



P.B.5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ (070) 3 40 20 40
FAX (070) 3 40 30 16

Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Generaldirektion 1

Directorate General 1

Direction générale 1

Iviewit Holdings, Inc.
10158 Stonehenge Circle
Suite 801
Boynton Beach, FL 33437-3546
ETATS-UNIS D'AMERIQUE



EPO Customer Services

Tel.: +31 (0)70 340 45 00

Date

05.10.06

Reference	Application No./Patent No. 00955352.0 - 1247 PCT/US0021211
Applicant/Proprietor Iviewit Holdings, Inc.	

**Notice drawing attention to Article 86(2) EPC, Art. 2 No. 5 of the rules relating to fees
- Payment of the renewal fee plus additional fee -**

The renewal fee for the 07. year fell due on 31.08.06 unless this date falls within the period covered by an interruption of the proceedings in accordance with Rule 90(1) EPC.

The amount of the renewal fee on that date was **EUR 770,00** (see OJ EPO 2001, 374, 377, 378, and 543).

The renewal fee was not paid by the due date.

The renewal fee may still be validly paid **up to the last day of the sixth calendar month** following the due date, provided that the additional fee (10% of the renewal fee) is paid at the same time.

Within the above period which cannot be extended the following fees are to be paid:

Renewal fee for the 07. year:	EUR	770,00
Additional fee:	EUR	77,00

TOTAL AMOUNT	EUR	847,00

If the renewal fee and the additional fee are not paid in due time, the European patent application shall be deemed to be withdrawn (Art.86(3) EPC).

Note to users of the automatic debiting procedure:

The normal time limit for payment of the above renewal fee had already expired when the automatic debit order was received. The renewal fee and the surcharge will be debited automatically on the last day of the period of grace (Supplement to OJ EPO 2/1999; OJ EPO 2000, 62).

For the Examining Division





P.B.5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ (070) 3 40 20 40
FAX (070) 3 40 30 16

**Europäisches
Patentamt**

**European
Patent Office**

**Office européen
des brevets**

Generaldirektion 1

Directorate General 1

Direction générale 1

Iviewit Holdings, Inc.
10158 Stonehenge Circle
Suite 801
Boynton Beach, FL 33437-3546
ETATS-UNIS D'AMERIQUE



EPO Customer Services

Tel.: +31 (0)70 340 45 00

Date

06.10.05

Reference	Application No./Patent No. 00955352.0 - 1247 PCT/US0021211
Applicant/Proprietor Iviewit Holdings, Inc.	

**Notice drawing attention to Article 86(2) EPC, Art. 2 No. 5 of the rules relating to fees
- Payment of the renewal fee plus additional fee -**

The renewal fee for the 06. year fell due on 31.08.05 unless this date falls within the period covered by an interruption of the proceedings in accordance with Rule 90(1) EPC.

The amount of the renewal fee on that date was **EUR 715,00** (see OJ EPO 2001, 374, 377, 378, and 543).

The renewal fee was not paid by the due date.

The renewal fee may still be validly paid **up to the last day of the sixth calendar month** following the due date, provided that the additional fee (10% of the renewal fee) is paid at the same time.

Within the above period which cannot be extended the following fees are to be paid:

Renewal fee for the 06. year:	EUR	715,00
Additional fee:	EUR	71,50

TOTAL AMOUNT	EUR	786,50

If the renewal fee and the additional fee are not paid in due time, the European patent application shall be deemed to be withdrawn (Art.86(3) EPC).

Note to users of the automatic debiting procedure:

The normal time limit for payment of the above renewal fee had already expired when the automatic debit order was received. The renewal fee and the surcharge will be debited automatically on the last day of the period of grace (Supplement to OJ EPO 2/1999; OJ EPO 2000, 62).

For the Examining Division





P.B.5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ (070) 3 40 20 40
FAX (070) 3 40 30 16

Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Generaldirektion 1

Directorate General 1

Direction générale 1

Iviewit Holdings, Inc.
10158 Stonehenge Circle
Suite 801
Boynton Beach, FL 33437-3546
ETATS-UNIS D'AMERIQUE



EPO Customer Services

Tel.: +31 (0)70 340 45 00

Date

26-08-2005

Reference	Application No./Patent No. 00955352.0 - 1247
Applicant/Proprietor Iviewit Holdings, Inc.	

Noting of loss of rights (R. 69(1) EPC)

The European Patent application is deemed to be withdrawn under Article 86(3) EPC.

The renewal fee for the 05. year and the additional fee have not been paid in due time / not been paid in full in due time.

Request for decision

If the applicant considers that this finding is inaccurate, he may, within (a non-extendable period of) **two months** after notification of this communication, apply in writing for a decision on the matter by the European Patent Office (R. 69(2) EPC). The application can only lead to the finding being reversed, if this does not actually correspond to the factual or legal situation.

Application for re-establishment of rights

If the applicant, in spite of having taken all due care required by the circumstances, was unable to observe the time limit, he shall on application have his rights re-established providing he meets the time limits and formal requirements under Article 122 EPC.

Examining Division

Dubret, Françoise





**Europäisches
Patentamt**

**European
Patent Office**

**Office européen
des brevets**

Direktion 5.2.4
Patentverwaltung
Rechtsabteilung

Directorate 5.2.4
Patent Administration
Legal Division

Direction 5.2.4
Administration des brevets
Division juridique

EPA/EPO/OEB · D-80298 München

**Iviewit Technologies, Inc.
Mr Eliot I. Bernstein
10158 Stonehenge Circle Suite 801
Boynton Beach,**

USA - Fla. 33437 - 3546

✉ EPA/EPO/OEB
D-80298 München
☎ +49-89 / 2399 - 0
Tx 523 656 epmu d
Fax +49-89 / 2399 - 5148

Durchwahl/Direct dial/
Ligne directe:

5110

Zeichen/Reference/Référence

AD/LD

Datum/Date/Date

08.07.05

**Our Ref: Legal R13-268/2004
Applications : 00 944 619.6 , 00 938 126.0, 00 955 352.0
Applicant: Iviewit Holdings, Inc.
Your Ref: Your phone call from 20 June 2005**

Dear Mr Bernstein,

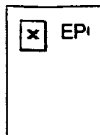
I herewith acknowledge receipt of your message on my answering machine where you requested the EPO to send you a copy of information contained in your file.

Please find enclosed a notice of information from the EPO concerning inspection of files published in the July edition of the Official Journal of the EPO.

I hope this information is helpful to you.

Yours sincerely,

Lise Dybdahl
Director



INFORMATION FROM THE EPO

Notice from the European Patent Office dated 6 June 2003 concerning the inspection of files

Through [epoline@](mailto:epoline@epo.org), the EPO has extended its range of patent information services and established Internet access to electronic files.

Following publication of a European patent application, anyone may inspect the associated file online at:

www.epoline.org/onlinefileinspection.htm or

www.epoline.org/ofi.htm

1. Online File Inspection

1.1 **Online File Inspection** provides users with direct access to all published European patent applications and patents that are stored in electronic form.

1.2 If you enter a valid application or publication number and click on the folder icon, all the documents in the public part of the file are listed, sorted by date, in the form of a "table of contents". By clicking on the link for a document you can display its image in a viewer and print it if you so wish. By checking the box next to a document you can select it for download to your PC. You can also select all the documents at once by clicking on "Select all documents".

1.3 If you request inspection of a file that is not yet stored in electronic form, the file will as a rule be made available online within ten working days of entry of the application or publication number, unless it has already been destroyed (Rule 95a(4) and (5) EPC). This does not apply to files with regard to which oral proceedings are imminent or have recently taken place. Entering a valid application or publication number is equivalent to requesting a **file inspection**. There is no need for a separate written request.

1.4 **Online File Inspection** is available from 08.00 to 18.00 hrs CET.

1.5 With the advent of free online **file inspection**, it is as a rule no longer possible to inspect the paper files on the premises of the EPO.

2. File inspection on paper copies

2.1 If you request **file inspection** on paper copies, you must pay an administrative fee of EUR 30 in advance. As a rule, if more than 100 pages have to be produced, you are provided with an electronic storage medium holding a copy of the file. If you expressly request paper copies instead of an electronic storage medium, an additional charge of EUR 0.30 per page is levied for each page in excess of 100. The invoice for the additional charge is sent together with the **file inspection** documents.

2.2 It should be noted that electronic storage media and paper copies for **file inspection** typically cannot

be made available until at least four weeks after receipt of the **file inspection request**.

3. Telephone enquiries about Online File Inspection

These are answered by EPO Customer Services.

European Patent Office
Patentlaan-2
NL-2288 EE Rijswijk
Tel.: (+31-70) 340 4500
Fax: (+31-70) 340 4600
E-mail: epoline@epo.org
Internet: www.epoline.org

EPO Customer Services are available from Monday to Friday from 08.00 to 18.00 hrs CET.

¹ See the President's decisions on the inspection of files and on revising the Office's fees and costs on pages 370, 371.

View/download the original article in the 3
languages in PDF format



Search text: file inspection

Document 1 of 27

Title: Official Journal EPO 07/2003 - INFORMATION FROM THE EPO - Notice from the European Patent Office dated 6 June 2003 concerning the inspection of files



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Direktion 5.2.4
Patentverwaltung
Rechtsabteilung

Directorate 5.2.4
Patent Administration
Legal Division

Direction 5.2.4
Administration des brevets
Division juridique

EPA/EPO/OEB - D-80298 München

Mr Eliot I. Bernstein
Iviewit Technologies, Inc.
10158 Stonehenge Circle
Suite 801
Boynton Beach, Fla. 33437-3546

✉ EPA/EPO/OEB
D-80298 München
☎ +49-89 / 2399 - 0
Tx 523 656 epmu d
Fax +49-89 / 2399 - 5148

Durchwahl/Direct dial/
Ligne directe:

U.S.A.

Zeichen/Reference/Référence

Legal R 13/268-2004

Datum/Date/Date

2 4. 05. 05

Dear Mr Bernstein,

Re.: Suspension of proceedings for European patent applications 00944619.6,
00938126.0 and 00955352.0

Ref.: Your e-mails to the Legal Division dated 25 February 2005 and to the President of
the European Patent Office dated 28 February 2005

We thank you for your letter of 25 February 2005 and your letter dated 28 February 2005,
addressed to the President of the European Patent Office which has been forwarded to the
Legal Division for reasons of responsibility.

As far as the allegations against the European Patent Office are concerned we can
confirm, after having given the utmost consideration to your case, that the proceedings
were conducted in full accordance with the provisions laid down by the European Patent
Convention.

However, should you not share the opinion of the Office in substance you are entitled to
request an appealable decision of the competent department, which is subject to appeal
with the Boards of Appeal of the European Patent Office.

1/2

With regard to the various allegations you made against professional representatives before the European Patent Office, we would like to draw your attention to the fact that issues of conduct must be initiated with the Institute of professional representatives.

We hope that this information clarifies the situation and remain

Yours sincerely

A handwritten signature in black ink, appearing to read "Lise Dybdahl". The signature is written in a cursive style with a large, looping initial "L".

Lise Dybdahl
Director



☐ EPA/EPO/OEB
 D-80298 München
 ☎ +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

COPY

Iviewit Holdings, Inc.
 10158 Stonehenge Circle
 Suite 801
 Boynton Beach, FL 33437-3546
 ETATS-UNIS D'AMERIQUE



Datum/Date
11.3.05

Zeichen/Ref./Réf.	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 00955352.0-1247
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

Invitation to give notice of appointment of a professional representative

The authorisation of the previous representative has been terminated as a result of

- relinquishment of representation by the professional representative (see annex),
- your withdrawal of the authorisation.

As a result the requirements of Article 133(2) EPC are no longer met.

According to Article 133(2) EPC natural or legal persons not having either a residence or their principal place of business within the territory of one of the Contracting States to the European Patent Convention must be represented by a professional representative (cf. Article 134 EPC) and act through him in all proceedings established by the Convention.

You are hereby requested to remedy the above deficiency (notice of appointment of a professional representative) within t h r e e months of notification of this communication.

If this invitation is not replied to in due time, the European patent application will be deemed to be withdrawn (Article 96(3) EPC).

Until the specified deficiency is remedied, you may not take any procedural steps in the opposition proceedings (Article 133(2) EPC).

Formalities Officer
Tel. No. (089) 2399-2833

Annex:

REGISTERED LETTER

EPO Form 2502B 06.99	FORR	Coded	7051051	08/03/05
	Date	Initials		



☐ EPA/EPO/OEB
 D-80298 München
 ☎ +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

EPA/EPO/OEB - 80298 München - Deutschland

Einschreiben / Registered letter / Lettre recommandée

Iviewit Holdings Inc.

Mr Bernstein

10158 Stonehenge Circle Suite 801

US - Boynton Beach, FL 33437-3546



Datum/Date

11.3.05

Zeichen/Ref./Réf.	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 00955352.0-1247
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

Invitation to give notice of appointment of a professional representative

The authorisation of the previous representative has been terminated as a result of

- relinquishment of representation by the professional representative (see annex),
 your withdrawal of the authorisation.

As a result the requirements of Article 133(2) EPC are no longer met.

According to Article 133(2) EPC natural or legal persons not having either a residence or their principal place of business within the territory of one of the Contracting States to the European Patent Convention must be represented by a professional representative (cf. Article 134 EPC) and act through him in all proceedings established by the Convention.

You are hereby requested to remedy the above deficiency (notice of appointment of a professional representative) within three months of notification of this communication.

If this invitation is not replied to in due time, the European patent application will be deemed to be withdrawn (Article 96(3) EPC).

Until the specified deficiency is remedied, you may not take any procedural steps in the opposition proceedings (Article 133(2) EPC).

Formalities Officer
Tel. No. (089) 2399- 2833

Annex:

REGISTERED LETTER

EPO Form 2502B 06.99

FORR Coded 7051051 08/03/05

Date Initials



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Direktion 5.2.4
Patentverwaltung
Rechtsabteilung

Directorate 5.2.4
Patent Administration
Legal Division

Direction 5.2.4
Administration des brevets
Division juridique

EPA/EPO/OEB - 80298 München - Deutschland

Einschreiben / Registered letter / Lettre recommandée

Iviewit Holdings Inc.

Mr Bernstein

10158 Stonehenge Circle Suite 801

US - Boynton Beach, FL 33437-3546

✉ EPA/EPO/OEB
80298 München
☎ +49-89/2399 - 0
☎ +49-89/2399 - 5148

Durchwahl/Direct dial/
Ligne directe:

5110

Zeichen/Reference/Référence

hb/LD

Datum/Date/Date

25. 11. 04

Our Ref: Legal R 13-268/2004
Application No: 00 944 619.6 00 938 126.0 00 955 352.0
Applicant: Iviewit Holdings, Inc.
Your Ref.: Your email 28 October 2004

COMMUNICATION CONCERNING SUSPENSION OF PROCEEDINGS UNDER RULE 13 EPC AND INTERRUPTION OF THE PROCEEDINGS UNDER RULE 90 EPC.

Your email of **28 October 2004** was forwarded to the Legal Division for the purpose of examining whether a suspension of proceedings pursuant to Rule 13 EPC or an interruption of proceedings in accordance with Rule 90 EPC may apply.

1. Responsibility

The Legal Division has sole responsibility for the interruption and resumption of proceedings (OJ EPO 1989, 177 point 1. 2.b). **Please therefore address all relevant correspondence solely to the Legal Division in Munich, quoting the reference Legal R 13-268/2004.** The Legal Division automatically adds information about the suspension, interruption and resumption of proceedings to the file(s) in question.

2. Suspension of proceedings under Rule 13 EPC

The suspension of proceedings, pursuant to Rule 13 EPC, secures the rights of a third party and allows him time to prove his entitlement to the patent before a national court. According to Rule 13 EPC, if a **third party** provides proof to the EPO that he has opened proceedings against the applicant for the purpose of seeking judgment that the third party is entitled to the grant of a European patent, the EPO shall stay the proceedings for grant.

2.1 Jurisdiction

Rule 13 EPC applies only if the proceedings are opened before a Court which has jurisdiction to decide claims, against the applicant, to the right to the grant of a European patent. The determination of such question prior to grant is governed by the Protocol on Recognition which is an integral part of the European Patent Convention (see decision of the Enlarged Board of Appeal G 3/92, OJ EPO 1994, 607).

When both parties have neither a domicile nor a place of business in a Contracting State, Article 6 of the Protocol on Recognition provides exclusive jurisdiction of the German courts to the extent that no other rules on jurisdiction apply. Although it would be possible for a court of a non-contracting state to hear the matter, the decision hold by this court would not automatically be recognised by all contracting states which are designated in the application.

2.2 Action initiated

Furthermore, entitlement proceedings have to be initiated under Rule 13 EPC. Proof must be provided that the necessary steps in commencing legal proceedings before a national court of a contracting state were taken in order to establish that the third party is entitled to the grant of the European patent and not the registered applicant.

2.3 Present case

In the present case, there is a dispute between the applicant and his former American patent attorneys. Claims of fraud, malpractice, conspiracy, breach of contract were filed before the USPTO and disciplinary actions against alleged offending attorneys seem to be pending. It seems that the litigation does not concern the property of the patent applications **Nos. 00 944 619.6, 00 938 126.0 and 00 955 352.0** moreover no third party has requested the suspension of proceedings.

Therefore proceedings before the EPO cannot be stayed on the basis of the initiated actions for the applications concerned as Rule 13 EPC foresees only entitlement actions initiated by a third party against the applicant.

3. Interruption of proceedings under Rule 90(1) EPC

In order to save applications from suffering loss of rights the European Patent Convention allows interruption of proceedings under certain specific conditions due to medical and / or financial hardship of the applicant or proprietor (Rule 90(1)(a) and (b)) and / or the professional representative (Rule 90(1)(c)).

3.1 Legal Incapacity (Rule 90(1)(a) EPC)

Proceedings before the EPO shall be interrupted in the event of the death or legal incapacity of the applicant for a European Patent or the person authorised by national law to act on his behalf (Rule 90(1)(a) EPC).

Legal incapacity means, that the applicant for a European patent or his representative, is not in the position to take action before the EPO for health reasons, such as for instance mental illness, mental deficiency, heavy physical illness or disability. This incapacity has to be established by means of production of an extensive and reliable medical opinion. Copies of national regulations concerning the interpretation of "incapacity" in the individual state concerned have to be filed too.

In the present case no request for interruption of the proceedings under Rule 90(1)(a) was filed, nor any evidence provided. It seems that the initiated actions taken before the USPTO and the circuit court of Florida do not concern incapacity of the applicant as defined in Rule 90(1)(a) EPC.

3.2 Action taken against the property (Rule 90(1)(b)(c) EPC).

Furthermore, proceedings before the EPO shall be interrupted in the event of the applicant for or proprietor of a European patent or his representative, as a result of some action taken against his property, being prevented from continuing the proceedings before the EPO (Rule 90(1)(b)(c) EPC). However it has to be established that the applicant for or proprietor of a European patent or his representative was prevented by **legal reasons** from continuing the proceedings before the EPO. The legal proceedings initiated against the applicant for or proprietor of a European patent or his representative must be in relation to bankruptcy proceedings or similar, the decisive criterion for interruption is whether the action against the property is such as to make it legally impossible to continue the proceedings (J 26/95, OJ 1999, 668). Financial difficulties are not a ground for interruption of proceedings under Rule 90(1)(b) or (c) EPC.

