



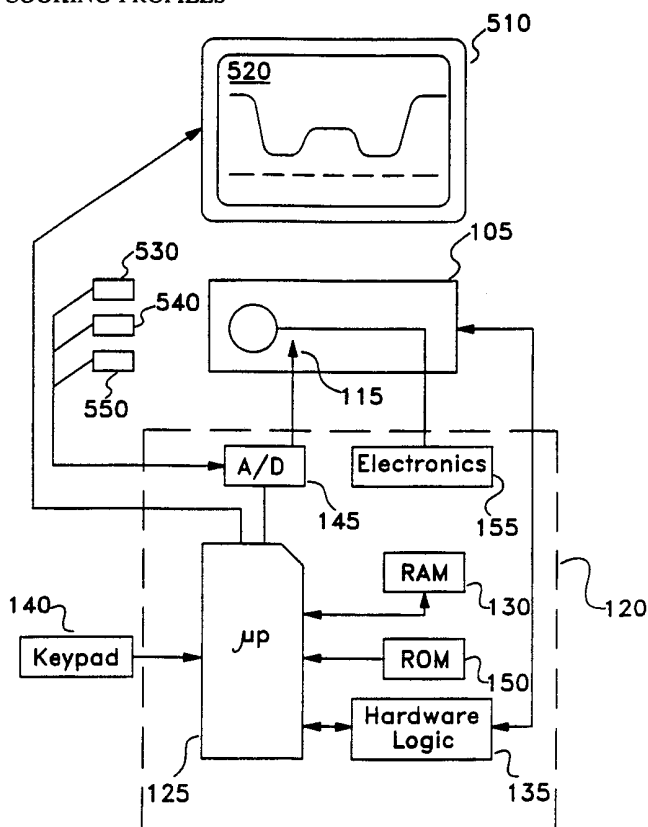
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(54) Title: DIAGNOSTIC SYSTEM FOR MONITORING COOKING PROFILES

(57) Abstract

The diagnostic system of the present invention monitors and accumulates thermal signatures or characteristics during at least one operational mode of a cooking appliance (105). These thermal signatures or characteristics are collected through the same temperature sensor (115) used to regulate the temperature of the cooking appliance and then stored in, for example, a look-up table (130). Advantageously, this may be accomplished without the need for special sensors or interface boards. The thermal signatures or characteristics may include first order or higher order temperature gradients, as well as temperature profiles. The stored thermal signatures provide a baseline from which the diagnostic system can detect and identify whether the cooking appliance is working under normal operating conditions. In an alternative embodiment, the diagnostic system monitors and accumulates the cooking profiles for either a single food product or a plurality of food products. The current cooking profile is graphically displayed and compared against the master cooking profile (520) to flag food products that are improperly cooked or not cooked to the proper degree of doneness. Such monitoring and analysis substantially eliminates any possible health risks. Also, such master cooking profiles also provide a baseline for diagnosing between normal and faulty cooking conditions.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/18317

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G01K 1/08

US CL : 374/149

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. : 374/45, 102, 104, 107, 112, 149; 99/324, 337, DIG. 10; 219/ 490, 492, 494, 497, 499, 501, 506, 507, 508; 364/557

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)

APS in above US classes/subclasses (cook?, temperature, monitor, compare)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,043,860 (Koether et al.) 27 August 1991 (27/08/91), col. 2, lines 53-68, col. 3, lines 1-49, col. 4, lines 3-12), col. 5, lines 1-20.	1-41
Y	US 4,920,948 (Koether et al.) 01 May 1990 (01/05/90), abstract, cols. 1-2.	2-5, 8, 20-24, and 31-34
Y	US 4,858,119 (Waugh et al.) 15 August 1989 (15/08/89), abstract, col. 1, lines 53-68, col. 2, lines 1-33.	1, 2, 8, 16, 20, 24, 30, and 31
A	US 5,350,237 (Hida) 27 September 1994 (27/09/94), col. 3, lines 41-55, 65-66, col. 4, lines 1-2.	1-41

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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Date of the actual completion of the international search

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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 4,636,949 (Longabaugh) 13 January 1987 (13/01/87), cols. 2-3.	1-41