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(54) Radio frequency identification tag system and programming equipment

(57) The invention includes computer system to emulate a magstripe card reader connected to a fuel dispenser terminal based on radio frequency signals, the system having a first radio frequency transmitting antenna, a separate first radio frequency receiving antenna and a controller for electronically controlling the system which is connected to both the transmitting and receiving antenna. The controller is adapted to develop and emulate magstripe card reader signals based on signals received from the receiving antenna. A multiplexer is utilized for selectively communicating magstripe card reader signals from the controller to the fuel dispenser terminal system. A method is described of combining a radio frequency tag identification system having a multiplexer with a fuel dispenser system by disconnecting a magstripe card reader from a fuel dispenser system card reader input, connecting the radio frequency tag identification system multiplexer to the fuel dispenser system card reader input; and then connecting the previously disconnected magstripe card reader to the multiplexer.

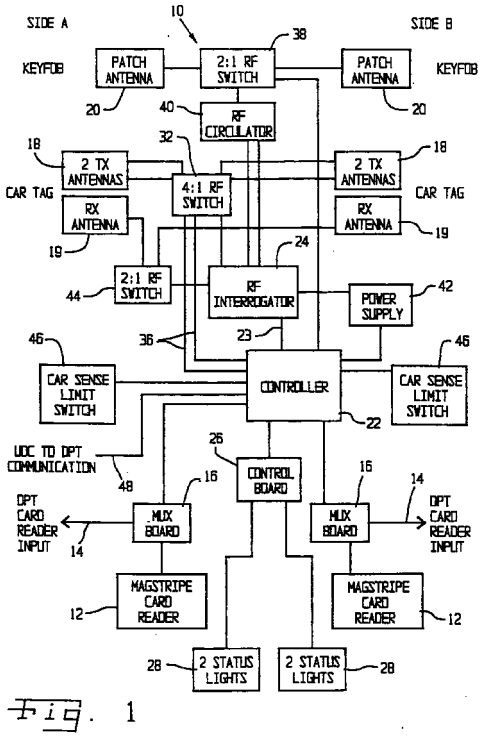

Fig. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 98 12 0080

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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A	WO 97 24689 A (DRESSER IND ;MOBIL OIL CORP (US)) 10 July 1997 (1997-07-10) * page 5, line 9 - page 7, line 23 * * page 9, line 19 - page 10, line 14 * * page 14, line 30 - page 16, line 13 * ---	1,4,14, 15	
A	US 4 791 283 A (BURKHARDT NORMAN S) 13 December 1988 (1988-12-13) * column 3, line 5 - line 29 * ---	1,14,15	
A	WO 97 35284 A (SHELL INT RESEARCH) 25 September 1997 (1997-09-25) * page 4, line 15 - page 5, line 22; figures 1-3 * ---	1,14,15	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	US 5 151 684 A (JOHNSEN EDWARD L) 29 September 1992 (1992-09-29) * column 8, line 13 - line 55; figure 6 * -----	18	G07F G06K B67D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	28 August 2000	Paraf, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☒ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 98 12 0080

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-17

   Computer system connected to a receiving antenna that emulates a magnetic stripe card reader based on radio frequency signals received, also connected with a multiplexer to selectively communicate between the card reader and the sytem, used for point of sell (e.g. fuel dispenser terminal)

2. Claims: 18-22

   encoder included in the radio frequency tag programmer

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 98 12 0080

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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28-08-2000

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82