In the present case, it seems that no action has been taken against the applicant's property in the sense of Rule 90(1)(b) or (c) EPC.

4. Status of the applications

As a service from the EPO, please be informed that for each application concerned the registered address is to be checked. Should the address be amended a request should be filed accordingly by a duly appointed professional representative.

3.1 Patent application 00 944 619.6

Registered address: One Boca Place, 2255 Glades Road, Suite 337, US - West, Boca Raton, FL 33431.

A professional representative has to be appointed pursuant to Article 133(2) EPC.

Payment of the 4th year renewal fee was due on 30 June 2004. This payment can still validly be made within six months from the said date provided an additional fee is paid at the same time (Article 86(2) EPC). The six-month period ends on 31 December 2004 and will be extended until **3 January 2005** according to Rule 85(1) EPC.

3.2 Patent application 00 955 352.0

Registered address: 10158 Stonehenge Circle Suite 801, US - Boynton Beach, FL 33437-3546

A professional representative has to be appointed pursuant to Article 133(2) EPC.

Payment of the 5th year renewal fee was due on 31 August 2004. This payment can still validly be made within six months from the said date provided an additional fee is paid at the same time (Article 86(2) EPC). The six-month period ends on **28 February 2005**.

3.3 Patent application 00 938 126.0

Registered address: 505 North Brand Boulevard, Suite 1420, US - Glendale, CA 91203

A professional representative has to be appointed pursuant to Article 133(2) EPC.

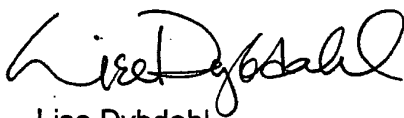
Payment of the 5th year renewal fee was due on 30 June 2004. This payment can still validly be made within six months from the said date provided an additional fee is paid at the same time (Article 86(2) EPC). The six-month period ends on 31 December 2004 and will be extended until **3 January 2005** according to Rule 85(1) EPC.

4. Representation

Article 133(2) EPC stipulates that natural or legal persons not having either a contracting state residence or their principal place of business within the territory of one of the contracting states must be represented by a professional representative and act through him in all proceedings established by the European Patent Convention (EPC), other than in filling the European patent application. Any submissions by a non-European applicant, apart from when filling the European application, directly to the EPO cannot be taken into account.

The authorisation of the previous representative has been terminated as a result of relinquishment of representation by the professional representative.

You are hereby invited to appoint a professional representative within three months of notification of this communication. If this invitation is not replied to in due time, the European patent applications may be deemed to be withdrawn.



Lise Dybdahl
Director
Legal Division



☐ EPA/EPO/OEB
 D-80298 München
 ☎ +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

COPY

Iviewit Holdings, Inc.
 10158 Stonehenge Circle
 Suite 801
 Boynton Beach, FL 33437-3546
 ETATS-UNIS D'AMERIQUE



Datum/Date	27. 10. 04
------------	------------

Zeichen/Ref./Réf.	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°
	00955352.0-1247
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire	
Iviewit Holdings, Inc.	

Invitation to give notice of appointment of a professional representative

The authorisation of the previous representative has been terminated as a result of

- relinquishment of representation by the professional representative (see annex),
 your withdrawal of the authorisation.

As a result the requirements of Article 133(2) EPC are no longer met.

According to Article 133(2) EPC natural or legal persons not having either a residence or their principal place of business within the territory of one of the Contracting States to the European Patent Convention must be represented by a professional representative (cf. Article 134 EPC) and act through him in all proceedings established by the Convention.

You are hereby requested to remedy the above deficiency (notice of appointment of a professional representative) within t h r e e months of notification of this communication.

If this invitation is not replied to in due time, the European patent application will be deemed to be withdrawn (Article 96(3) EPC).

Until the specified deficiency is remedied, you may not take any procedural steps in the opposition proceedings (Article 133(2) EPC).

W. Eisenknapp

Formalities Officer
 Tel. No. (089) 2399-2577

Annex:

REGISTERED LETTER

EPO Form 2502B 06.99	FORR	Coded	7051051	22/10/04
	Date	Initials		



www.hgfip.com

EPO - Munich
EN
18. Okt. 2004

harrison goddard foote®

patent and trade mark attorneys

(Incorporating Brewer & Son)

Please Note our New Details:

40 - 43 Chancery Lane
LONDON
WC2A 1JA, UK

telephone

+44(0) 207 440 8900

facsimile

+44(0) 207 440 8901

email

mmolyneaux@hgfi.com

The European Patent Office,
Erhardstrasse 27,
D-80298 Munich,
GERMANY.

14 October 2004

Your ref: 00955352.0
Our ref: MWM/MISC.

Dear Sirs,

Re: European Patent Appln. No. 00955352.0
IVIEWIT HOLDINGS, INC.

This is to advise that the undersigned withdrew representation on 15 December 2003. The letter of Mr. Want/Mr. Molyneaux on 18 December 2003 amending representation with regard to this Applicant was in error.

We confirm we withdraw our representation.

Please acknowledge receipt by return of the attached Form 1037.

Yours faithfully,



MARTYN W. MOLYNEAUX

MWM/mmh

partners

Michael Harrison, David Goddard, Jonathan Couchman,
Christopher Vaughan, Robert Hall, Harry Hutchinson,
Mark Lunt, Nigel Sanderson, Vanessa Stainthorpe,
Jason Lumber, Tony Chalk, Jason Boakes, Mike Ajello
John Hammersley, Martyn Molyneaux, Rosemary Barker,
David Potter, Geoffrey Smith, Clifford Want

Coryse Bourger/EPO
15-10-2004 14:14

To <iviewit@adelphia.net>
cc Annie Decroix/EPO@EPO, Dominique
Furst-Fontaine/EPO@EPO
bcc
Subject RE: Attention: Mr. Eliot I. Bernstein

Dear Mr Bernstein,

Re:

Mr. Molyneaux, your previous representative advised the EPO with a fax received on 9.12.03 and confirmed on 15.12.03 that he withdrew his representation.

On 13.01.04 the formalities officer of the EPO sent a communication to:
Iviewit Holdings, Inc.
One Boca Place
2255 Glades Road
Suite 337 West
Boca Raton, FL 33431.

This communication was returned to the European Patent Office with a note from the postal authorities attached, reading "not deliverable -left no address". It is only from your e-mail of 22.09.04 that the EPO learned your new address to be
10158 Stonehenge Circle
Suite 801
Boynton Beach, FL 33437-3546.

The formalities officer of the EPO should re-issue EPO form 2502B and enclose the letter of withdrawal from your previous representative.

As soon as you have appointed a new representative, proceedings before the EPO will continue.

With respect to your request of suspension of proceedings under Rule 13 EPC, I can only repeat the content of my previous email i.e. that the requirements of Rule 13 were not fulfilled on the date of filing of the request. An official communication regarding suspension under Rule 13 can only be issued by the Legal division upon appointment of a new representative.

Kind regards/Mit freundlichen Grüßen/Salutations

Cory Bourger
Directorate 5.2.4 - DG5
European Patent Office

Tel.: (+49) (0)89 2399 5117
Fax: (+49) (0)89 2399 5148
email :cbourger@epo.org
"Eliot I. Bernstein" <iviewit@adelphia.net>



"Eliot I. Bernstein"
<iviewit@adelphia.net>
12-10-2004 19:13

Please respond to
<iviewit@adelphia.net>

To "Coryse Bourger" <cbourger@epo.org>
"Dominique Furst-Fontaine" <dfurstfontaine@epo.org>,
"David White" <dwhite@epo.org>, "P. Stephen Lamont
(E-mail)" <pstephen.lamont@verizon.net>, "Caroline
Prochotska Rogers Esquire (E-mail 2)"
<caroline@cprogers.com>, "Marc R. Garber (E-mail)"



[<iviewit@adelphia.net>](mailto:iviewit@adelphia.net)

(E-mail)" <pstephen.lamont@verizon.net>, "Caroline Prochotska Rogers Esquire (E-mail 2)" <caroline@cprogers.com>, "Marc R. Garber (E-mail)" <marc.garber@flastergreenberg.com>, "Marc R. Garber (E-mail 2)" <marc.garber@comcast.net>
Subject RE: Attention: Mr. Eliot I. Bernstein



Sir,

Prior to resigning as counsel for these cases Mr. Martyn W. Molyneaux filed for the cases to be suspended based upon charges of fraud upon the European Patent Office. We are wondering what happened to those claims filed by a licensed attorney in your system. Also, any withdrawal as counsel was based on what explanation, we would like a full copy of such withdrawal of counsel that was submitted. Since the matters were brought to the attention of the EPO while we were represented is it typical that it was ignored for this many months and that we have received no correspondence regarding the filed claim of fraud and request for suspension that was filed by Molyneaux.

Thank you,

Eliot I Bernstein

Founder, President & Inventor

561.364.4240

iviewit@adelphia.net

Iviewit Holdings, Inc.

10158 Stonehenge Circle

Coryse Bourger/EPO
12-10-2004 14:47

To iviewit@adelphia.net
cc Dominique Furst-Fontaine/EPO@EPO, David
White/EPO@EPO
bcc
Subject Attention: Mr. Eliot I. Bernstein

Your e-mail of 23 September 2004 refers.

European patent applications: EP 00 944 619.6
EP 00 938 126.0
EP 00 955 352.0

Please be informed as follows:

1. The authorisation of your previous representative has been terminated as a result of relinquishment of representation by the professional representative.
2. As a result the requirements of Article 133(2) EPC are no longer met.
3. According to Article 133(2) EPC natural or legal persons not having either a residence or their principal place of business within the territory of one of the Contracting states to the European Patent Convention must be represented by a professional representative and act through him in all proceedings established by the Convention.
3. Until this deficiency is remedied, it is not possible for the Legal Division of the EPO to suspend or interrupt proceedings in accordance with Rule 13 or 90 EPC.

Moreover, from the documents on file it seems that the conditions of either Rule 13 or 90 of the European Patent Convention are not fulfilled.

Kind regards/Mit freundlichen Grüßen/Salutations

Cory Bourger
Directorate 5.2.4 - DG5
European Patent Office

Tel.: (+49) (0)89 2399 5117
Fax: (+49) (0)89 2399 5148
email : cbourger@epo.org



P.B.5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ (070) 3 40 20 40
FAX (070) 3 40 30 16

Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Generaldirektion 1

Directorate General 1

Direction générale 1

Molyneaux, Martyn William
Harrison Goddard Foote
40-43 Chancery Lane
London WC2A 1JA
GRANDE BRETAGNE



epoline® Customer Services

Tel.: +31 (0)70 340 45 00

Date

05.10.04

Reference	Application No./Patent No. 00955352.0 - 1247 PCT/US0021211
Applicant/Proprietor Iviewit Holdings, Inc.	

**Notice drawing attention to Article 86(2) EPC, Art. 2 No. 5 of the rules relating to fees
- Payment of the renewal fee plus additional fee -**

The renewal fee for the 05. year fell due on 31.08.04 unless this date falls within the period covered by an interruption of the proceedings in accordance with Rule 90(1) EPC.

The amount of the renewal fee on that date was **EUR 430,00** (see OJ EPO 2001, 374, 377, 378, and 543).

The renewal fee was not paid by the due date.

The renewal fee may still be validly paid **up to the last day of the sixth calendar month** following the due date, provided that the additional fee (10% of the renewal fee) is paid at the same time.

Within the above period which cannot be extended the following fees are to be paid:

Renewal fee for the 05. year:	EUR	430,00
Additional fee:	EUR	43,00

TOTAL AMOUNT	EUR	473,00

If the renewal fee and the additional fee are not paid in due time, the European patent application shall be deemed to be withdrawn (Art.86(3) EPC).

Note to users of the automatic debiting procedure:

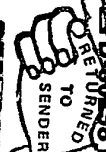
The normal time limit for payment of the above renewal fee had already expired when the automatic debit order was received. The renewal fee and the surcharge will be debited automatically on the last day of the period of grace (Supplement to OJ EPO 2/1999; OJ EPO 2000, 62).





Europäisches Patentamt
 European Patent Office
 Office européen des brevets

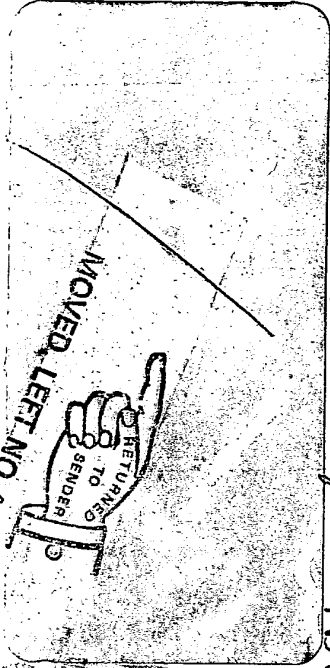
GERMANY



GERMANY

move address

PRM



MOVED, LEFT NO ADDRESS

R AF 1110 1129 3DE Deutsche Post

R AF 1110 1129 3DE

<input type="checkbox"/> Einwurf-Einschreiben	<input checked="" type="checkbox"/> Übergabe-Einschreiben (Recommandé)	<input type="checkbox"/> Eigenhändig (A remettre en main propre)
<input type="checkbox"/> Nachnahme (Remboursement)	<input type="checkbox"/> Rückschein (Avis de réception)	

LUFTPOST
 PAR AVION
 PRIORITAIRE

29. Jan. 2014
 EPO - Munich

Port payé
 80322 München BZ
 ALLEMAGNE

1411 2 1 2201



✉ EPA/EPO/OEB
 D-80298 München
 ☎ +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches
 Patentamt

European
 Patent Office

Office européen
 des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

Iviewit Holdings, Inc.
 505 North Brand Boulevard,
 Suite 1420
 Glendale, CA 91203
 ETATS-UNIS D'AMERIQUE



Datum/Date

11 3. 01. 04

Zeichen/Ref./Réf. P/1783.EP/MWM	Anmeldung Nr./Application No./Demande n°/Patent Nr /Patent No./Brevet n°. 00955352.0-1247
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

Invitation to give notice of appointment of a professional representative

EPO - Munich
 16

29. Jan. 2004

The authorisation of the previous representative has been terminated as a result of

- relinquishment of representation by the professional representative (see annex),
- your withdrawal of the authorisation.

As a result the requirements of Article 133(2) EPC are no longer met.

According to Article 133(2) EPC natural or legal persons not having either a residence or their principal place of business within the territory of one of the Contracting States to the European Patent Convention must be represented by a professional representative (cf. Article 134 EPC) and act through him in all proceedings established by the Convention.

You are hereby requested to remedy the above deficiency (notice of appointment of a professional representative) within t h r e e months of notification of this communication.

If this invitation is not replied to in due time, the European patent application will be deemed to be withdrawn (Article 96(3) EPC).

Until the specified deficiency is remedied, you may not take any procedural steps in the opposition proceedings (Article 133(2) EPC).

Formalities Officer

Tel. No. (089) 2399-2458 M.E. Turza

Annex:

REGISTERED LETTER

EPO Form 2502B 06.99

FORR Coded 7051051 08/01/04

Date Initials

Wildman, Harrold, Allen & Dixon LLP
11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
TEL: +44 (20) 7831 0009
FAX: +44 (20) 7831 9005
www.wildmanharrold.com



Wildman Harrold
Attorneys and Counselors

Martyn W. Molyneaux
+44 (20) 7841-5220
Molyneaux@wildmanharrold.com

CONFIRMATION

EPO - Munich
3
17. Dez. 2003

BY FACSIMILE

December 15, 2003

The European Patent Office,
Erhardstrasse 27,
D-80298 Munich,
GERMANY.

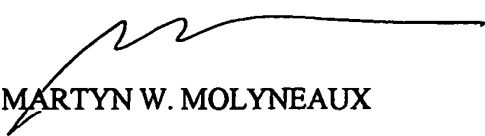
Dear Sirs,

Re: European Patent Appln. No. 00955352.0
IVIEWIT HOLDINGS, INC.
Our Ref: P/1783.EP/MWM

This is to advise that we withdraw our representation on the above numbered application.

Please acknowledge receipt by return of the attached copy letter.

Yours faithfully,
WILDMAN, HARROLD, ALLEN & DIXON LLP


MARTYN W. MOLYNEAUX

MWM/mmh



EPA/EPO/OEB
 D-80298 München
 +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches Patentamt

European Patent Office

Office européen des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

COPY

Molyneaux, Martyn William
 Wildman, Harrold, Allen & Dixon
 11th Floor, Tower 3,
 Clements Inn,
 London WC2A 2AZ
 GRANDE BRETAGNE

Datum/Date

13.01.04

Zeichen/Ref./Réf. P/1783.EP/MWM	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 00955352.0-1247 1200935
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

Communication of amended entries

It is confirmed that, according to the request dated 15.12.03.....

1. the name of the (co-)applicant/patentee,
 the address of the opponent

as from, has/have been amended as follows:

.....

2. the appointment of a representative
 the authorisation
 the withdrawal from representation

has/have been registered as from 15.12.03



✉ EPA/EPO/OEB
 D-80298 München
 ☎ +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches
 Patentamt

European
 Patent Office

Office européen
 des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

COPY

Iviewit Holdings, Inc.
 505 North Brand Boulevard,
 Suite 1420
 Glendale, CA 91203
 ETATS-UNIS D'AMERIQUE



Datum/Date
 13. 01. 04

Zeichen/Ref./Réf. P/1783.EP/MWM	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 00955352.0-1247
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

Invitation to give notice of appointment of a professional representative

The authorisation of the previous representative has been terminated as a result of

- relinquishment of representation by the professional representative (see annex),
- your withdrawal of the authorisation.

As a result the requirements of Article 133(2) EPC are no longer met.

According to Article 133(2) EPC natural or legal persons not having either a residence or their principal place of business within the territory of one of the Contracting States to the European Patent Convention must be represented by a professional representative (cf. Article 134 EPC) and act through him in all proceedings established by the Convention.

You are hereby requested to remedy the above deficiency (notice of appointment of a professional representative) within **three** months of notification of this communication.

If this invitation is not replied to in due time, the European patent application will be deemed to be withdrawn (Article 96(3) EPC).

Until the specified deficiency is remedied, you may not take any procedural steps in the opposition proceedings (Article 133(2) EPC).

