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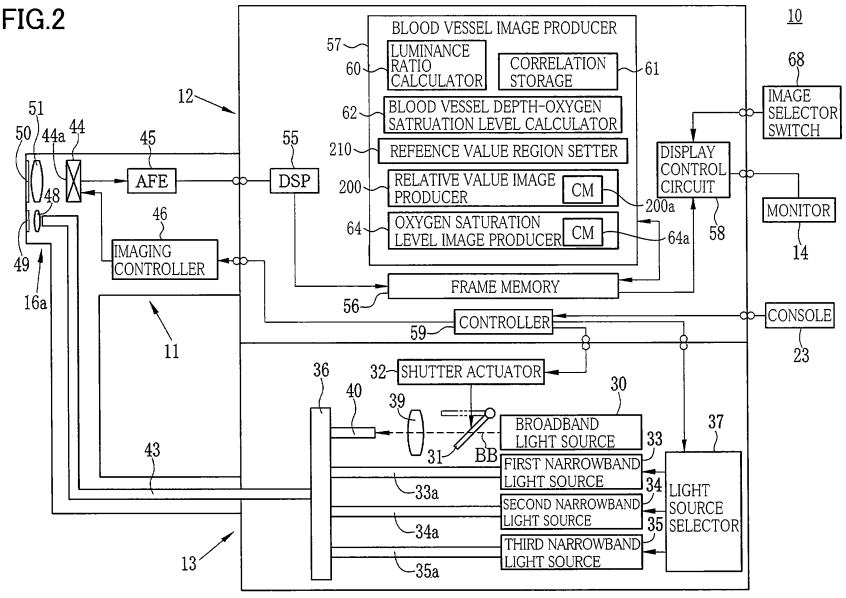
(54) An electronic endoscope system, an electronic endoscope processor, and a method of acquiring blood vessel information

(57) The system includes an illuminating unit, an electronic endoscope, a unit for outputting first image data having different wavelength bands from the imaging signal, a unit for producing blood vessel information from the first image data, a unit for setting a given region in an image as reference value region, a unit for calculating a reference value for the blood vessel information based on second image data for a region within a reference value region, a unit for calculating relative value blood vessel information from the difference between the blood vessel information and the reference value blood vessel information, a unit for producing a simulated-color relative value blood vessel information image from the relative value blood vessel information, and a monitor for displaying a relative value blood vessel information image.

FIG.2



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PARTIAL EUROPEAN SEARCH REPORT

under Rule 62a and/or 63 of the European Patent Convention. This report shall be considered, for the purposes of subsequent proceedings, as the European search report

Application Number
EP 11 15 2565

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2009/147096 A1 (YAMAGUCHI HIROSHI [JP] ET AL) 11 June 2009 (2009-06-11) * the whole document *	1-10,12	INV. A61B1/07 A61B1/05 A61B1/04 A61B5/1455 G06T5/00 A61B5/00
A	US 2007/135715 A1 (INOUE RYOKO [JP] ET AL) 14 June 2007 (2007-06-14) * the whole document *	1-10,12	
A	US 2004/064016 A1 (KOBAYASHI HIROYUKI [JP] ET AL) 1 April 2004 (2004-04-01) * the whole document *	1-10,12	
A,D	JP 2001 037718 A (OLYMPUS OPTICAL CO) 13 February 2001 (2001-02-13) * the whole document *	1-10,12	
A,D	JP 1 280442 A (OLYMPUS OPTICAL CO) 10 November 1989 (1989-11-10) * the whole document *	1-10,12	

TECHNICAL FIELDS SEARCHED (IPC)

A61B
G06T

INCOMPLETE SEARCH

The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.

Claims searched completely :

Claims searched incompletely :

Claims not searched :

Reason for the limitation of the search:

see sheet C

1

Place of search	Date of completion of the search	Examiner
The Hague	17 October 2011	Faymann, Juan

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

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INCOMPLETE SEARCH
SHEET C

Application Number
EP 11 15 2565

Claim(s) completely searchable:
1-10, 12

Claim(s) not searched:
11, 13, 14

Reason for the limitation of the search:

In view of the response dated 27.7.2011 to the Invitation Pursuant to Rule 62a(1) EPC of 01.6.2011, the search has been carried out on the basis of claims 1 and 12.

The applicant's observations have been taken into consideration, and without prejudice to Article 62a(2) EPC, the following comments can be made:
-the subject-matter of claim 11, as argued by the applicant, is directed at a processor which is to be understood as part of the electronic endoscope of claim 1. However, this is not reflected in the claims. The subject-matter contained in claim 11, therefore, can only be taken into consideration insofar as it is dependent on claim 1.
-claims 13-14 refer to devices that have the same explicit features as the endoscope of claim 1, but that are implicitly different devices in nature. Furthermore, in view of the description, p.11, l.1-6, the claimed invention relates only to an an electronic endoscope system, particularly since a "pathological observation device" and "pathological microscope device" are not even explicitly defined in description.

In view of the above, claims 11 and 13-14 are considered as not complying with Rule 43(2) EPC, and the Search Report and Search Opinion have been carried out on independent claims 1 and 12, and dependent claims 2-10.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 15 2565

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-10-2011

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EPO FORM P0459

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

专利名称(译)	电子内窥镜系统，电子内窥镜处理器和获取血管信息的方法		
公开(公告)号	EP2366327A3	公开(公告)日	2011-11-30
申请号	EP2011152565	申请日	2011-01-28
[标]申请(专利权)人(译)	富士胶片株式会社		
申请(专利权)人(译)	富士胶片株式会社		
当前申请(专利权)人(译)	富士胶片株式会社		
[标]发明人	SAITO TAKAAKI		
发明人	SAITO, TAKAAKI		
IPC分类号	A61B1/07 A61B1/05 A61B1/04 A61B5/1455 G06T5/00 A61B5/00		
CPC分类号	A61B5/1459 A61B1/00009 A61B1/00045 A61B1/0005 A61B1/063 A61B1/0638 A61B1/0646 A61B5/0084 A61B5/14551 G06T7/0012 G06T2207/10068 G06T2207/30101		
优先权	2010064049 2010-03-19 JP		
其他公开文献	EP2366327A2 EP2366327B1 EP2366327B8		
外部链接	Espacenet		

摘要(译)

该系统包括照明单元，电子内窥镜，用于从成像信号输出具有不同波长带的第一图像数据的单元，用于从第一图像数据产生血管信息的单元，用于在图像中设置给定区域的单元作为参考值区域，用于基于参考值区域内的区域的第二图像数据计算血管信息的参考值的单元，用于根据血管信息和血管信息之间的差异计算相对值血管信息的单元参考值血管信息，用于根据相对值血管信息产生模拟颜色相对值血管信息图像的单元，以及用于显示相对值血管信息图像的监视器。

FIG.2