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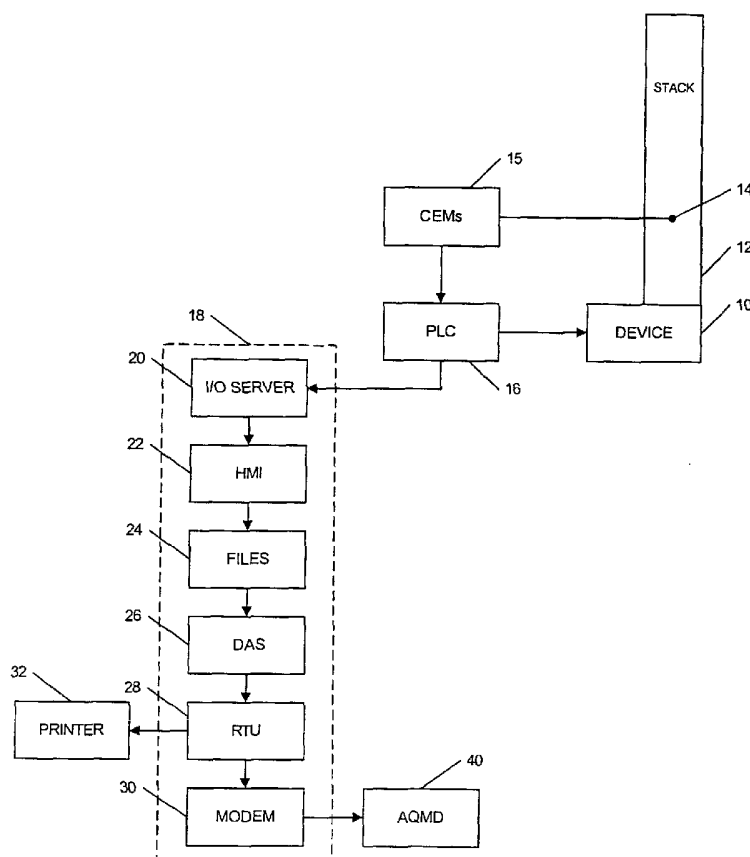
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR ENVIRONMENTAL DATA ACQUISITION



(57) Abstract: A data acquisition system "DAS" (26) is provided as part of a CEMS (15), whereby the DAS (26) is designed to perform all computations and data manipulations necessary to accept digital data from sensory equipment and prepare emission summary data for output to a regulatory agency in the form required by the regulatory agency. The emission summary data may be for oxides of nitrogen "NO_x", carbon monoxide "CO", oxides of sulfur "SO_x" or any other gaseous pollutant. The DAS (26) assigns a logical device to each physical device being monitored. When direct correlation between a single DAS (26) logical device and a single physical device is impractical or impossible, a set of DAS (26) logical devices can be assigned to a single physical device. Each discrete DAS (26) logical device in the set is configured to receive emissions data for the physical device when the physical device is in a particular mode. The combination of the various emissions data received by each discrete DAS (26) logical device allow the necessary cumulative emissions data to be quantified and provided to a regulatory agency or used in efficiency analysis.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/25541

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 31/00

US CL : 702/31

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. : Please See Continuation Sheet

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
USPTO APS EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,970,426 A (MANDEL et al) 19 October 1999 (19.10.1999), Abstract; column 3, line 8 - column 4, line 6; column 4, line 57 - column 5, line 7; Figure 1.	1-5, 7-15, 17-20
Y	US 5,206,818 A (SPERANZA et al) 27 April 1993 (27.04.1993), column 5, line 64 - column 6, line 7; column 8, lines 59-63; column 2, lines 13-48; Figure 3.	1-5, 7-15, 17-20
Y	US 5,548,528 A (KEELER et al) 20 August 1996 (20.08.1996), Abstract; column 3, line 16 - column 11, line 62.	1-5, 7-15, 17-20
A	US 5,703,299 A (CARLETON et al) 30 December 1997 (30.12.1997), Abstract; column 1, line 66 - column 4, line 12.	1, 7, 11, 17
A	US 6,212,937 B1 (HUBERT et al) 10 April 2001 (10.04.2001), column 1, line 61 - column 2, line 40.	1, 7, 11, 17
A,P	US 6,345,234 B1 (DILGER et al) 05 February 2002 (05.02.2002), Abstract; Figure 9.	1-24
A,E	US 6,435,019 B1 (VOJTISEK-LOM) 20 August 2002 (20.08.2002), column 8, lines 47-64.	1, 7, 11, 17



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	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/25541

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

PCT/US02/25541

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

Group I. Claims 1-20, drawn to a method, a system and a computer readable medium for processing air quality management emissions information.

Group II. Claims 21-24, drawn to a method and computer readable medium for performing data substitution in an air quality management emissions system.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I is directed to processing air quality management emissions information including the steps of receiving emissions data, processing the data and storing and providing the results of the processing. None of these steps or features are found in the invention of Group II directed to performing data substitution in an air quality management emissions system, which includes the steps for replacing invalid data with averaged valid data. Therefore the inventions do not share a special technical feature.

Continuation of B. FIELDS SEARCHED Item 1:

702/22-28, 30-32, 85, 100, 127, 128, 183, 188; 73/863.81-863.83, 863.85; 700/90, 274, 275, 296; 340/632; 204/406, 431; 205/786.5, 781, 784, 784.5; 588/260