Formalities Officer
 Tel. No. (089) 2399- *M. Turza*

Annex:

REGISTERED LETTER

FORR coded

EPO Form 2502B 06.99	FORR	Coded	7051051	08/01/04
	Date	Initials		

Ust

Wildman, Harrold, Allen & Dixon LLP
11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
Tel. (020) 7831 0009
Fax (020) 7831 9005
www.wildmanharrold.com

EPO - Munich
33

22. Dez. 2003



Wildman Harrold
Attorneys and Counselors

The European Patent Office
D-80298 Munich
GERMANY

December 18, 2003

Dear Sirs

RE: Change of Address of Representatives

In respect of the European Patent Applications and European Patents listed on the attached schedule, we request that the address of the representatives be amended on the respective files and on the Patent Register to:

Harrison Goddard Foote
40-43 Chancery Lane
London
WC2A 1JA
United Kingdom

Yours faithfully
WILDMAN HARROLD
ALLEN & DIXON LLP

MARTYN W MOLYNEAUX

CLIFFORD J WANT

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref.
00300009.8		Tektronix, Inc.	Martyn W. Molyneaux	P/1418.EP/MWM
00300122.9		Tektronix, Inc.	Martyn W. Molyneaux	P/1011.EP/MWM
00301146.7		Tektronix, Inc.	Martyn W. Molyneaux	P/1010.EP/MWM
00301859.5	1037467	Tandberg Television ASA	Martyn W. Molyneaux	P/1516.EP/MWM
00303268.7		Tektronix, Inc.	Martyn W. Molyneaux	P/1009.EP/MWM
00303540.9		Tektronix, Inc.	Martyn W. Molyneaux	P/1496.EP/MWM
00303541.7		Tektronix, Inc.	Martyn W. Molyneaux	P/1495.EP/MWM
00303677.9		Tut Systems, Inc.	Martyn W. Molyneaux	P/1497.EP/MWM
00305046.5	1063595	Tut Systems, Inc.	Martyn W. Molyneaux	P/1478.EP/MWM
00307789.8		Tandberg Television ASA	Martyn W. Molyneaux	P/1515.EP/MWM
00309649.2		Tektronix, Inc.	Martyn W. Molyneaux	P/1499.EP/MWM
00310542.6		Tektronix, Inc.	Martyn W. Molyneaux	P/1500.EP/MWM
00310543.4		Tektronix, Inc.	Martyn W. Molyneaux	P/1501.EP/MWM
00311329.7		Tektronix, Inc.	Martyn W. Molyneaux	P/1421.EP/MWM
00904181.5		Catalina Marketing International,	Martyn W. Molyneaux	P/1848.EP/MWM
00904318.3	1141892	Intel Corporation	Martyn W. Molyneaux	P/1380.EP/MWM
00904402.5		Intel Corporation	Martyn W. Molyneaux	P/1383.EP/MWM
00905568.2		LIGHTLOGIC, INC	Martyn W. Molyneaux	P/1110.EP/MWM
00908724.8		Intel Corporation	Martyn W. Molyneaux	P/1480.EP/MWM
00911683.1		Catalina Marketing International,	Martyn W. Molyneaux	P/1749.EP/MWM
00912030.4		Intel Corporation	Martyn W. Molyneaux	P/1572.EP/MWM
00912127.8		Intel Corporation	Martyn W. Molyneaux	P/1492.EP/MWM
00913225.9		Intel Corporation	Martyn W. Molyneaux	P/1381.EP/MWM
00913320.8		Catalina Marketing International,	Martyn W. Molyneaux	P/1825.EP/MWM
00913322.4		Catalina Marketing International,	Martyn W. Molyneaux	P/1678.EP/MWM
00913865.2		Intel Corporation	Martyn W. Molyneaux	P/1589.EP/MWM
00914475.9		Catalina Marketing International,	Martyn W. Molyneaux	P/1918.EP/MWM
00914476.7		Catalina Marketing International,	Martyn W. Molyneaux	P/1868.EP/MWM
00914523.6		Intel Corporation	Martyn W. Molyneaux	P/1463.EP/MWM
00915691.0		LIGHTLOGIC, INC	Martyn W. Molyneaux	P/1112.EP/MWM
00915723.1		Catalina Marketing International,	Martyn W. Molyneaux	P/1924.EP/MWM
00915769.4		Catalina Marketing International,	Martyn W. Molyneaux	P/1961.EP/MWM
00915772.8		Catalina Marketing International,	Martyn W. Molyneaux	P/1895.EP/MWM
00916273.6		Intel Corporation	Martyn W. Molyneaux	P/1580.EP/MWM
00918232.0		Intel Corporation	Martyn W. Molyneaux	P/1608.EP/MWM
00921543.5		Intel Corporation	Martyn W. Molyneaux	P/1627.EP/MWM
00922233.2		Intel Corporation	Martyn W. Molyneaux	P/1616.EP/MWM
00923352.9		Intel Corporation	Martyn W. Molyneaux	P/1628.EP/MWM
00925990.4		Intel Corporation	Martyn W. Molyneaux	P/1626.EP/MWM
00926240.3		Intel Corporation	Martyn W. Molyneaux	P/1610.EP/MWM
00928125.4		Catalina Marketing International,	Martyn W. Molyneaux	P/2048.EP/MWM
00928740.0		Intel Corporation	Martyn W. Molyneaux	P/1642.EP/MWM
00928741.8		Intel Corporation	Martyn W. Molyneaux	P/1644.EP/MWM
00928744.2		Intel Corporation	Martyn W. Molyneaux	P/1646.EP/MWM
00928746.7		Intel Corporation	Martyn W. Molyneaux	P/1625.EP/MWM
00930090.6		Intel Corporation	Martyn W. Molyneaux	P/1588.EP/MWM
00930299.3		Intel Corporation	Martyn W. Molyneaux	P/1643.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref.
00930581.4		Intel Corporation	Martyn W. Molyneaux	P/1654.EP/MWM
00930704.2		Intel Corporation	Martyn W. Molyneaux	P/1653.EP/MWM
00930815.6		Intel Corporation	Martyn W. Molyneaux	P/1664.EP/MWM
00932809.7		Intel Corporation	Martyn W. Molyneaux	P/1696.EP/MWM
00936341.7		Intel Corporation	Martyn W. Molyneaux	P/1695.EP/MWM
00938126.0		Iviewit Holdings, Inc.	Martyn W. Molyneaux	P/1740.EP/MWM
00939821.5		Intel Corporation	Martyn W. Molyneaux	P/1668.EP/MWM
00939876.9		Dialogic Corporation	Martyn W. Molyneaux	P/1734.EP/MWM
00939916.3		Intel Corporation	Martyn W. Molyneaux	P/1676.EP/MWM
00941742.9		Intel Corporation	Martyn W. Molyneaux	P/1763.EP/MWM
00943178.4		Intel Corporation	Martyn W. Molyneaux	P/1780.EP/MWM
00943364.0		Intel Corporation	Martyn W. Molyneaux	P/1782.EP/MWM
00943433.3		Intel Corporation	Martyn W. Molyneaux	P/1677.EP/MWM
00943434.1		Intel Corporation	Martyn W. Molyneaux	P/1736.EP/MWM
00944619.6		Iviewit Holdings, Inc.	Martyn W. Molyneaux	P/1739.EP/MWM
00946779.6		Dialogic Corporation	Martyn W. Molyneaux	P/1733.EP/MWM
00946792.9		Catalina Marketing International,	Martyn W. Molyneaux	P/1966.EP/MWM
00946793.7		Catalina Marketing International,	Martyn W. Molyneaux	P/2103.EP/MWM
00948225.8	1201108	Xsil Technology Limited	CLIFFORD J. WANT	P/1963.EP/CJW
00952318.4		Catalina Marketing International,	Martyn W. Molyneaux	P/1965.EP/MWM
00952513.0		Intel Corporation	Martyn W. Molyneaux	P/1781.EP/MWM
00955352.0		Iviewit Holdings, Inc.	Martyn W. Molyneaux	P/1783.EP/MWM
00955748.9		Intel Corporation	Martyn W. Molyneaux	P/1820.EP/MWM
00957587.9		Intel Corporation	Martyn W. Molyneaux	P/1818.EP/MWM
00957591.1		Intel Corporation	Martyn W. Molyneaux	P/1838.EP/MWM
00957939.2		Intel Corporation	Martyn W. Molyneaux	P/1846.EP/MWM
00959429.2		Catalina Marketing International,	Martyn W. Molyneaux	P/2134.EP/MWM
00961342.3		Intel Corporation	Martyn W. Molyneaux	P/1819.EP/MWM
00964904.7		Catalina Marketing International,	Martyn W. Molyneaux	P/1869.EP/MWM
00966958.1		Intel Corporation	Martyn W. Molyneaux	P/1874.EP/MWM
00966977.1		Intel Corporation	Martyn W. Molyneaux	P/1861.EP/MWM
00967130.6		Intel Corporation	Martyn W. Molyneaux	P/1884.EP/MWM
00968155.2		Tsunami Photonics Limited	CLIFFORD J. WANT	P/1804.EP/CJW
00970828.0		Intel Corporation	Martyn W. Molyneaux	P/1925.EP/MWM
00970895.9		Intel Corporation	Martyn W. Molyneaux	P/1909.EP/MWM
00970896.7		Intel Corporation	Martyn W. Molyneaux	P/1910.EP/MWM
00973382.5		Catalina Marketing International,	Martyn W. Molyneaux	P/2185.EP/MWM
00973686.9		Intel Corporation	Martyn W. Molyneaux	P/1917.EP/MWM
00973879.0		Intel Corporation	Martyn W. Molyneaux	P/1934.EP/MWM
00973889.9		Intel Corporation	Martyn W. Molyneaux	P/1933.EP/MWM
00975190.0		Intel Corporation	Martyn W. Molyneaux	P/1858.EP/MWM
00978748.2		Catalina Marketing International,	Martyn W. Molyneaux	P/2193.EP/MWM
00978851.4		Intel Corporation	Martyn W. Molyneaux	P/1931.EP/MWM
00978853.0		Intel Corporation	Martyn W. Molyneaux	P/1972.EP/MWM
00980272.9		Catalina Marketing International,	Martyn W. Molyneaux	P/2133.EP/MWM
00980661.3		Catalina Marketing International,	Martyn W. Molyneaux	P/2132.EP/MWM
00980846.0		Catalina Marketing International,	Martyn W. Molyneaux	P/2147.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref
00980847.8		Catalina Marketing International,	Martyn W. Molyneaux	P/2225.EP/MWM
00982256.0		Catalina Marketing International,	Martyn W. Molyneaux	P/2131.EP/MWM
00982593.6		Intel Corporation	Martyn W. Molyneaux	P/1862.EP/MWM
00982616.5		Intel Corporation	Martyn W. Molyneaux	P/1866.EP/MWM
00984926.6		GIGA APS	Martyn W. Molyneaux	P/1968.EP/MWM
00986289.7		Supermarkets Online, Inc.	Martyn W. Molyneaux	P/2237.EP/MWM
00989652.3		Intel Corporation	Martyn W. Molyneaux	P/1903.EP/MWM
00989661.4		Intel Corporation	Martyn W. Molyneaux	P/1932.EP/MWM
00989667.1		Intel Corporation	Martyn W. Molyneaux	P/1886.EP/MWM
00989714.1		Intel Corporation	Martyn W. Molyneaux	P/1941.EP/MWM
00990187.7		Intel Corporation	Martyn W. Molyneaux	P/1969.EP/MWM
00992156.0		Intel Corporation	Martyn W. Molyneaux	P/1971.EP/MWM
00992157.8		Intel Corporation	Martyn W. Molyneaux	P/1970.EP/MWM
00992247.7		Intel Corporation	Martyn W. Molyneaux	P/1973.EP/MWM
00992769.0		Praful Doshi	CLIFFORD J. WANT	P/1863.EP/CJW
01270830.1		Intel Corporation	Martyn W. Molyneaux	P/2345.EP/MWM
01272454.8		Intel Corporation	Martyn W. Molyneaux	P/2352.EP/MWM
01272455.5		Intel Corporation	Martyn W. Molyneaux	P/2406.EP/MWM
01272461.3		Intel Corporation	Martyn W. Molyneaux	P/2389.EP/MWM
01272463.9		Intel Corporation	Martyn W. Molyneaux	P/2353.EP/MWM
01272472.0		Intel Corporation	Martyn W. Molyneaux	P/2354.EP/MWM
01273024.8		Intel Corporation	Martyn W. Molyneaux	P/2422.EP/MWM
01273025.5		Intel Corporation	Martyn W. Molyneaux	P/2423.EP/MWM
01273029.7		Intel Corporation	Martyn W. Molyneaux	P/2429.EP/MWM
01273031.3		Intel Corporation	Martyn W. Molyneaux	P/2430.EP/MWM
01274107.0		Intel Corporation	Martyn W. Molyneaux	P/2371.EP/MWM
01300839.6		Tektronix, Inc.	Martyn W. Molyneaux	P/1502.EP/MWM
01301751.2		Tektronix, Inc.	Martyn W. Molyneaux	P/1426.EP/MWM
01301929.4		Tektronix, Inc.	Martyn W. Molyneaux	P/1427.EP/MWM
01301932.8	1132720	Tektronix, Inc.	Martyn W. Molyneaux	P/1428.EP/MWM
01301964.1		Tektronix, Inc.	Martyn W. Molyneaux	P/1415.EP/MWM
01301968.2		Tut Systems, Inc.	Martyn W. Molyneaux	P/1460.EP/MWM
01301969.0		Tektronix, Inc.	Martyn W. Molyneaux	P/1413.EP/MWM
01302234.8		Tektronix, Inc.	Martyn W. Molyneaux	P/1564.EP/MWM
01302235.5		Tektronix, Inc.	Martyn W. Molyneaux	P/1565.EP/MWM
01304010.0		Tektronix, Inc.	Martyn W. Molyneaux	P/1503.EP/MWM
01304430.0		Braitrim Deutschland GmbH	CLIFFORD J. WANT	P/2297.EP/CJW
01305946.4		Tektronix, Inc.	Martyn W. Molyneaux	P/1003.EP/MWM
01305956.3		Tut Systems, Inc.	Martyn W. Molyneaux	P/1002.EP/MWM
01305957.1		Tektronix, Inc.	Martyn W. Molyneaux	P/1001.EP/MWM
01306291.4		Tektronix, Inc.	Martyn W. Molyneaux	P/1004.EP/MWM
01306348.2		Tektronix, Inc.	Martyn W. Molyneaux	P/1005.EP/MWM
01306680.8		Tektronix, Inc.	Martyn W. Molyneaux	P/1006.EP/MWM
01306946.3		Tektronix, Inc.	Martyn W. Molyneaux	P/1007.EP/MWM
01307517.1		Tektronix, Inc.	Martyn W. Molyneaux	P/1008.EP/MWM
01308791.1		Tektronix, Inc.	Martyn W. Molyneaux	P/1606.EP/MWM
01310572.1		Tandberg Television ASA	Martyn W. Molyneaux	P/1422.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J. Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref.
01903353.9		Intel Corporation	Martyn W. Molyneaux	P/1975.EP/MWM
01903354.7		Intel Corporation	Martyn W. Molyneaux	P/1974.EP/MWM
01906553.1		Catalina Marketing International,	Martyn W. Molyneaux	P/2293.EP/MWM
01907161.2		Anadys Pharmaceuticals, Inc.	CLIFFORD J. WANT	P/1977.EP/CJW
01908594.3		Catalina Marketing International,	Martyn W. Molyneaux	P/2284.EP/MWM
01909227.9		Intel Corporation	Martyn W. Molyneaux	P/1987.EP/MWM
01911197.0		Catalina Marketing International,	Martyn W. Molyneaux	P/2327.EP/MWM
01914728.9		Intel Corporation	Martyn W. Molyneaux	P/2072.EP/MWM
01915610.8		Catalina Marketing International,	Martyn W. Molyneaux	P/1543.EP/MWM
01916440.9		Intel Corporation	Martyn W. Molyneaux	P/2059.EP/MWM
01916628.9		Intel Corporation	Martyn W. Molyneaux	P/2073.EP/MWM
01918207.0		Intel Corporation	Martyn W. Molyneaux	P/2041.EP/MWM
01918404.3		Intel Corporation	Martyn W. Molyneaux	P/2060.EP/MWM
01918405.0		Intel Corporation	Martyn W. Molyneaux	P/2042.EP/MWM
01918633.7		Intel Corporation	Martyn W. Molyneaux	P/2074.EP/MWM
01920352.0		Active Motif	CLIFFORD J. WANT	P/2022.EP/CJW
01922404.7		Intel Corporation	Martyn W. Molyneaux	P/2070.EP/MWM
01922940.0		Intel Corporation	Martyn W. Molyneaux	P/2068.EP/MWM
01922941.8		Intel Corporation	Martyn W. Molyneaux	P/2075.EP/MWM
01923116.6		Intel Corporation	Martyn W. Molyneaux	P/2079.EP/MWM
01923292.5		Anadys Pharmaceuticals, Inc.	CLIFFORD J. WANT	P/1976.EP/CJW
01924523.2		Intel Corporation	Martyn W. Molyneaux	P/2066.EP/MWM
01926384.7		Catalina Marketing International,	Martyn W. Molyneaux	P/2366.EP/MWM
01926520.6		Intel Corporation	Martyn W. Molyneaux	P/2067.EP/MWM
01926865.5		Puracyp	CLIFFORD J. WANT	P/2056.EP/CJW
01930417.9		Intel Corporation	Martyn W. Molyneaux	P/2071.EP/MWM
01933071.1		Catalina Marketing International,	Martyn W. Molyneaux	P/2069.EP/MWM
01933074.5		Catalina Marketing International,	Martyn W. Molyneaux	P/2081.EP/MWM
01933134.7		Catalina Marketing International,	Martyn W. Molyneaux	P/2080.EP/MWM
01933135.4		Catalina Marketing International,	Martyn W. Molyneaux	P/2076.EP/MWM
01933200.6		Catalina Marketing International,	Martyn W. Molyneaux	P/2109.EP/MWM
01933204.8		Catalina Marketing International,	Martyn W. Molyneaux	P/2078.EP/MWM
01935169.1		Catalina Marketing International,	Martyn W. Molyneaux	P/2105.EP/MWM
01939587.0		Intel Corporation	Martyn W. Molyneaux	P/2154.EP/MWM
01939847.8		Intel Corporation	Martyn W. Molyneaux	P/2089.EP/MWM
01939877.5		Intel Corporation	Martyn W. Molyneaux	P/2121.EP/MWM
01941818.5		Intel Corporation	Martyn W. Molyneaux	P/2149.EP/MWM
01942135.3		Intel Corporation	Martyn W. Molyneaux	P/2102.EP/MWM
01942144.5		Intel Corporation	Martyn W. Molyneaux	P/2113.EP/MWM
01944231.8		Intel Corporation	Martyn W. Molyneaux	P/2152.EP/MWM
01944326.6		Intel Corporation	Martyn W. Molyneaux	P/2097.EP/MWM
01944402.5		Intel Corporation	Martyn W. Molyneaux	P/2148.EP/MWM
01944413.2		Intel Corporation	Martyn W. Molyneaux	P/2101.EP/MWM
01944510.5		Catalina Marketing International,	Martyn W. Molyneaux	P/2110.EP/MWM
01944542.8		Intel Corporation	Martyn W. Molyneaux	P/2122.EP/MWM
01944572.5		Intel Corporation	Martyn W. Molyneaux	P/2143.EP/MWM
01944573.3		Intel Corporation	Martyn W. Molyneaux	P/2153.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref
01944574.1		Intel Corporation	Martyn W. Molyneaux	P/2156.EP/MWM
01946207.6		Intel Corporation	Martyn W. Molyneaux	P/2144.EP/MWM
01946437.9		Intel Corporation	Martyn W. Molyneaux	P/2151.EP/MWM
01946471.8		Intel Corporation	Martyn W. Molyneaux	P/2126.EP/MWM
01948309.8		Intel Corporation	Martyn W. Molyneaux	P/2096.EP/MWM
01948313.0		Intel Corporation	Martyn W. Molyneaux	P/2111.EP/MWM
01948405.4		Intel Corporation	Martyn W. Molyneaux	P/2155.EP/MWM
01948456.7		Intel Corporation	Martyn W. Molyneaux	P/2112.EP/MWM
01948600.0		Intel Corporation	Martyn W. Molyneaux	P/2107.EP/MWM
01948645.5		Intel Corporation	Martyn W. Molyneaux	P/2106.EP/MWM
01948666.1		Intel Corporation	Martyn W. Molyneaux	P/2165.EP/MWM
01954831.2		Intel Corporation	Martyn W. Molyneaux	P/2163.EP/MWM
01956104.2		Braddock, Walter David IV	Martyn W. Molyneaux	P/2174.EP/MWM
01957515.8		Intel Corporation	Martyn W. Molyneaux	P/2201.EP/MWM
01959275.7		Intel Corporation	Martyn W. Molyneaux	P/2200.EP/MWM
01959749.1		Intel Corporation	Martyn W. Molyneaux	P/2202.EP/MWM
01959951.3		Intel Corporation	Martyn W. Molyneaux	P/1997.EP/MWM
01962185.3		Intel Corporation	Martyn W. Molyneaux	P/2186.EP/MWM
01962212.5		Intel Corporation	Martyn W. Molyneaux	P/2209.EP/MWM
01963936.8		Braddock, Walter David IV	Martyn W. Molyneaux	P/2176.EP/MWM
01964189.3		Intel Corporation	Martyn W. Molyneaux	P/2208.EP/MWM
01965879.8		Intel Corporation	Martyn W. Molyneaux	P/2203.EP/MWM
01967960.4		Braddock, Walter David IV	Martyn W. Molyneaux	P/2175.EP/MWM
01968553.6		Intel Corporation	Martyn W. Molyneaux	P/2230.EP/MWM
01970637.3		Intel Corporation	Martyn W. Molyneaux	P/2228.EP/MWM
01971192.8		Intel Corporation	Martyn W. Molyneaux	P/2220.EP/MWM
01971304.9		Intel Corporation	Martyn W. Molyneaux	P/2244.EP/MWM
01973338.5		Intel Corporation	Martyn W. Molyneaux	P/2240.EP/MWM
01973579.4		Intel Corporation	Martyn W. Molyneaux	P/2259.EP/MWM
01973593.5		Intel Corporation	Martyn W. Molyneaux	P/2248.EP/MWM
01973596.8		Intel Corporation	Martyn W. Molyneaux	P/2242.EP/MWM
01973598.4		Intel Corporation	Martyn W. Molyneaux	P/2243.EP/MWM
01973599.2		Intel Corporation	Martyn W. Molyneaux	P/2256.EP/MWM
01973711.3		Intel Corporation	Martyn W. Molyneaux	P/2229.EP/MWM
01975185.8		Catalina Marketing International	Martyn W. Molyneaux	P/2260.EP/MWM
01975186.6		Catalina Marketing International	Martyn W. Molyneaux	P/2261.EP/MWM
01975434.0		Intel Corporation	Martyn W. Molyneaux	P/2245.EP/MWM
01975435.7		Intel Corporation	Martyn W. Molyneaux	P/2241.EP/MWM
01975497.7		Intel Corporation	Martyn W. Molyneaux	P/2258.EP/MWM
01975518.0		Intel Corporation	Martyn W. Molyneaux	P/2249.EP/MWM
01975521.4		Intel Corporation	Martyn W. Molyneaux	P/2257.EP/MWM
01975753.3		IOSPAN WIRELESS, INC	Martyn W. Molyneaux	P/2289.EP/MWM
01977196.3		Intel Corporation	Martyn W. Molyneaux	P/2247.EP/MWM
01978765.4		Johann Springer	Martyn W. Molyneaux	P/1599.EP/MWM
01978768.8		Xsil Technology Limited	CLIFFORD J. WANT	P/2003.EP/CJW
01978769.6		Xsil Technology Limited	CLIFFORD J. WANT	P/2006.EP2/CJW
01979271.2		Intel Corporation	Martyn W. Molyneaux	P/2238.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref.
01979481.7		Intel Corporation	Martyn W. Molyneaux	P/2275.EP/MWM
01979711.7		Intel Corporation	Martyn W. Molyneaux	P/2276.EP/MWM
01983213.8		Prismmedia Networks, Inc	Martyn W. Molyneaux	P/2302.EP/MWM
01985959.4		Prismmedia Networks, Inc	Martyn W. Molyneaux	P/2300.EP/MWM
01986210.1		Intel Corporation	Martyn W. Molyneaux	P/2311.EP/MWM
01986469.3		Intel Corporation	Martyn W. Molyneaux	P/2393.EP/MWM
01986481.8		Intel Corporation	Martyn W. Molyneaux	P/2361.EP/MWM
01986547.6		Intel Corporation	Martyn W. Molyneaux	P/2435.EP/MWM
01986554.2		Intel Corporation	Martyn W. Molyneaux	P/2434.EP/MWM
01987145.8		Intel Corporation	Martyn W. Molyneaux	P/2428.EP/MWM
01987460.1		Intel Corporation	Martyn W. Molyneaux	P/2436.EP/MWM
01988170.5		Intel Corporation	Martyn W. Molyneaux	P/2347.EP/MWM
01988907.0		Catalina Marketing International,	Martyn W. Molyneaux	P/2283.EP/MWM
01989004.5		Prismmedia Networks, Inc	Martyn W. Molyneaux	P/2301.EP/MWM
01989267.8		Intel Corporation	Martyn W. Molyneaux	P/2437.EP/MWM
