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(71) Applicant: **ENIKIA LLC** [US/US]; 15 Independence Boulevard, Warren, NJ 07059 (US).

(72) Inventors: **MANIS, Constantine, N.**; 11 Drinking Brook Road, Monmouth Junction, NJ 08852 (US). **LOGVINOV, Oleg**; 27 Beacon Hill Drive, East Brunswick, NJ 08816 (US). **DURFEE, Lawrence**; 85 Lenape Trail, Washington, NJ 07882 (US).

(74) Agents: **BROOKS, Lorimer, P.** et al.; Zoneraich, Davy, E., P.O. Box 1018, Somerville, NJ 08876 (US).

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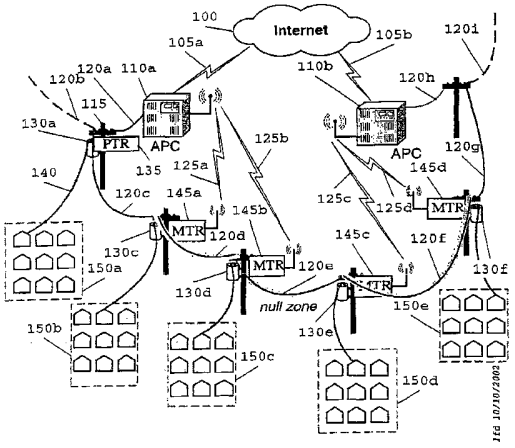
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(54) Title: POWER LINE COMMUNICATION SYSTEM WITH AUTONOMOUS NETWORK SEGMENTS



(57) Abstract: A plurality of access units, each coupled to a different portion of a medium voltage power line, are also coupled to a broadband signal network for receiving, and supplying, broadband communication signals from and to the broadband network and for receiving, and supplying, communication signals from and to the power line as the transmission path between the access unit and repeaters coupled to the medium voltage power line and lower voltage power lines which supply electrical power to customers' premises. The access units can also receive and transmit electromagnetic energy, e.g. radio frequency, infrared and/or optical energy, modulated with the communication signals over a transmission path different from the medium voltage power line and at least some of the repeaters can receive and transmit the so-modulated electromagnetic energy. Preferably, controllers are provided at the access units and the at least some of the repeaters to activate the electromagnetic energy transmissions when the power line signal reception at the repeaters is significantly degraded.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/34254

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04M 11/04
US CL : 340/310.01, 310.06

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. : 340/310.01, 310.02, 310.04. 310, 310.06, 538

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 6,040,759 A (SANDERSON) 21 March 2000, col. 1, lines 7-22, col. 2, lines 10-62, col. 3, lines 32-67, col. 3, lines 1-67, col. 4, lines 1-67, col. 6, lines 1-51, col. 7, lines 17-67, col. 8, lines 1-67, col. 9, lines 1-59.	1-3 and 7-10 ---------- 4-6
Y	US 4,641,322 A (HASEGAWA) 03 February 1987, col. 2, lines 1-21, col. 3, lines 15-24, col. 5, lines 14-47, col. 43-68 and col. 7, lines 1-25.	4-6
Y	US 4,642,,607 A (STROM et al) 10 February 1987, col. 14-42, col. 3, lines 1-68, col. 4, lines 1-68, col. 5, lines 1-25, col. 8, lines 15-68 and col. 9, lines 1-47.	1-10
Y	US 3,944,723 A (FONG) 16 March 1976, col. 3, lines 19-68, col. 4, lines 1-16, col. 5, lines 1-68, col. 6, lines 1-45, col. 17, lines 47-68, col. 18, lines 1-68, col. 19, lines 1-68 and col. 20, lines 1-25.	1-10
Y	US 5,844,888 A (MARKKULA, Jr. et al) 01 December 1998, col. 1, lines 47-67, col. 2, lines 1-23, col. 3, lines 1-67, col. 4, lines 1-67, col. 5, lines 1-67, col. 6, lines 1-67 and col. 7, lines 1-49.	1-10

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