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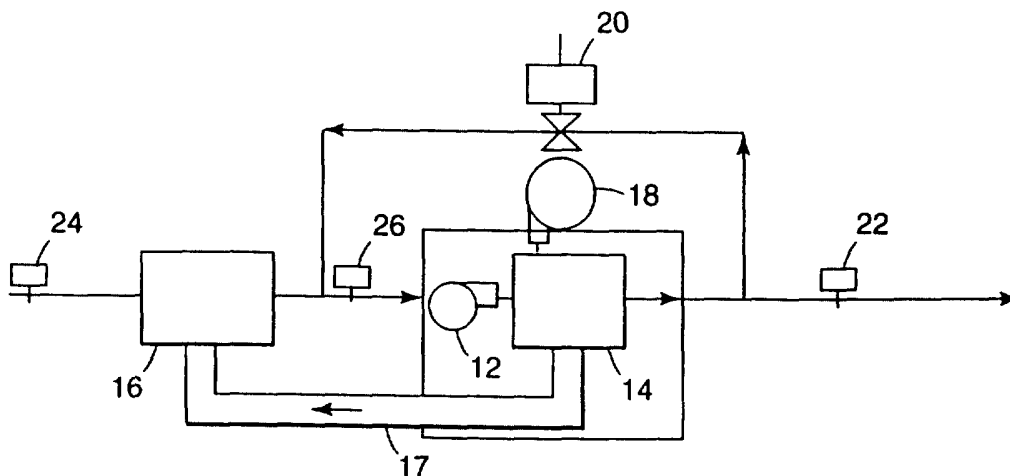
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 - (71) Applicant: HONEYWELL INTERNATIONAL INC. [US/US]; 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).
 - (72) Inventor: POUCHAK, Michael, A.; 2808 Murray Avenue, St. Anthony, MN 55418 (US).
 - (74) Agents: CRISS, Roger, H. et al.; Honeywell International Inc., 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).
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(54) Title: FAULT-TOLERANT MULTI-NODE STAGE SEQUENCER AND METHOD FOR ENERGY SYSTEMS



(57) Abstract: A method for controlling energy systems such as multiple boiler systems to meet an energy need includes a controller configured as a sequencer with the remaining controllers act as individual boiler controllers which periodically send status messages to the sequencer. The energy need is determined by measurements at the sequencer which maintains runtimes of the boilers. The sequencer periodically sends control commands to the boiler controllers to add or delete boilers. The control commands give consideration to the run times of the boilers.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/47237

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F24D12/02

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)
IPC 7 F24D F22B F23N

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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PEGLER S: "GAS BURNER CONTROL USING MICROPROCESSORS" MICROPROCESSORS AND MICROSYSTEMS, IPC BUSINESS PRESS LTD. LONDON, GB, vol. 9, no. 2, 1 March 1985 (1985-03-01), pages 64-70, XP002063860 ISSN: 0141-9331 page 67	1, 11
A	DE 198 42 043 A (SCHMIDT) 16 March 2000 (2000-03-16) abstract; figures	1, 11
A	CH 667 758 A (LANGER) 31 October 1988 (1988-10-31) abstract; figures	1, 11
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Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

<p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p>	<p>*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</p> <p>*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</p> <p>*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.</p> <p>*&* document member of the same patent family</p>
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Date of the actual completion of the international search 8 August 2002	Date of mailing of the International search report 16/08/2002
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2260 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Kooijman, F
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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 745 758 A (PUTMAN ET AL.) 24 May 1988 (1988-05-24) abstract; figures ----	1,11
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INTERNATIONAL SEARCH REPORT

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