01989795.8		Intel Corporation	Martyn W. Molyneaux	P/2346.EP/MWM
01991519.8		Intel Corporation	Martyn W. Molyneaux	P/2320.EP/MWM
01991603.0		Intel Corporation	Martyn W. Molyneaux	P/2367.EP/MWM
01991996.8		Catalina Marketing International,	Martyn W. Molyneaux	P/2232.EP/MWM
01992133.7		Nokia Intelligent Edge Routers In	Martyn W. Molyneaux	P/2359.EP/MWM
01992402.6		Intel Corporation	Martyn W. Molyneaux	P/2427.EP/MWM
01993091.6		Intel Corporation	Martyn W. Molyneaux	P/2310.EP/MWM
01994387.7		Intel Corporation	Martyn W. Molyneaux	P/2344.EP/MWM
01995262.1		Catalina Marketing International,	Martyn W. Molyneaux	P/2335.EP/MWM
01995886.7		Intel Corporation	Martyn W. Molyneaux	P/2425.EP/MWM
01995996.4		Intel Corporation	Martyn W. Molyneaux	P/2370.EP/MWM
01996068.1		Intel Corporation	Martyn W. Molyneaux	P/2318.EP/MWM
01998010.1		Intel Corporation	Martyn W. Molyneaux	P/2392.EP/MWM
01998067.1		Chameleon Systems, Inc.	Martyn W. Molyneaux	P/2336.EP/MWM
01998106.7		Intel Corporation	Martyn W. Molyneaux	P/2391.EP/MWM
01998899.7		Intel Corporation	Martyn W. Molyneaux	P/2319.EP/MWM
02250180.3		Tektronix, Inc.	Martyn W. Molyneaux	P/1750.EP/MWM
02250633.1		Tektronix, Inc.	Martyn W. Molyneaux	P/1772.EP/MWM
02250881.6		Tektronix, Inc.	Martyn W. Molyneaux	P/1773.EP/MWM
02252037.3		Tektronix, Inc.	Martyn W. Molyneaux	P/1843.EP/MWM
02252390.6		Trilogy Broadcast (Holdings) Ltd	Martyn W. Molyneaux	P/1474.EP/MWM
02252429.2		Tektronix, Inc.	Martyn W. Molyneaux	P/1844.EP/MWM
02254993.5		Tektronix, Inc.	Martyn W. Molyneaux	P/1957.EP/MWM
02256384.5		Tektronix, Inc.	Martyn W. Molyneaux	P/2004.EP/MWM
02257962.7		Tektronix, Inc.	Martyn W. Molyneaux	P/2087.EP/MWM
02700852.3		G-intek Co., Ltd.	Martyn W. Molyneaux	P/2321.EP/MWM
02701927.2		Intel Corporation	Martyn W. Molyneaux	P/2441.EP/MWM
02703307.5		Intel Corporation	Martyn W. Molyneaux	P/2468.EP/MWM
02704454.4		Intel Corporation	Martyn W. Molyneaux	P/2492.EP/MWM
02704966.7		Tandberg Television ASA	Martyn W. Molyneaux	P/1423.EP/MWM
02705811.4		Catalina Marketing International,	Martyn W. Molyneaux	P/2307.EP/MWM
02706474.0		Intel Corporation	Martyn W. Molyneaux	P/2479.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref
02707931.8		Intel Corporation	Martyn W. Molyneaux	P/2497.EP/MWM
02708490.4		Tandberg Television ASA	Martyn W. Molyneaux	P/1425.EP/MWM
02708601.6		Xsil Technology Limited	CLIFFORD J. WANT	P/2008.EP2/CJW
02709611.4		Intel Corporation	Martyn W. Molyneaux	P/2461.EP/MWM
02709618.9		Catalina Marketing International,	Martyn W. Molyneaux	P/2477.EP/MWM
02713638.1		Intel Corporation	Martyn W. Molyneaux	P/2498.EP/MWM
02717343.4		Catalina Marketing International,	Martyn W. Molyneaux	P/2306.EP/MWM
02717602.3		Intel Corporation	Martyn W. Molyneaux	P/2511.EP/MWM
02717699.9		Intel Corporation	Martyn W. Molyneaux	P/2493.EP/MWM
02718956.2		Intel Corporation	Martyn W. Molyneaux	P/2480.EP/MWM
02719405.9		Intel Corporation	Martyn W. Molyneaux	P/2508.EP/MWM
02719406.7		Intel Corporation	Martyn W. Molyneaux	P/2509.EP/MWM
02720159.9		Patrick Kerr	CLIFFORD J. WANT	P/1832.EP/CJW
02720229.0		Tandberg Television ASA	Martyn W. Molyneaux	P/1429.EP/MWM
02721221.6		Intel Corporation	Martyn W. Molyneaux	P/2490.EP/MWM
02721303.2		Intel Corporation	Martyn W. Molyneaux	P/2503.EP/MWM
02721304.0		Intel Corporation	Martyn W. Molyneaux	P/2502.EP/MWM
02721543.3		Intel Corporation	Martyn W. Molyneaux	P/2499.EP/MWM
02725358.2		Catalina Marketing International,	Martyn W. Molyneaux	P/2496.EP/MWM
02725662.7		Intel Corporation	Martyn W. Molyneaux	P/2529.EP/MWM
02729120.2		Intel Corporation	Martyn W. Molyneaux	P/2530.EP/MWM
02729197.0		Catalina Marketing International,	Martyn W. Molyneaux	P/2559.EP/MWM
02731090.3		TRANSPARENT NETWORKS, INC	Martyn W. Molyneaux	P/2487.EP/MWM
02734789.7		Intel Corporation	Martyn W. Molyneaux	P/2528.EP/MWM
02757131.4		Catalina Marketing International,	Martyn W. Molyneaux	P/2129.EP/MWM
02757801.2		Intel Corporation	Martyn W. Molyneaux	P/2506.EP/MWM
02757802.0		Intel Corporation	Martyn W. Molyneaux	P/2507.EP/MWM
02775836.6		Chameleon Systems, Inc.	Martyn W. Molyneaux	P/2342.EP/MWM
03000814.8		Intel Corporation	Martyn W. Molyneaux	P/1146.EPD/MWM
03011042.3		Intel Corporation	Martyn W. Molyneaux	P/1318.EPD/MWM
03013360.7		Intel Corporation	Martyn W. Molyneaux	P/1115.EPD/MWM
03250188.4		Tektronix, Inc.	Martyn W. Molyneaux	P/2099.EP/MWM
03250687.5		Tektronix, Inc.	Martyn W. Molyneaux	P/2166.EP/MWM
03252223.7		Tektronix, Inc.	Martyn W. Molyneaux	P/2271.EP/MWM
03252224.5		Tektronix, Inc.	Martyn W. Molyneaux	P/2270.EP/MWM
03252637.8		Waterson Corp.	Martyn W. Molyneaux	P/2299.EP/MWM
03252815.0		Kintech Technology Co., Ltd	Martyn W. Molyneaux	P/2309.EP/MWM
03253114.7		Tektronix, Inc.	Martyn W. Molyneaux	P/2324.EP/MWM
03254471.0		Tektronix, Inc.	Martyn W. Molyneaux	P/2415.EP/MWM
03254657.4		Tektronix, Inc.	Martyn W. Molyneaux	P/2416.EP/MWM
03255116.0		Tektronix, Inc.	Martyn W. Molyneaux	P/2456.EP/MWM
03255622.7		Tektronix, Inc.	Martyn W. Molyneaux	P/2482.EP/MWM
03255697.9		Tektronix International Sales Gmb	Martyn W. Molyneaux	P/2026.EP/MWM
03256155.7		Intel Corporation	Martyn W. Molyneaux	P/2485.EP/MWM
03256156.5		Intel Corporation	Martyn W. Molyneaux	P/2486.EP/MWM
03257152.3		Tektronix, Inc.	Martyn W. Molyneaux	P/2541.EP/MWM
95906202.7		Catalina Marketing International,	Martyn W. Molyneaux	P/1761.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref:
97305408.3		Tektronix, Inc.	Martyn W. Molyneaux	P/1511.EP/MWM
97904264.5		Intel Corporation	Martyn W. Molyneaux	P/1117.EP/MWM
97904266.0		Intel Corporation	Martyn W. Molyneaux	P/1118.EP/MWM
97915072.9		Intel Corporation	Martyn W. Molyneaux	P/1126.EP/MWM
97915881.3		Intel Corporation	Martyn W. Molyneaux	P/1127.EP/MWM
97915900.1	0890260	Intel Corporation	Martyn W. Molyneaux	P/1123.EP/MWM
97915945.6	0954778	Intel Corporation	Martyn W. Molyneaux	P/1124.EP/MWM
97916777.2		Intel Corporation	Martyn W. Molyneaux	P/1115.EP/MWM
97928811.5		Intel Corporation	Martyn W. Molyneaux	P/1130.EP/MWM
97930056.3	0972251	Intel Corporation	Martyn W. Molyneaux	P/1140.EP/MWM
97931181.8		Intel Corporation	Martyn W. Molyneaux	P/1132.EP/MWM
97932317.7		Intel Corporation	Martyn W. Molyneaux	P/1142.EP/MWM
97933372.1	0958538	Intel Corporation	Martyn W. Molyneaux	P/1150.EP/MWM
97933375.4		Intel Corporation	Martyn W. Molyneaux	P/1145.EP/MWM
97933507.2		Intel Corporation	Martyn W. Molyneaux	P/1154.EP/MWM
97936473.4		Intel Corporation	Martyn W. Molyneaux	P/1171.EP/MWM
97937177.0		Intel Corporation	Martyn W. Molyneaux	P/1206.EP/MWM
97937329.7		Intel Corporation	Martyn W. Molyneaux	P/1165.EP/MWM
97940827.5	1019821	Intel Corporation	Martyn W. Molyneaux	P/1147.EP/MWM
97942628.5	0931289	Intel Corporation	Martyn W. Molyneaux	P/1148.EP/MWM
97944556.6		Intel Corporation	Martyn W. Molyneaux	P/1081.EP/MWM
97945363.6		Intel Corporation	Martyn W. Molyneaux	P/1172.EP/MWM
97946823.8		Tektronix Japan, Ltd	Martyn W. Molyneaux	P/2279.EP/MWM
97948426.8		Intel Corporation	Martyn W. Molyneaux	P/1177.EP/MWM
97949528.0		Intel Corporation	Martyn W. Molyneaux	P/1176.EP/MWM
97949605.6		Intel Corporation	Martyn W. Molyneaux	P/1053.EP/MWM
97950723.3		Intel Corporation	Martyn W. Molyneaux	P/1179.EP/MWM
97951664.8		Intel Corporation	Martyn W. Molyneaux	P/1178.EP/MWM
97952315.6		Intel Corporation	Martyn W. Molyneaux	P/1230.EP/MWM
97952460.0		Intel Corporation	Martyn W. Molyneaux	P/1180.EP/MWM
97952514.4	0966722	Intel Corporation	Martyn W. Molyneaux	P/1056.EP/MWM
97952516.9	0947097	Intel Corporation	Martyn W. Molyneaux	P/1181.EP/MWM
97953136.5		Intel Corporation	Martyn W. Molyneaux	P/1058.EP/MWM
97953276.9		Intel Corporation	Martyn W. Molyneaux	P/1055.EP/MWM
97954063.0		Intel Corporation	Martyn W. Molyneaux	P/1061.EP/MWM
97954248.7		Intel Corporation	Martyn W. Molyneaux	P/1051.EP/MWM
98302630.3	0870454	Braitrim (UK) Ltd	CLIFFORD J. WANT	P/2323.EP/CJW
98304221.9	0882993	Tempo Research Corporation	Martyn W. Molyneaux	P/1525.EP/MWM
98304517.0		Tektronix, Inc.	Martyn W. Molyneaux	P/1416.EP/MWM
98307483.2		Tektronix, Inc.	Martyn W. Molyneaux	P/1529.EP/MWM
98307488.1	0909028	Tektronix, Inc.	Martyn W. Molyneaux	P/1519.EP/MWM
98308441.9	0911638	Tektronix, Inc.	Martyn W. Molyneaux	P/1406.EP/MWM
98901096.2		Tektronix Japan, Ltd	Martyn W. Molyneaux	P/2280.EP/MWM
98901213.3	0970464	Intel Corporation	Martyn W. Molyneaux	P/1109.EP/MWM
98901757.9		Intel Corporation	Martyn W. Molyneaux	P/1044.EP/MWM
98903784.1		Intel Corporation	Martyn W. Molyneaux	P/1190.EP/MWM
98906115.5		Intel Corporation	Martyn W. Molyneaux	P/1113.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want. Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref
98909013.9	0965121	Intel Corporation	Martyn W. Molyneaux	P/1107.EP/MWM
98911767.6		Intel Corporation	Martyn W. Molyneaux	P/1187.EP/MWM
98913144.6		Intel Corporation	Martyn W. Molyneaux	P/1188.EP/MWM
98914261.7		Intel Corporation	Martyn W. Molyneaux	P/1189.EP/MWM
98914296.3		Intel Corporation	Martyn W. Molyneaux	P/1111.EP/MWM
98914552.9		Intel Corporation	Martyn W. Molyneaux	P/1191.EP/MWM
98918181.3		Intel Corporation	Martyn W. Molyneaux	P/1289.EP/MWM
98919783.5	0976036	Intel Corporation	Martyn W. Molyneaux	P/1192.EP/MWM
98925219.2		Intel Corporation	Martyn W. Molyneaux	P/1197.EP/MWM
98930284.9		Intel Corporation	Martyn W. Molyneaux	P/1202.EP/MWM
98932898.4		Intel Corporation	Martyn W. Molyneaux	P/1198.EP/MWM
98933209.3		Intel Corporation	Martyn W. Molyneaux	P/1082.EP/MWM
98934188.8		Intel Corporation	Martyn W. Molyneaux	P/1219.EP/MWM
98934260.5		Intel Corporation	Martyn W. Molyneaux	P/1203.EP/MWM
98934508.7		Intel Corporation	Martyn W. Molyneaux	P/1077.EP/MWM
98934611.9		Intel Corporation	Martyn W. Molyneaux	P/1064.EP/MWM
98934643.2		Intel Corporation	Martyn W. Molyneaux	P/1213.EP/MWM
98934644.0		Intel Corporation	Martyn W. Molyneaux	P/1211.EP/MWM
98935699.3		Intel Corporation	Martyn W. Molyneaux	P/1216.EP/MWM
98935769.4		Intel Corporation	Martyn W. Molyneaux	P/1204.EP/MWM
98936540.8	1025703	Tandberg Television ASA	Martyn W. Molyneaux	P/1509.EP/MWM
98936809.7		Intel Corporation	Martyn W. Molyneaux	P/1084.EP/MWM
98937166.1	1010062	Intel Corporation	Martyn W. Molyneaux	P/1205.EP/MWM
98937959.9		Intel Corporation	Martyn W. Molyneaux	P/1208.EP/MWM
98937980.5		Intel Corporation	Martyn W. Molyneaux	P/1207.EP/MWM
98941014.7		Catalina Marketing International	Martyn W. Molyneaux	P/1419.EP/MWM
98942208.4		Intel Corporation	Martyn W. Molyneaux	P/1098.EP/MWM
98943290.1		Catalina Marketing International	Martyn W. Molyneaux	P/1420.EP/MWM
98943307.3		Intel Corporation	Martyn W. Molyneaux	P/1100.EP/MWM
98943411.3		Intel Corporation	Martyn W. Molyneaux	P/1221.EP/MWM
98946111.6		Intel Corporation	Martyn W. Molyneaux	P/1218.EP/MWM
98946118.1		Intel Corporation	Martyn W. Molyneaux	P/1105.EP/MWM
98947109.9		Intel Corporation	Martyn W. Molyneaux	P/1217.EP/MWM
98953560.4		Intel Corporation	Martyn W. Molyneaux	P/1101.EP/MWM
98953567.9		Intel Corporation	Martyn W. Molyneaux	P/1102.EP/MWM
98955143.7		Intel Corporation	Martyn W. Molyneaux	P/1244.EP/MWM
98956607.0		Intel Corporation	Martyn W. Molyneaux	P/1231.EP/MWM
98956672.4		Intel Corporation	Martyn W. Molyneaux	P/1245.EP/MWM
98956688.0	1034664	Intel Corporation	Martyn W. Molyneaux	P/1222.EP/MWM
98957522.0		Intel Corporation	Martyn W. Molyneaux	P/1241.EP/MWM
98957991.7		Intel Corporation	Martyn W. Molyneaux	P/1227.EP/MWM
98957992.5		Intel Corporation	Martyn W. Molyneaux	P/1232.EP/MWM
98957993.3		Intel Corporation	Martyn W. Molyneaux	P/1228.EP/MWM
98958504.7		Intel Corporation	Martyn W. Molyneaux	P/1226.EP/MWM
98960606.6		Intel Corporation	Martyn W. Molyneaux	P/1248.EP/MWM
98961863.2		Intel Corporation	Martyn W. Molyneaux	P/1259.EP/MWM
98962023.2	1044413	Intel Corporation	Martyn W. Molyneaux	P/1233.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref:
98962834.2		Intel Corporation	Martyn W. Molyneaux	P/1223.EP/MWM
98963290.6		Intel Corporation	Martyn W. Molyneaux	P/1257.EP/MWM
98963873.9		Intel Corporation	Martyn W. Molyneaux	P/1239.EP/MWM
98963874.7		Intel Corporation	Martyn W. Molyneaux	P/1240.EP/MWM
98963902.6		Intel Corporation	Martyn W. Molyneaux	P/1246.EP/MWM
98963903.4		Intel Corporation	Martyn W. Molyneaux	P/1238.EP/MWM
98963959.6		Intel Corporation	Martyn W. Molyneaux	P/1247.EP/MWM
98964110.5	1038405	Intel Corporation	Martyn W. Molyneaux	P/1242.EP/MWM
98964188.1		Intel Corporation	Martyn W. Molyneaux	P/1235.EP/MWM
98964241.8		Intel Corporation	Martyn W. Molyneaux	P/1236.EP/MWM
98964295.4		Intel Corporation	Martyn W. Molyneaux	P/1251.EP/MWM
98964801.9		Intel Corporation	Martyn W. Molyneaux	P/1264.EP/MWM
98964908.2		Intel Corporation	Martyn W. Molyneaux	P/1237.EP/MWM
98964909.0		Intel Corporation	Martyn W. Molyneaux	P/1249.EP/MWM
98966115.2		Intel Corporation	Martyn W. Molyneaux	P/1258.EP/MWM
98966463.6		Intel Corporation	Martyn W. Molyneaux	P/1250.EP/MWM
98966750.6		Intel Corporation	Martyn W. Molyneaux	P/1255.EP/MWM
98966751.4		Intel Corporation	Martyn W. Molyneaux	P/1256.EP/MWM
99115116.8		Tektronix Japan, Ltd	Martyn W. Molyneaux	P/2281.EP/MWM
99117373.3		Tektronix Japan, Ltd	Martyn W. Molyneaux	P/2282.EP/MWM
99200597.5		Tandberg Television ASA	Martyn W. Molyneaux	P/1582.EP/MWM
99200599.1		Tandberg Television ASA	Martyn W. Molyneaux	P/1581.EP/MWM
99202208.7		Tandberg Television ASA	Martyn W. Molyneaux	P/1504.EP/MWM
99202925.6	0986264	Tandberg Television ASA	Martyn W. Molyneaux	P/1520.EP/MWM
99202926.4		Tandberg Television ASA	Martyn W. Molyneaux	P/1506.EP/MWM
99300505.7	0932045	Tektronix, Inc.	Martyn W. Molyneaux	P/1404.EP/MWM
99300552.9		Tut Systems, Inc.	Martyn W. Molyneaux	P/1400.EP/MWM
99300553.7	0936816	Tut Systems, Inc.	Martyn W. Molyneaux	P/1401.EP/MWM
99300611.3		Tut Systems, Inc.	Martyn W. Molyneaux	P/1417.EP/MWM
99300969.5	0939557	Tektronix, Inc.	Martyn W. Molyneaux	P/1405.EP/MWM
99301365.5		Tektronix, Inc.	Martyn W. Molyneaux	P/1033.EP/MWM
99301367.1	0940889	Tektronix, Inc.	Martyn W. Molyneaux	P/1032.EP/MWM
99302046.0		Intel Corporation	Martyn W. Molyneaux	P/1153.EP/MWM
99302335.7		Intel Corporation	Martyn W. Molyneaux	P/1163.EP/MWM
99302379.5		Intel Corporation	Martyn W. Molyneaux	P/1161.EP/MWM
99304795.0	0967811	Tektronix, Inc.	Martyn W. Molyneaux	P/1027.EP/MWM
99305732.2		Tektronix, Inc.	Martyn W. Molyneaux	P/1026.EP/MWM
99305733.0		Tektronix, Inc.	Martyn W. Molyneaux	P/1025.EP/MWM
99307105.9		Tektronix, Inc.	Martyn W. Molyneaux	P/1024.EP/MWM
99307173.7		Tektronix, Inc.	Martyn W. Molyneaux	P/1015.EP/MWM
99308763.4		Tektronix, Inc.	Martyn W. Molyneaux	P/1014.EP/MWM
99309035.6		Tektronix, Inc.	Martyn W. Molyneaux	P/1013.EP/MWM
99309053.9		Tektronix, Inc.	Martyn W. Molyneaux	P/1012.EP/MWM
99900759.4		Intel Corporation	Martyn W. Molyneaux	P/1261.EP/MWM
99901304.8		Intel Corporation	Martyn W. Molyneaux	P/1252.EP/MWM
99901331.1		Intel Corporation	Martyn W. Molyneaux	P/1265.EP/MWM
99902115.7		Intel Corporation	Martyn W. Molyneaux	P/1268.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref
99902317.9		Intel Corporation	Martyn W. Molyneaux	P/1387.EP/MWM
99902988.7		Intel Corporation	Martyn W. Molyneaux	P/1267.EP/MWM
99903207.1		Intel Corporation	Martyn W. Molyneaux	P/1266.EP/MWM
99903503.3		Intel Corporation	Martyn W. Molyneaux	P/1269.EP/MWM
99904046.2		Catalina Marketing International	Martyn W. Molyneaux	P/1555.EP/MWM
99904394.6		Catalina Marketing International	Martyn W. Molyneaux	P/1554.EP/MWM
99904395.3	1093643	Catalina Marketing International	Martyn W. Molyneaux	P/1550.EP/MWM
99904479.5		Intel Corporation	Martyn W. Molyneaux	P/1272.EP/MWM
99909491.5		Catalina Marketing International	Martyn W. Molyneaux	P/1544.EP/MWM
99909696.9		Intel Corporation	Martyn W. Molyneaux	P/1281.EP/MWM
99909866.8		Intel Corporation	Martyn W. Molyneaux	P/1287.EP/MWM
99911051.3		Intel Corporation	Martyn W. Molyneaux	P/1292.EP/MWM
99911158.6		Intel Corporation	Martyn W. Molyneaux	P/1285.EP/MWM
99911332.7		Intel Corporation	Martyn W. Molyneaux	P/1296.EP/MWM
99912295.5		Intel Corporation	Martyn W. Molyneaux	P/1290.EP/MWM
99912889.5		Intel Corporation	Martyn W. Molyneaux	P/1286.EP/MWM
99915030.3		Intel Corporation	Martyn W. Molyneaux	P/1288.EP/MWM
99919998.7		Intel Corporation	Martyn W. Molyneaux	P/1300.EP/MWM
99921423.2		Intel Corporation	Martyn W. Molyneaux	P/1293.EP/MWM
99923073.3		Intel Corporation	Martyn W. Molyneaux	P/1308.EP/MWM
99923231.7		Intel Corporation	Martyn W. Molyneaux	P/1310.EP/MWM
99924498.1		Intel Corporation	Martyn W. Molyneaux	P/1337.EP/MWM
99928599.2		Intel Corporation	Martyn W. Molyneaux	P/1325.EP/MWM
99930149.2		Intel Corporation	Martyn W. Molyneaux	P/1352.EP/MWM
99930601.2		Intel Corporation	Martyn W. Molyneaux	P/1315.EP/MWM
99930640.0		LEVEL ONE COMMUNICATIONS, INC.	Martyn W. Molyneaux	P/1319.EP/MWM
99930730.9		Intel Corporation	Martyn W. Molyneaux	P/1321.EP/MWM
99931960.1		LEVEL ONE COMMUNICATIONS, INC.	Martyn W. Molyneaux	P/1320.EP/MWM
99932251.4	1103147	Intel Corporation	Martyn W. Molyneaux	P/1318.EP/MWM
99932268.8		Intel Corporation	Martyn W. Molyneaux	P/1323.EP/MWM
99932401.5		Intel Corporation	Martyn W. Molyneaux	P/1327.EP/MWM
99937303.8		Intel Corporation	Martyn W. Molyneaux	P/1335.EP/MWM
99937306.1		Intel Corporation	Martyn W. Molyneaux	P/1330.EP/MWM
99937490.3		Intel Corporation	Martyn W. Molyneaux	P/1331.EP/MWM
99937558.7		Intel Corporation	Martyn W. Molyneaux	P/1345.EP/MWM
99940959.2		Intel Corporation	Martyn W. Molyneaux	P/1336.EP/MWM
99943752.8		Catalina Marketing International	Martyn W. Molyneaux	P/1648.EP/MWM
99943771.8		Intel Corporation	Martyn W. Molyneaux	P/1340.EP/MWM
99945104.0		Intel Corporation	Martyn W. Molyneaux	P/1344.EP/MWM
99946984.4		Intel Corporation	Martyn W. Molyneaux	P/1353.EP/MWM
99946988.5		Intel Corporation	Martyn W. Molyneaux	P/1368.EP/MWM
99950183.6		Intel Corporation	Martyn W. Molyneaux	P/1354.EP/MWM
99950917.7		Tandberg Television ASA	Martyn W. Molyneaux	P/1430.EP/MWM
99951415.1		Intel Corporation	Martyn W. Molyneaux	P/1351.EP/MWM
99952952.2		Catalina Marketing International	Martyn W. Molyneaux	P/1477.EP/MWM
99953082.7		Intel Corporation	Martyn W. Molyneaux	P/1069.EP/MWM
99954743.3		Intel Corporation	Martyn W. Molyneaux	P/1356.EP/MWM

