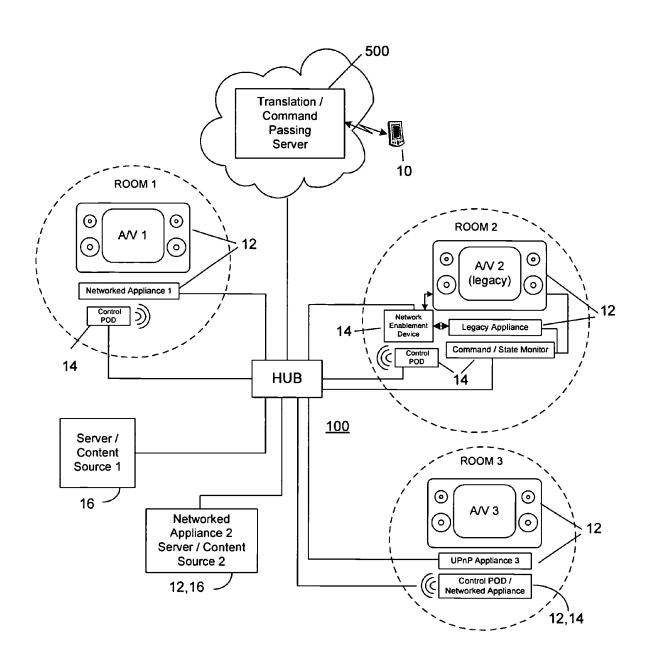


FIGURE 1



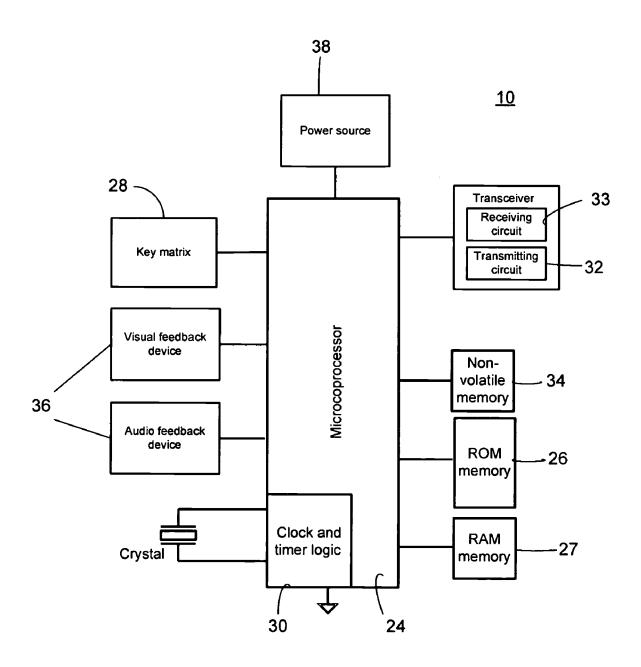


FIGURE 2



<u>14</u>

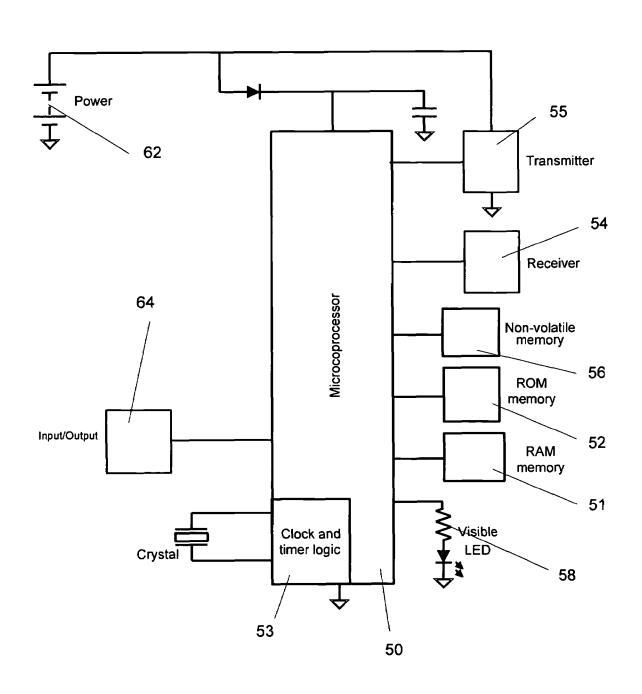


FIGURE 3



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