The professional representative's address for the following cases will change to Harrison Goddard Foote, 40-43 Chancery Lane, London, WC2A 1JB, UK effective 2 January 2004 for Martyn W Molyneaux and effective 2 February 2004 for Clifford J Want.
 Please amend your records accordingly.

Appln no	Patent	Applicant	Representative	Our ref.
99954966.0		Intel Corporation	Martyn W. Molyneaux	P/1070.EP/MWM
99955129.4	1183675	Catalina Marketing International,	Martyn W. Molyneaux	P/1601.EP/MWM
99955557.6		Intel Corporation	Martyn W. Molyneaux	P/1311.EP/MWM
99956773.8		Intel Corporation	Martyn W. Molyneaux	P/1075.EP/MWM
99956812.4		Intel Corporation	Martyn W. Molyneaux	P/1074.EP/MWM
99958804.9		Intel Corporation	Martyn W. Molyneaux	P/1362.EP/MWM
99958949.2		Intel Corporation	Martyn W. Molyneaux	P/1366.EP/MWM
99960158.6		Intel Corporation	Martyn W. Molyneaux	P/1068.EP/MWM
99961539.6	1138157	Intel Corporation	Martyn W. Molyneaux	P/1079.EP/MWM
99961565.1		Intel Corporation	Martyn W. Molyneaux	P/1358.EP/MWM
99961579.2		Catalina Marketing International,	Martyn W. Molyneaux	P/1621.EP/MWM
99961599.0		Intel Corporation	Martyn W. Molyneaux	P/1361.EP/MWM
99963849.7		Intel Corporation	Martyn W. Molyneaux	P/1071.EP/MWM
99964954.4		Intel Corporation	Martyn W. Molyneaux	P/1089.EP/MWM
99965754.7		Catalina Marketing International,	Martyn W. Molyneaux	P/1665.EP/MWM
99966469.1		Intel Corporation	Martyn W. Molyneaux	P/1370.EP/MWM
99967318.9	1141846	Intel Corporation	Martyn W. Molyneaux	P/1374.EP/MWM
99967319.7		Intel Corporation	Martyn W. Molyneaux	P/1369.EP/MWM
99967516.8		Intel Corporation	Martyn W. Molyneaux	P/1373.EP/MWM
99968538.1		Intel Corporation	Martyn W. Molyneaux	P/1379.EP/MWM
99968965.6		Intel Corporation	Martyn W. Molyneaux	P/1377.EP/MWM
99968966.4		Intel Corporation	Martyn W. Molyneaux	P/1375.EP/MWM
99970538.7		Intel Corporation	Martyn W. Molyneaux	P/1066.EP/MWM
99971530.3		Intel Corporation	Martyn W. Molyneaux	P/1088.EP/MWM
99971531.1		Intel Corporation	Martyn W. Molyneaux	P/1087.EP/MWM
99971532.9		Intel Corporation	Martyn W. Molyneaux	P/1357.EP/MWM
99971533.7		Intel Corporation	Martyn W. Molyneaux	P/1090.EP/MWM
99971539.4		Intel Corporation	Martyn W. Molyneaux	P/1093.EP/MWM
99971540.2		Intel Corporation	Martyn W. Molyneaux	P/1092.EP/MWM
99971542.8		Intel Corporation	Martyn W. Molyneaux	P/1083.EP/MWM
99971543.6		Intel Corporation	Martyn W. Molyneaux	P/1085.EP/MWM
99971569.1		Intel Corporation	Martyn W. Molyneaux	P/1080.EP/MWM
99971611.1		Intel Corporation	Martyn W. Molyneaux	P/1078.EP/MWM
99971612.9		Intel Corporation	Martyn W. Molyneaux	P/1072.EP/MWM
99971613.7		Intel Corporation	Martyn W. Molyneaux	P/1073.EP/MWM
99972373.7		Intel Corporation	Martyn W. Molyneaux	P/1091.EP/MWM

Wildman, Harrold, Allen & Dixon LLP
11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
TEL: +44 (20) 7831 0009
FAX: +44 (20) 7831 9005
www.wildmanharrold.com



Wildman Harrold
Attorneys and Counselors

Martyn W. Molyneux
+44 (20) 7841-5220
Molyneux@wildmanharrold.com

CONFIRMATION

EPO - Munich
3

17. Dez. 2003

BY FACSIMILE

December 15, 2003

The European Patent Office,
Erhardstrasse 27,
D-80298 Munich,
GERMANY.

Dear Sirs,

Re: European Patent Appln. No. 00955352.0
IVIEWIT HOLDINGS, INC.
Our Ref: P/1783.EP/MWM

This is to advise that we withdraw our representation on the above numbered application.

Please acknowledge receipt by return of the attached copy letter.

Yours faithfully,
WILDMAN, HARROLD, ALLEN & DIXON LLP


MARTYN W. MOLYNEAUX

MWM/mmh

Wildman, Harrold, Allen & Dixon LLP

11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
TEL: +44 (20) 7831 0009
FAX: +44 (20) 7831 9005
www.wildmanharrold.com



Martyn W. Molyneux
+44 (20) 7841-5220
Molyneux@wildmanharrold.com

Wildman Harrold
Attorneys and Counselors

BY FACSIMILE

December 15, 2003

The European Patent Office,
Erhardstrasse 27,
D-80298 Munich,
GERMANY.

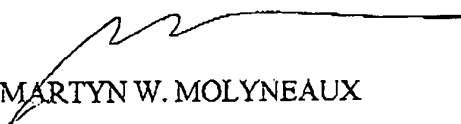
Dear Sirs,

Re: European Patent Appln. No. 00955352.0
IVIEWIT HOLDINGS, INC.
Our Ref: P/1783.EP/MWM

This is to advise that we withdraw our representation on the above numbered application.

Please acknowledge receipt by return of the attached copy letter.

Yours faithfully,
WILDMAN, HARROLD, ALLEN & DIXON LLP


MARTYN W. MOLYNEAUX

MWM/mmh



✉ EPA/EPO/OEB
 D-80298 München
 ☎ +49 89 2399-0
 TX 523 656 epmu d
 FAX +49 89 2399-4465

Europäisches
 Patentamt

European
 Patent Office

Office européen
 des brevets

Generaldirektion 2

Directorate General 2

Direction Générale 2

COPY

Molyneaux, Martyn William
 Wildman, Harrold, Allen & Dixon
 11th Floor, Tower 3,
 Clements Inn,
 London WC2A 2AZ
 GRANDE BRETAGNE

Datum/Date

29/05/02

Zeichen/Ref./Réf. P/1783.EP/MWM	Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°. 00955352.0-1247/1200935
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

C O M M U N I C A T I O N

concerning the registration of amendments relating to

[] a transfer (Rule 20/Rules 61,20 EPC)

[X] entries pertaining to the applicant/the proprietor (Rule 92(1)(f) EPC)

As requested, the entries pertaining to the applicant of the above-men-
 tioned European patent application/to the proprietor of the above-men-
 tioned European patent have been amended to the following:

corrected
 AT-BE-CH-CY-DE-DK-ES-FI-FR-GB-GR-IE-IT-LI-LU-MC-NL-PT-SE
 Iviewit Holdings, Inc.
 505 North Brand Boulevard, Suite 1420
 Glendale, CA 91203/US

The registration of the changes has taken effect on

In the case of a published application/a patent, the change will be re-
 corded in the Register of European Patents and published in the European
 Patent Bulletin (Section I.12/II.12).

Your attention is drawn to the fact that, in the case of the registra-
 tion of a transfer, any automatic debit order only ceases to be effec-
 tive from the date of its express revocation (cf. point 14(c) of the
 Arrangements for the automatic debiting procedure, Supplement to OJ
 EPO 6/1994).

Formalities officer
 Tel.: (+49-89) 2399-

Claus-Bernd Felding
 tel.: (089) 2399/2457
 Munich



EPO Form 2544 11.99	7051014	23/05/02

Wildman, Harrold, Allen & Dixon

11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
TEL: +44 (20) 7831 0009
FAX: +44 (20) 7831 9005
www.wildmanharrold.com

EPO - Munich
67

13. Mai 2002



Martyn W. Molyneux
+44 (20) 7841-5220
Molyneux@wildmanharrold.com

Wildman Harrold
Attorneys and Counselors

May 8, 2002

The European Patent Office,
Erhardstrasse 27,
D-80298 Munich,
GERMANY.

Dear Sirs,

Re: European Patent Appln. No. 00955352.0
IVIEWIT HOLDINGS, INC.
Our Ref: P/1783.EP/MWM

For the information of the Office, we enclose a copy of Form
PCT/IB/306 noting the amendment to Applicant's address.

Please acknowledge receipt by return of the attached copy letter.

Yours faithfully,
WILDMAN, HARROLD, ALLEN & DIXON


MARTYN W. MOLYNEAUX

MWM/mmh

PATENT COOPERATION TREATY

RECEIVED

MAR 04 2002

From the INTERNATIONAL BUREAU

PCT

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN
LOS ANGELES

NOTIFICATION OF THE RECORDING
OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:
ZAFMAN
COESTER, Thomas, M.
Blakely, Sokoloff, Taylor & Zafman
12400 Wilshire Boulevard
7th Floor
Los Angeles, CA 90025
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 21 February 2002 (21.02.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 57103/120 05707. P018	
International application No. PCT/US00/21211	International filing date (day/month/year) 02 August 2000 (02.08.00)

1. The following indications appeared on record concerning:

the applicant the inventor the agent the common representative

Name and Address IVIEWIT HOLDINGS, INC. One Boca Place 2255 Glades Road Suite 337 West Boca Raton, FL 33431 United States of America	State of Nationality US	State of Residence US
	Telephone No. 561 999 8899	
	Facsimile No. 561 999 8810	
	Teleprinter No.	

NO DOCKETING REQUIRED
Docketing fee

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

the person the name the address the nationality the residence

Name and Address IVIEWIT HOLDINGS, INC. 505 North Brand Boulevard Suite 1420 Glendale, CA 91203 United States of America	State of Nationality US	State of Residence US
	Telephone No. 561 999 8899	
	Facsimile No. 561 999 8810	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

the receiving Office the designated Offices concerned
 the International Searching Authority the elected Offices concerned
 the International Preliminary Examining Authority other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Marie-Thérèse Priser Telephone No.: (41-22) 338.83.38
---	--

From: Engelbertha Van Laar-Rabelink <evanlaar@epo.org>
To: <pct.impact@wipo.int>
Date: Mon, Mar 11, 2002 2:31 PM
Subject: EP00955352.0 - PCT/US00/21211

EPO

Please could you send me a copy of priority document nr. 60/169,559 of the above mentioned application?

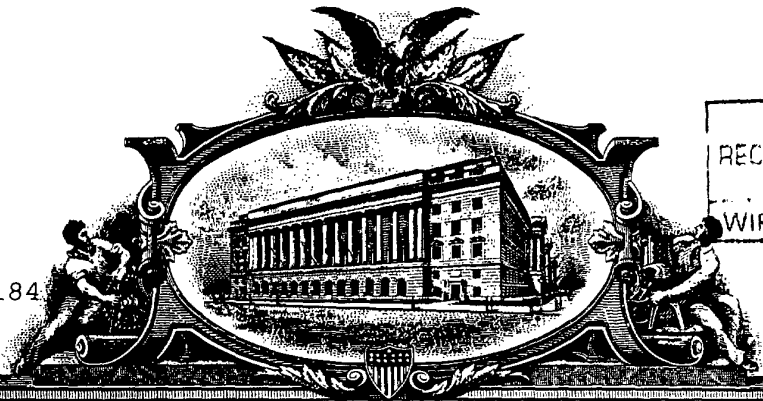
Kind regards,
Bertie van Laar

EPO - DG 1

11. 04. 2002

(71)

P1 301184



REC'D 25 OCT 2000

WIPO

PCT

THE UNITED STATES OF AMERICA

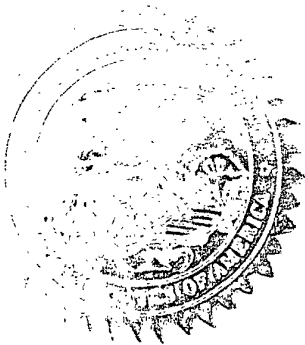
TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

October 18, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 60/169,559
FILING DATE: *December 08, 1999*
PCT APPLICATION NUMBER: *PCT/US00/21211*



By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS

A handwritten signature in cursive script that reads "M. Lee".

M. LEE
Certifying Officer

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

PRIORITY

Please type a plus sign (+) inside this box →

PTO/SB/16 (2-98)
Approved for use through 01/31/2001. OMB 0651-0037
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

12/08/99
10662 U.S. PTO

10541 U.S. PTO
60/169559
12/08/99

INVENTOR(S)					
Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)			
ELIOT	BERNSTEIN	500 S.E. Mizner Road Suite 102 Boca Raton, FL 33432			
<input type="checkbox"/> Additional inventors are being named on the ___ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
APPARATUS AND METHOD FOR PRODUCING ENHANCED VIDEO IMAGES AND/OR VIDEO FILES					
Direct all correspondence to:		CORRESPONDENCE ADDRESS			
<input type="checkbox"/> Customer Number	<input type="text"/>	Place Customer Number Bar Code Label here			
OR Type Customer Number here					
<input checked="" type="checkbox"/> Firm or Individual Name	RAYMOND A. JOAO, ESQ.				
Address	MELTZER, LIPPE, GOLDSTEIN & SCHLISSEL, P.C.				
Address	190 WILLIS AVENUE				
City	MINEOLA	State	NEW YORK	ZIP	11501
Country	USA	Telephone	516-747-0300	Fax	516-747-9360
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages	47	<input type="checkbox"/> Small Entity Statement			
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	5	<input checked="" type="checkbox"/> Other (specify)	return postcard		
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees					FILING FEE AMOUNT (\$)
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: <input type="text"/>					\$150.00
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,

SIGNATURE Raymond A. Joao

TYPED or PRINTED NAME RAYMOND A. JOAO

TELEPHONE 516-747-0300

Date 12 8/99

REGISTRATION NO. 35,907

Docket Number: 5865-8

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C., 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C., 20231.

12-09-99

A/PROV

12/08/99
13662 U.S. PTO

Attorney Docket No.: 5865-8

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Eliot I. Bernstein
Serial No.: Please assign
Filed on: Concurrently herewith
Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED
VIDEO IMAGES AND/OR VIDEO FILES

Box Provisional Application
Assistant Commissioner for Patents
Washington, D.C. 20231

PROVISIONAL PATENT APPLICATION TRANSMITTAL LETTER

Sir:

Please find transmitted herewith for filing the following:


- (1) Provisional Application for Patent Cover Sheet;
- (2) Provisional Patent Application, including Specification, Claims and Abstract of the Disclosure (47 pages) and Drawings (5 sheets);
- (3) Check in the amount of \$150.00 for the filing fee;

(4) Power of Attorney form; and

(5) Return Receipt Postcard.

It is respectfully requested that the above papers be filed as a Provisional Patent Application.

Respectfully submitted,
MELTZER, LIPPE, GOLDSTEIN
& SCHLISSEL, P.C.

By: 
Raymond A. Joao
Reg. No. 35,907

December 8, 1999

MELTZER, LIPPE, GOLDSTEIN,
& SCHLISSEL, P.C.
190 Willis Avenue
Mineola, New York 11501

Tel. No.: (516) 747-0300
Fax No.: (516) 747-9363

"Express Mail" mailing label number EK291365701US

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated below and is addressed to: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231

Date of Deposit: December 8, 1999

(Signature): 

different sizes and different depths, without pixel distortion. Photographs, negatives, and associated images, utilize pixels which typically have a certain size. When enlarged or reduced, these pixels of the image become distorted, a feature which typically results in the image being fixed to an original size, or being available at very low magnifications, such as, for example, magnifications of from 200 times to 300 times. These images are also difficult to enlarge to a full screen size without a tremendous amount of distortion present in the end product without expanding the file size proportionately.

Currently, panoramic imaging techniques utilize non-enlarged images as their starting point. With such associated limitations, the ability to provide enhanced resolution digital images and, especially, an enhanced resolution digital panoramic image, such as those utilized on, or over, the Internet and/or the World Wide Web, has been greatly compromised.

Another major drawback in the current technology lies in the fact that conventional processes often utilize panoramic lenses in order to capture an image. This practice has been criticized as creating distortions in the image immediately upon the image's enlargement or reduction. The conventional techniques associated with the use of panoramic lenses are known to result in image "bending", which further curtails one's ability to obtain

SECRET 658745

realistic views, especially upon performing any associated cropping and/or editing processes. In such instances, the upper end and the lower end of the image must be either erased, or covered, in order to prevent the flaw from being exposed. This typically results in the resulting image having a "fishbowl-type" distortion.

In some instances, 32 mm lenses have been utilized in order to obtain enhanced floor to ceiling images without experiencing image bending. In these applications, however, the ability of the lens to capture optimal images varies depending upon the scene or image being photographed.

Images have typically been over-compressed prior to transmission over a communication network. This over compression has typically resulted in lack of image quality.

As a result, the ability to obtain enhanced video images and/or video files from film cameras and film recorders, from negatives and from digital cameras and recorders, has been limited.

SUMMARY OF THE INVENTION

The present invention provides an apparatus and a method for

providing enhanced digital video images and/or digital video files which overcomes the shortcomings of the prior art. The digital images and/or digital files produced by utilizing the present invention can be easily managed, when displayed, projected, and/or posted on any viewing device and/or entity such as, but not limited to, an Internet Web server, Web site or Web page, television, intranet computers and/or servers, and/or computers and/or servers which are utilized in wireless environments, etc.

The present invention provides for the processing, production and/or transmission of streaming video which can be transmitted on, or over, a communication network, the Internet, the World Wide Web, and/or any other communication network and/or medium. The streaming video obtained and/or transmitted via the present invention can provide for a video transmission which, once commenced, need not be stopped. The streaming video which is facilitated via the present invention can be played on demand while maintaining its streaming video nature.

The present invention provides an apparatus and a method for producing enhanced digital video images and video files from video which may be recorded as print film image or file, a negative image or file, a digital magnetic representation of a video image, an analog representation of a video image, and/or a

digital video image and/or file. The video images and/or files may be obtained via a digital camera, a digital recording device, a digital recorder, a digital camcorder, a film video camera, a recorder, and/or camcorder, a motion picture camera, a VHS video camera, recorder, and/or camcorder, a beta video camera, recorder, and/or camcorder, and/or any other suitable video recording device. The camera or recorder can be a conventional device and/or a solid state device which may contain a solid state storage medium.

The video images and/or video files which are produced by the apparatus and method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The video images and/or files, which are produced by the apparatus and method of the present invention, can be utilized and displayed on computers, projection devices, televisions, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page, an intranet computer and/or server, and/or computers and/or servers utilized in wireless environments. The video images and/or files can be transmitted over a communication network and/or in computer-to-computer applications. The video images and/or files obtained may also be stored in an appropriate storage medium, such as, but not limited to, a compact disk, a digital video disk, and/or any other appropriate digital and/or

analog storage medium.

The present invention, in a preferred embodiment, is utilized to produce enhanced video images and/or files for posting and/or for downloading, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World Wide Web server, a Web site, and/or Web page, and/or an intranet computer and/or server, and/or computers and/or servers which are utilized in a wireless environment, and/or a compact disk, a digital video disk, and/or other suitable storage medium. In this manner, enhanced video images and/or video files can be produced from video images and/or video files which can be recorded using any video recording device and recording medium such as, but not limited to, digital cameras, digital recorders, film cameras, film recorders, motion picture cameras, photographic film recorders, and/or magnetic film or disk film recorders, etc. The video images and/or files obtained are thereafter processed in accordance with the apparatus and method of the present invention in order to produce enhanced video images and/or video files.

These resulting video images and/or video files have enhanced resolution which is unaffected by the typical resolution limiting and degrading parameters and phenomena which are associated with conventional digital and/or film video cameras,

case of video images and/or files which are obtained digitally, no developing device would be needed. The apparatus can also include an enlarging device which can be utilized to enlarge the video images obtained. An enlarger can be utilized for enlarging either film images and/or digital images.

The apparatus can also include a computer, for performing the various processing routines during operation of the apparatus and method of the present invention. The computer may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, a network computer, a server computer, and/or any other suitable computer or computer system, television system, either of the conventional, digital, and/or high definition variety.

The computer can include a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The input device may include a keyboard, a mouse, or other pointing device, and/or any other data and/or command input device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color inkjet printer, a compact disk recorder, a digital video disk recorder, and/or any other suitable storage medium recorder. The computer can also include

a receiver for receiving data and/or information over a communication network and a transmitter for transmitting data and/or information over the communication network.

The computer can also include a video capture device, which may or may not be an integral component of the computer. The computer can also include an audio capture device which may or may not be an integral component of the computer. The video capture can also be an external peripheral device. Video data and/or information, as well as any audio data and/or information, is utilized, can be fed into, and/or played through, the respective video capture device and audio capture device, thereby digitizing the respective video data and/or information and audio data and/or information. The present invention preserves the integrity of any and/or all data and/or information upon conversion to digital formats. If full motion video is captured, any conversion can utilize full motion capture software and/or hardware. The video data and/or information can be fed into, and/or through, the video capture device, in real-time, thereby facilitating real-time video transmissions. In a similar fashion, the audio data and/or information can be fed into, and/or through, the audio capture device, in real-time, thereby facilitating real-time audio transmissions.

The computer can also include any other hardware device or

peripheral device and/or software which is, or which may be, needed and/or desired in order to perform any of the functions and/or operation described herein. The computer can also include a video data capture device, for capturing and processing the video images and/or files processed by the present invention, as well as an audio data capture device, for capturing and processing the audio files processed by the present invention.

The apparatus can also include a scanning device, for scanning video images or files, if needed, whether they be of a digital or of a print film type, in order to obtain a digital image representation of same.

The apparatus and method of the present invention provides video images and/or files, as well as any accompanying audio files, which have enhanced resolution and quality while requiring less file management efforts.

The resulting video images and/or files, and any accompanying audio files, which are obtained via the apparatus and method of the present invention are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic Internet applications, including video playback and/or video transmission, along with any accompanying audio, while preserving

resolution upon image and/or video file magnification or reduction.

The present invention also facilitates high speed file transfers of high resolution video images and/or video files, and any accompanying audio files, thereby dispensing with the need to engage in long and slow conventional file downloads and/or file transfers in order to maintain viewing quality.

The apparatus and method of the present invention can also be utilized in conjunction with three-dimensional images and video files in order to produce high resolution, three-dimensional video images and/or video files.

Accordingly, it is an object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files from files obtained via digital and/or film video cameras and/or a recording devices.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files from files obtained via digital and/or film video cameras and/or a recording devices, which have improved and enhanced resolution.

It is still another object of the present invention to provide an apparatus and a method for processing, producing, and/or transmitting streaming video for use on, or over, a communication network.

It is another object of the present invention to provide an apparatus and a method for producing streaming video which, once commenced, need not be stopped and/or halted during the subsequent transmission of same.

It is another object of the present invention to provide an apparatus and a method for producing streaming video which can be played continuously and on-demand.

It is yet another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, and accompanying audio files, from files obtained via digital and/or film video cameras and/or a recording devices, which have improved and enhanced resolution.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording

devices digital images, which are suitable for display and/or for downloading to a digital computer, a television, and/or any other communication device utilized in a telecommunication environment and/or communications environment.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which are characterized by image compression and/or minimal image compression thereby avoiding any dramatic loss in image quality.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which may dispense with the need to compress the image data.

It is yet another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which are characterized by high definition resolution, and which are suitable for high definition television, Web television and

large, full screen, panoramic internet applications, without loss of resolution upon image magnification or reduction.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which can be transmitted in a network environment.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which facilitates high speed file transfer in a network environment and/or in a computer environment.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, which preserves image integrity from the point of capture of the image through and including final compression or compressions.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, which

preserves the integrity of any and/or all data and/or information upon conversion to digital formats.

Other objects and advantages of the present invention will be apparent to those skilled in the art upon a review of the Description of the Preferred Embodiment taken in conjunction with the Drawings which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

Figure 1 illustrates the apparatus of the present invention, in block diagram form; and

Figures 2 illustrates a method of the present invention, in flow diagram form; and

Figures 3a, 3B and 3C illustrate another method of the present invention, in flow diagram form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides an apparatus and a method for providing enhanced digital video images and/or digital video, as

well as any accompanying audio, files which can be utilized and which can be easily managed, when displayed, projected, and/or posted on any viewing device and/or entity such as, but not limited to, an Internet Web server, Web site or Web page, television, etc. In particular, the present invention provides an apparatus and a method for producing enhanced digital video images and video files from video, as well as any accompanying audio files, which may be recorded as a digital video image and/or files and/or as a film video image and/or file a print film image.

The present invention provides for the processing, production and/or transmission of streaming video which can be transmitted on, or over, a communication network, the Internet, the World Wide Web, and/or any other communication network and/or medium. The streaming video obtained and/or transmitted via the present invention can provide for a video transmission which, once commenced, need not be stopped. The streaming video which is facilitated via the present invention can be played on demand while maintaining its streaming video nature.

The video images and/or files, and any accompanying audio files, may be obtained via a digital camera, a digital recording device, a digital recorder, a digital camcorder, a film video camera, recorder, and/or camcorder, a VHS video camera, recorder,

and/or camcorder, a beta video camera, recorder, and/or camcorder, and/or any other suitable video recording device. The video images and/or video files and any accompanying audio files, which are produced by the apparatus and method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The video images and/or files, and any accompanying audio files, which are produced by the apparatus and method of the present invention, can be utilized, displayed, and/or played, whichever the case may be, on computers, projection devices, televisions, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page. The video images and/or files, and any accompanying audio files, can be transmitted over a communication network and/or in computer-to-computer applications.

The present invention, in a preferred embodiment, is utilized to produce enhanced video images and/or files, and any accompanying audio files, for posting and/or for downloading, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World Wide Web server, a Web site, and/or Web page. In this manner, enhanced video images and/or video files, and any accompanying audio files, can be produced from video images and/or video files, and accompanying audio files, which can be recorded using any video recording device and

recording medium such as, but not limited to, digital cameras, digital recorders, film cameras, film recorders, etc. The video images and/or files, and any accompanying audio files, obtained are thereafter processed in accordance with the apparatus and method of the present invention in order to produce enhanced video images and/or video files.

These resulting video images and/or video files, and any accompanying audio files, have enhanced resolution which is unaffected by the typical resolution limiting parameters and phenomena which are associated with conventional digital and film video cameras, recorders and corresponding processing equipment, methods and/or techniques.

Figure 1 illustrates the apparatus of the present invention which is denoted generally by the reference numeral 100, in block diagram form. With reference to Figure 1, the apparatus 100 includes a video camera or recorder 105 which, in the preferred embodiment, can be any one of a digital camera, a digital recording device, digital camcorder, a film camera, a film recording device, and/or a film camcorder. The camera or recorder can be a conventional device and/or a solid state device which may contain a solid state storage medium.

The camera or recording device can record video as well as

SECRET

audio data and/or information. In the preferred embodiment, the camera 105 may be a hand-held camera, a fixed camera, and/or a camera which is mountable, such as on a tripod or on a stand. The camera 105 is utilized to obtain the video image and/or video file, as well as any audio files, which will be processed as described herein.

For full motion video, a 3CCD chip, and/or any other appropriate and/or suitable motion and/or video capture recording device, can be utilized in conjunction with the present invention. A suitable audio capture recording device can also be utilized in conjunction with the present invention.

The present invention can also be utilized in conjunction with any imaging and/or any video recording device, and/or audio recording device, and/or equipment, such as, but not limited to, those devices and equipment utilized in, or in conjunction with, medical imaging equipment, devices and/or instruments, motion picture production equipment, devices and/or instruments and/or in any other equipment, device, and/or instrument, which is, or which can be, utilized in conjunction with imaging and/or video and/or audio applications and/or uses.

The apparatus 100 also includes a developing device 115, which could be utilized for developing video images and/or files

which are obtained on film. In the case of video images and/or files which are obtained digitally, no developing device may be needed. The apparatus also includes an enlarging device which can be utilized to enlarge the video images obtained. The apparatus can include an enlarger for both film images as well as for digital images.

The apparatus 100 also includes a computer 120, for performing the various processing routines during operation of the apparatus and method of the present invention. The computer 120 may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, a network computer, a server computer, and/or any other suitable computer or computer system.

The computer 120 includes a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The input device may include a keyboard, a mouse, or other pointing device, and/or any other data and/or command input device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color inkjet printer. The computer 120 also includes a receiver for receiving data and/or information over a communication network and a transmitter for transmitting

data and/or information over the communication network.

The computer 120 also includes a video capture device 121A and an audio capture device 121B, which, in the preferred embodiment, are integral components of the computer 120. The video capture device 121A, in the preferred embodiment, can be a video capture card 121A which is located internal to the computer 120. The video capture device 121A may also be an external peripheral device. As described herein, the video data and/or information is fed into, and/or played through, the video capture device 121A, thereby digitizing the video data and/or information. The video data and/or information can be fed into, and/or through, the video capture card 121A, in real-time, thereby facilitating real-time video transmissions.

In a similar manner, the audio capture device 121B, in the preferred embodiment, can be an audio capture card 121B which is located internal to the computer 120. The audio capture device 121 may also be an external peripheral device. As described herein, the audio data and/or information is fed into, and/or played through, the audio capture device 121B, thereby digitizing the audio data and/or information. The audio data and/or information can be fed into, and/or through, the audio capture card 121B, in real-time, thereby facilitating real-time audio transmissions.

The computer 120 may also include any other hardware device or peripheral device and/or software which is, or which may be needed and/or desired in order to perform any of the functions and/or operation described herein. In particular, the computer 120 will also include a video data capture device for capturing and processing the video images and/or files processed by the present invention. The computer 120 can also include an audio capture device for capturing and processing the audio files processed by the present invention.

The computer 120 also includes a transmitter (not shown) and a receiver (not shown) for facilitating operation in a network environment and/or as a server computer.

The apparatus 100 also includes a scanning device 125, for scanning video images or files, if needed, whether they be digital or of a print film type, in order to obtain a digital image representation of same. Any suitable computer or scanner, and any suitable scanning software, may be utilized in conjunction with the present invention. In a preferred embodiment, any suitable scanning device can be utilized in conjunction with any appropriate software.

Figure 2 illustrates a preferred embodiment method of the present invention, in flow diagram form. With reference to

Figure 2, the method of the present invention commences at step 200. The method described herein can be utilized to process both video and audio files as well as files which contain only video information. For the sake of explaining the present invention in a preferred embodiment, the processing of video files along with corresponding audio files is described below. At step 201, the video images or files, and corresponding audio files, are recorded with any appropriate or suitable recording device such as, but not limited to, the video recording camera 105. The video and corresponding audio can be recorded and/or otherwise obtained in any suitable format, such as, but not limited to, for example, beta, VHS, digital, and/or any other standard formats, including, but not limited to, NTSC, PAL, or SECAM. The video and corresponding audio files can also be obtained in other standard digital formats such as, but not limited to, IEEE1834, *.AVI, *.MOV, *.MPEG, etc., by utilizing an appropriately equipped video recording device. The video recording device 105 may also be a reel-to-reel recording device and/or a live video recording device.

At step 202, the respective digital files and corresponding audio files, are converted to digital files, if necessary, by utilizing respective digitizing and/or scanning hardware and/or software and/or devices. In the case of the video files, the video is digitized by utilizing digitizing hardware and/or software and/or any other necessary and/or appropriate driver

software or programs in conjunction with a video capture device. In the preferred embodiment, hardware such as Pinnacle DC10 or other equivalent and/or similar hardware and/or software and/or associated drivers can be utilized to perform the video digitizing operation. The video digitizing step can be performed, in the preferred embodiment, at a minimum frames per second (fps) or at least a television standard and/or 30fps and with frame sizes of at least 320 X 240 pixels.

It is understood that the herein-described video digitizing step is not limited to the settings and/or parameters described herein. Rather, any appropriate settings and/or parameters may be utilized in order to obtain digital video data and/or information which is consistent with the digital data and/or information described herein.

In an analogous manner, at step 201, the audio files are also digitized by utilizing appropriate digitizing or capture hardware and/or software and any other necessary and/or appropriate driver software or programs. In the preferred embodiment, hardware such as produced by Turtle Beach Montego or other equivalent and/or similar hardware and/or software, and any associated drivers, if needed, are utilized in order to perform the audio digitizing operation. The audio digitizing step can be performed, in the preferred embodiment, by utilizing PCM or an

equivalent and/or similar technique and at a sampling rate of at least 44 to 48 kilohertz (Khz), 16-bit stereo, and an audio resolution of at least 16-bits.

The video and/or audio files which are obtained via the processing routines at step 201, are digital files which can be in any standard digital format such as, but not limited to, *.AVI, *.MOV, or *.MPEG, and/or any other suitable digital file format. While video information can be obtained for any frame setting, in a preferred embodiment, frames settings of 320 x 240, 480 x 320 and/or 640 x 480 can be utilized.

At step 202, if desired the digitized video and audio files can be processed in conjunction with video editing software, such as, for example Adobe Premiere 5.1 and/or any other equivalent and/or similar editing software. The processing which is performed at step 202 is optional and need not be performed on the digital video and audio files. The processing which is performed on the digital video and audio files , at step 202, can be performed in order to facilitating the editing of the respective digital video and audio files if such may be desired.

The processing at step 202 also serves to convert the digital video and audio to respective digital formats which are amenable to various editing procedures. For example, a *.MOV formatted file is converted to a .RM file format, a *.AVI

formatted fire is converted to a .ASF file format, and a *.MPEG formatted file is converted to a .RM file format. The processing step which is performed at the optional step 202 can be preformed with the following processing parameters.

At step 203, the digital video and audio file is processed and/or encoded in order to generate the respective files for presentation from a player or server computer. The processing which occurs at step 203 is accomplished with Windows Media Encoder/Reel Producer Plus software in order to create digital files for both video and audio which are in an appropriate digital file format, such as, but not limited to .RM and .ASF, or other suitable and/or similar digital file formats. Thereafter, the digital video and audio files will be available for transmission to appropriate computers and/or communication devices, and/or for storage onto an appropriate storage medium.

The digital video and audio file, which is processed and encoded at step 203, can be transmitted at a data rate having a range of between 35Kbps to 750Kbps and can have a frame rate range of between 24 to 29.97 fps.

At step 204, the video and audio file can be transmitted from the sever computer 120 to a client computer or communication device. In the preferred embodiment, and in order to facilitate the presentation of the video and audio file at the client

computer or communication device, the presentation of the video and audio file can be accomplished in conjunction with video software such as, but not limited to, RealPlayer[®], MediaPlayer[®], and/or any other appropriate software. The transmission of the video and audio will take place with a data rate range of between 35 Kbps to 750 Kbps at with a frame rate range of between 24fps - 29.97fps.

The obtained video and audio file or files can then be posted to the computer 120 and/or to another hosting computer. If the posting is to a computer other than the computer 120, the posting is performed by transmitting the video file or files over a communication network to the hosting computer. In the preferred embodiment, the video and audio file or files are posted via the Internet, and/or the World Wide Web, and can be posted to a Web Page, a Web site, and/or any other network device. The posting operation is performed by utilizing any suitable posting software. The video and audio file or video file can also be stored on a compact disk, a digital video disk and/or any other appropriate storage medium.

The above-describe processing routine facilitates the processing of digital video and audio files in such a manner that any compression, if performed, is maintained at minimum levels.

i.e., beta, VHS, digital, and/or any of the standard file formats, including, but not limited to, *.AVI, *.MOV, *.MPEG, etc., by utilizing the video recording device 105. The video recording device 105 may also be a reel-to-reel recording device and/or a live video recording device.

At step 302, the video images and/or files are converted to a converted to digital files, if necessary, by utilizing the scanner 110. At step 303, digital video image files are loaded into the computer 120 for processing. At step 304, the video image files are fed into, or through, the capture device 121A of the computer 120. The video capture operation, which is performed by the video capture device 121A, in the preferred embodiment, can be performed with minimum compression-and/or encoding operations being performed on the video image files and/or with only minimal compression and/or encoding operations being performed on the video image files.

The video capture device 121A, in the preferred embodiment, can be any suitable video capture device or card and/or any other appropriate and/or suitable video capture hardware. The capture software utilized can be any appropriate and/or suitable video capture software.

At step 305, the video images and/or files are edited, if

necessary, by using any standard video editing tools, such as, for example, any editing software. At step 306, the video image files are then converted to any suitable real video format such as, for example, a *.RM format. At step 307, the size of the video within the file code is set either manually or automatically. In the preferred embodiment, the size of the video is set within the file code, which may or may not be the HTML file code to a 640 x 480 frame resolution, or any other suitable resolution, such as, but not limited to, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200 or other sizes.

At step 308, the obtained video image file or files is then posted to the computer 120 and/or to another hosting computer. If the posting is to a computer other than the computer 120, the posting is performed by transmitting the video file or files over a communication network to the hosting computer. In the preferred embodiment, the video file or files are posted via the Internet, and/or the World Wide Web, and can be posted to a Web Page, a Web site, and/or any other network device. The posting operation is performed by utilizing any suitable posting software. The video image file or video file can also be stored on a compact disk, a digital video disk and/or any other appropriate storage medium.

At step 309, the computer 120 or other hosting computer

generates or writes a file or script, such as an ASCII file which calls the video to stream or to download. This results in video which will stream or "streaming" video for a full screen application which will be characterized by a good clarity and quality. At step 309, the video file can then be transmitted to a client computer (not shown). At step 309, a separate file or script, such as an ASCII file is written and saved to an appropriately formatted file, such as an *.RPM file, or other suitable file format, which will call the original video file. This script can be typically included in any suitable code, such as an HTML code.

In the case of MPEG videos, Steps 301 through 303 are followed as described above. At step 304, however, the video file is converted, if not previously converted, to an MPEG format. Thereafter, the video is inserted into the appropriate file which may contain suitable coding, such as HTML codes. Thereafter, the file can be sized to any of herein-described resolutions. Thereafter, the video file is uploaded to the hosting computer, if utilized. Thereafter, the MPEG file is played from the computer 120 or the hosting computer, the Web page, and/or the Web site, depending upon the application, by first downloading a small portion of the file and by playing the file through a suitable device such as a player which supports any suitable video formats, such as AVI, MPEG-type, etc., and/or

other suitable formats.

Thereafter, operation of the apparatus ceases at step 310.

The processing steps described herein provide for the production of video images and/or video files which have enhanced resolution and which can be easily and effectively managed in applications involving the display of same, the posting of same, to a host computer, a Web server, a Web site, a Web page, a computer display, a full screen projection display and/or a video presentation and/or playback of same, respectively. Further, the method of the present invention provides for image processing, including various image and/or file processing techniques, which may or may not include image compression and/or encoding operations.

The apparatus and method of the present invention provides video images and/or files which have enhanced resolution and quality while requiring less file management efforts.

The resulting video images and/or files, and any accompanying audio files, which are obtained via the apparatus and method of the present invention are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic

Internet applications, including video playback and/or video transmission, which preserving resolution upon image and/or video file magnification or reduction. The present invention also facilitates high speed file transfers of high resolution video images and/or video files, and any accompanying audio files, thereby dispensing with the need to engage in long and slow conventional file downloads and/or file transfers.

The apparatus and method of the present invention can also be utilized in conjunction with three-dimensional images and video files in order to produce high resolution, three-dimensional video images and/or video files.

The present invention preserves image integrity from the point of capture of the image through, and including, any final compression or compressions of same.

The resulting video images and/or files, and any accompanying audio files, which are obtained via the apparatus and method of the present invention, can be utilized, in any and/or all of the embodiments described herein, in conjunction with data and/or information which can be provided by any other and/or any external information source. The data and/or information may contain, but is not limited to, data and/or information of and for sound and/or audio files, text files,

video files, image files, and/or graphics files, and/or any other information source, data, information and/or file, which can be, and/or which may be linked to or with, and/or which can be operated and/or utilized in conjunction with, any video and/or image data and/or information. For example, any image and/or video data, information, or file, obtained via the present invention, can be utilized in conjunction with any sound file, audio file, text file, video file, image file, and/or graphics file, and/or any other data, information and/or file utilized in a multimedia environment, thereby providing for the utilization of enhanced images and/or video in conjunction with the respective file.

As noted above, the present invention provides for the processing, production and/or transmission of streaming video which can be transmitted on, or over, a communication network, the Internet, the World Wide Web, and/or any other communication network and/or medium. The streaming video obtained and/or transmitted via the present invention can provide for a video transmission which, once commenced, need not be stopped. The streaming video which is facilitated via the present invention can be played on demand while maintaining its streaming video nature.

While the present invention has been described and

CLAIMS

What Is Claimed Is:

1. An apparatus for producing a digital image, comprising:
 - a device for generating a digital signal file from an image; and
 - a processor for processing said digital signal file and for generating an image file,
 - wherein said processor generates a first signal file from said digital signal file, and further wherein said processor processes said first signal file and generates said image file.

2. The apparatus of claim 1, further comprising:
 - one of a camera and a recording device for obtaining one of a photographic representation of an image, a film image, a negative image and a digital image.

3. The apparatus of claim 2, further comprising:
 - a developing device for developing one of said photographic representation of an image, a film image and a negative image.

4. The apparatus of claim 3, further comprising:

an enlarging device for enlarging said image.

5. The apparatus of claim 4, further comprising:

a scanning device for generating said digital signal file from said one of photographic representation of an image, a film image and a negative image.

6. The apparatus of claim 1, further comprising:

a video capture device for one capturing and processing said digital signal file.

7. The apparatus of claim 1, wherein said first signal file is an image file.

8. An apparatus for producing a digital image, comprising:

means for generating a digital signal file from an image file; and

means for processing said digital signal file and for generating an image file,

wherein said processing means generates a first signal file from said digital signal file, and further wherein said processing means processes said first signal file and generates said image file.

9. The apparatus of claim 8, further comprising:

means for obtaining said one of a photographic representation of an image, a film image, a negative image and a digital image.

10. The apparatus of claim 8, further comprising:

means for developing said one of photographic representation of an image, a film image and a negative image.

11. The apparatus of claim 8, further comprising:

means for enlarging said image.

12. The apparatus of claim 8, further comprising:

means for generating said digital signal file from said image.

13. The apparatus of claim 8, further comprising:

means for one of capturing and processing said digital signal file.

14. A method for producing a digital image, comprising:

generating a digital signal file from an image;
processing said digital signal file; and
generating an image file, wherein said processing operation further comprises:

generating a first signal file from said digital signal file; and

processing said first signal file and generating said image file.

15. The method of claim 14, further comprising:

obtaining one of a photographic representation of an image, a film image, a negative image and a digital image.

16. The method of claim 14, further comprising:

developing said one of photographic representation of an image, a film image, and a negative image; and generating said image.

17. The method of claim 14, further comprising:

enlarging said image.

19. The method of claim 14, further comprising:

generating said digital signal file from said image.

20. The method of claim 14, further comprising:

one of capturing and processing said digital signal file.

21. The apparatus of any one of claims 1 to 13, wherein said

image file is utilized in conjunction with at least one of a sound file, an audio file, a text file, a video file, an image file, and a graphics file.

22. The method of any one of claims 14 to 20, wherein said image file is utilized in conjunction with at least one of an audio file, a text file, a video file, an image file, and a graphics file.

23. An apparatus for producing a streaming video file, comprising:

a device for generating a digital signal file from a first video file; and

a processor for processing said digital signal file and for generating a second video file,

wherein said processor generates a first signal file from said digital signal file, and further wherein said processor processes said first signal file and generates said second video file, and further wherein said second video file is a streaming video file.

24. The apparatus of claim 23, further comprising:

one of a camera and a recording device for obtaining one of a photographic representation of an image, a film image, a negative image, a digital image, a video file, and a motion

picture.

25. The apparatus of claim 24, further comprising:

a developing device for developing one of said photographic representation of an image, a film image and a negative image, a digital image, a video file, and a motion picture.

26. The apparatus of claim 25, further comprising:

an enlarging device for enlarging said photographic representation of an image, a film image, a negative image, a digital image, a video file, and a motion picture video file.

27. The apparatus of claim 24, further comprising: -

a scanning device for generating said digital signal file from said one of photographic representation of an image, a film image, a negative image photographic representation of an image, a film image and a negative image, a digital image, a video file, and a motion picture.

28. The apparatus of claim 23, further comprising:

a video capture device for one capturing and processing at least one of said video file and said digital signal file.

29. The apparatus of claim 23, wherein said first signal file is

a video image file.

30. The apparatus of claim 23, wherein said streaming video file is one of posted to a host computer and stored on a storage medium.

31. The apparatus of claim 30, wherein said storage medium is at least one of a compact disk, a digital video disk, a floppy disk, and solid state device.

32. The apparatus of claim 23, wherein said streaming video file can be transmitted at least one of on demand and continuously.

33. An apparatus for producing a streaming video file, comprising:

means for generating a digital signal file from a first video file; and

means for processing said digital signal file and for generating a second video file,

wherein said processing means generates a first signal file from said digital signal file, and further wherein said processing means processes said first signal file and generates said second video file, and further wherein said second video file is a streaming video file.

655027 655027 655027

34. The apparatus of claim 33, further comprising:

means for obtaining one of a photographic representation of an image, a film image, a negative image, a digital image, a video file, and a motion picture.

35. The apparatus of claim 34, further comprising:

means for developing one of said photographic representation of an image, a film image and a negative image, a digital image, a video file, and a motion picture.

36. The apparatus of claim 35, further comprising:

means for enlarging said photographic representation of an image, a film image, a negative image, a digital image, a video file, and a motion picture video file.

37. The apparatus of claim 33, further comprising:

means for generating said digital signal file from said one of photographic representation of an image, a film image, a negative image photographic representation of an image, a film image and a negative image, a digital image, a video file, and a motion picture.

38. The apparatus of claim 33, further comprising:

means for one capturing and processing at least one of said video file and said digital signal file.

39. The apparatus of claim 33, wherein said first signal file is a video image file.

40. The apparatus of claim 33, wherein said streaming video file is one of posted to a host computer and stored on a storage medium.

41. The apparatus of claim 40, wherein said storage medium is at least one of a compact disk, a digital video disk, a floppy disk, and solid state device.

42. The apparatus of claim 33, wherein said streaming video file can be transmitted at least one of on demand and continuously.

43. A method for producing a streaming video file, comprising:
generating a digital signal file from a first video file; and

processing said digital signal file and generating a second video file,

wherein said first signal file is generated from said digital signal file, and further wherein said first signal file is utilized to generate said second video file, and further wherein said second video file is a streaming video file.

44. The method of claim 43, further comprising:

obtaining one of a photographic representation of an image, a film image, a negative image, a digital image, a video file, and a motion picture.

45. The method of claim 44, further comprising:

developing one of said photographic representation of an image, a film image and a negative image, a digital image, a video file, and a motion picture.

46. The method of claim 45, further comprising:

enlarging said photographic representation of an image, a film image, a negative image, a digital image, a video file, and a motion picture video file.

47. The method of claim 43, further comprising:

generating said digital signal file from said one of photographic representation of an image, a film image, a negative image photographic representation of an image, a film image and a negative image, a digital image, a video file, and a motion picture.

48. The method of claim 43, further comprising:

one capturing and processing at least one of said video file and said digital signal file.

49. The method of claim 43, wherein said first signal file is a video image file.

50. The method of claim 43, wherein said streaming video file is one of posted to a host computer and stored on a storage medium.

51. The method of claim 50, wherein said storage medium is at least one of a compact disk, a digital video disk, a floppy disk, and solid state device.

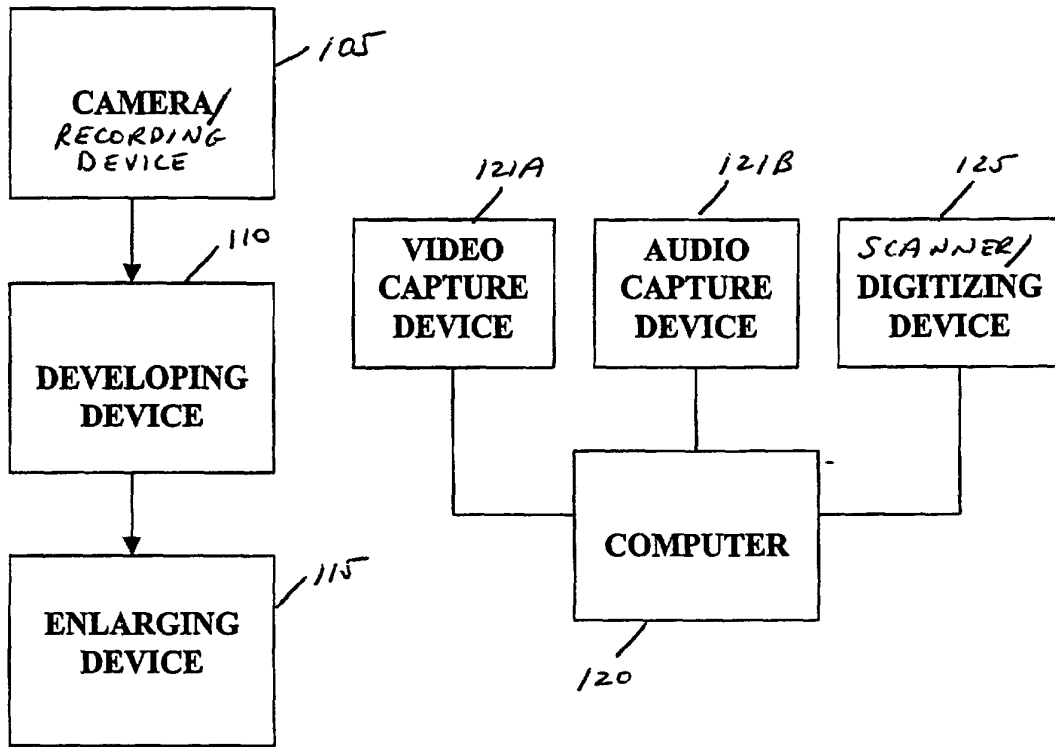
52. The apparatus of claim 43, wherein said streaming video file can be transmitted at least one of on demand and continuously.

ABSTRACT OF THE DISCLOSURE

An apparatus and method for producing a digital image, including a device for generating a digital signal file from an image and a processor for processing said digital signal file and for generating an image file. The processor generates a first signal file from the digital signal file. The processor processes the first signal file and generates the image file. An apparatus for producing a streaming video file, including a device for generating a digital signal file from a first video file and a processor for processing the digital signal file and for generating a second video file. The processor generates a first signal file from the digital signal file. The processor processes the first signal file and generates the second video, wherein the second video file is a streaming video file.

SECRET 6569705

SECRET - 750000



100

FIG. 1

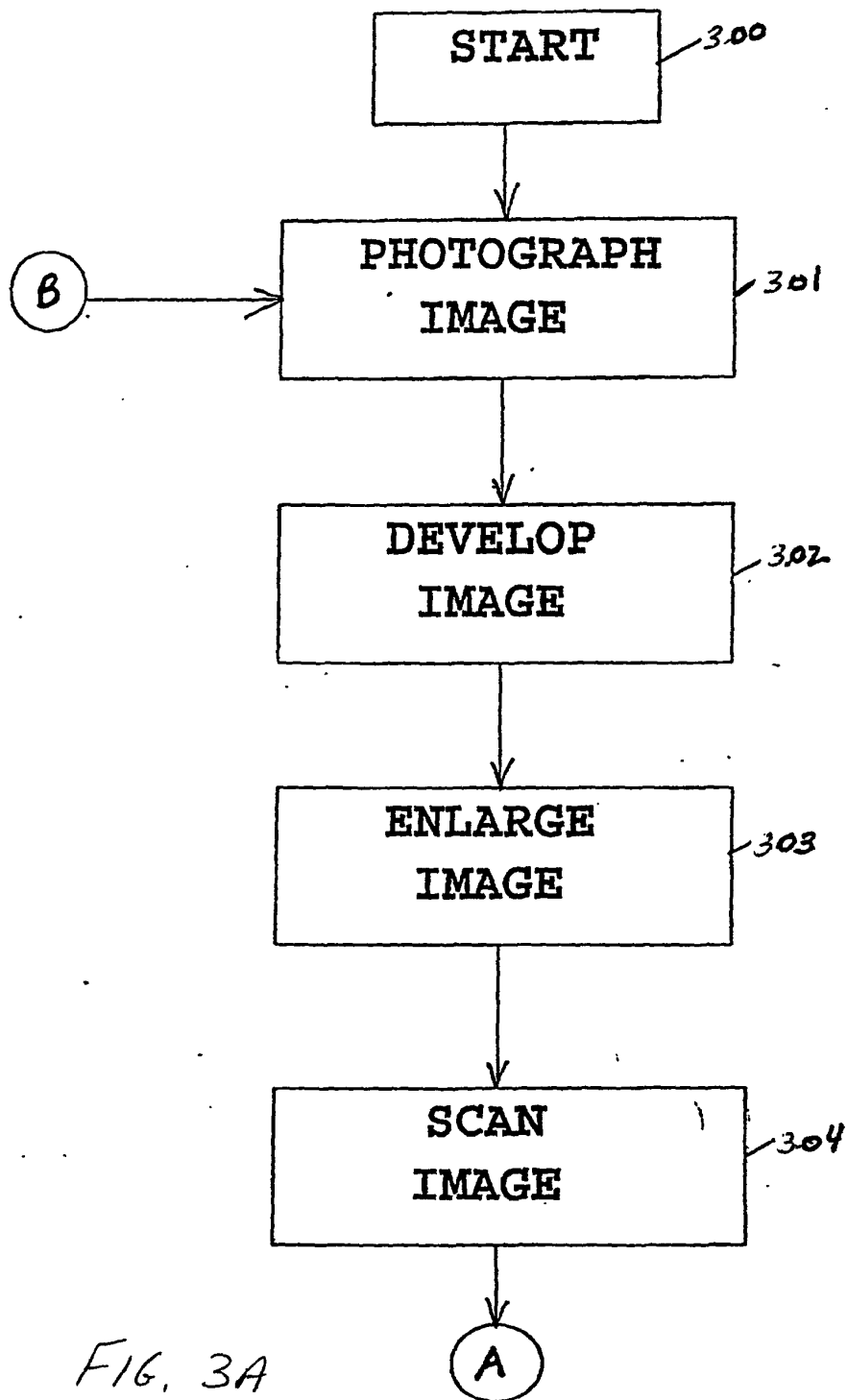


FIG. 3A

SECRET 6556109

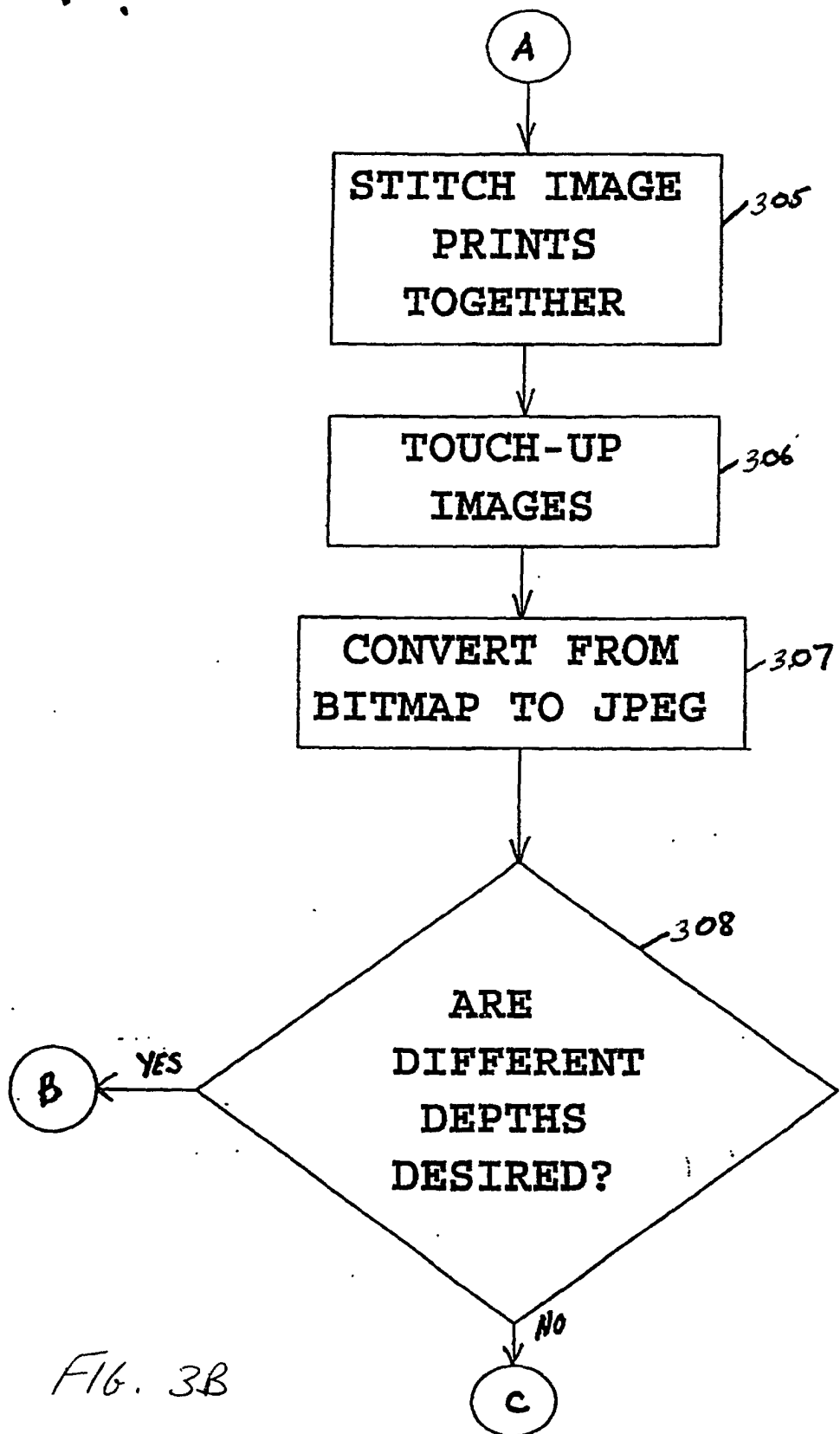


Fig. 3B

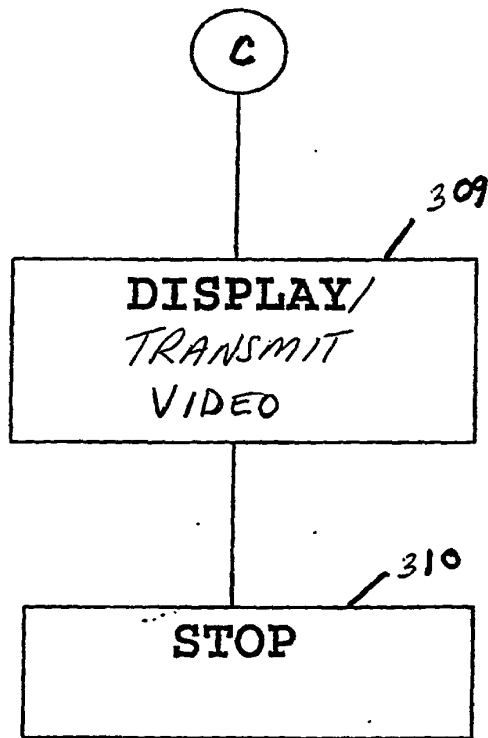


FIG. 3C

65422-6549109



P. B. 5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ +31 70 340 2040
TX 31651 epo nl
FAX +31 70 340 3016

**Europäisches
Patentamt**

Eingangsstelle

**European
Patent Office**

Receiving
Section

**Office européen
des brevets**

Section de
Dépôt

Molyneaux, Martyn William
Wildman, Harrold, Allen & Dixon
11th Floor, Tower 3,
Clements Inn,
London WC2A 2AZ
GRANDE BRETAGNE

Datum/Date

20/03/02

Zeichen/Ref./Réf. P/1783.EP/MWM	Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°. 00955352.0-1247 / 1200935
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

**NOTIFICATION OF EUROPEAN PUBLICATION NUMBER AND INFORMATION
ON THE APPLICATION OF ARTICLE 67(3) EPC**

The provisional protection under Article 67(1) and (2) EPC in the individual Contracting States becomes effective only when the conditions referred to in Article 67(3) EPC have been fulfilled (for further details, see information brochure of the European Patent Office "National Law relating to the EPC" and additional information in the Official Journal of the European Patent Office).

Pursuant to Article 158(1) EPC the publication under Article 21 PCT of an international application for which the European Patent Office is a designated Office takes the place of the publication of a European patent application.

The bibliographic data of the above-mentioned Euro-PCT application will be published on 02.05.02 in Section I.1 of the European Patent Bulletin.

The European publication number is 1200935.

In all future communications to the European Patent Office, please quote the application number plus Directorate number.

RECEIVING SECTION





P. B. 5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ +31 70 340 2040
TX 31651 epo nl
FAX +31 70 340 3016

**Europäisches
Patentamt**

Eingangs-
stelle

**European
Patent Office**

Receiving
Section

**Office européen
des brevets**

Section de
Dépôt

Molyneaux, Martyn William
Wildman, Harrold, Allen & Dixon
11th Floor, Tower 3,
Clements Inn,
London WC2A 2AZ
GRANDE BRETAGNE



Datum/Date

18-03-2002

Zeichen/Ref./Réf. P/1783.EP/MWM	Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°. 00955352.0-1247-US0021211
Anmelde/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Iviewit Holdings, Inc.	

COMMUNICATION PURSUANT TO RULES 109 AND 110 EPC

**(1) Amendment of application documents, especially the claims
(Rule 109 EPC)**

The above-mentioned international (Euro-PCT) application has entered the European phase - or can do so, once the necessary conditions are fulfilled.

Under Articles 28, 41 PCT, Rules 52, 78 PCT and Rule 86(2) to (4) EPC, the applicant may amend the application documents after receiving the international search report.

Whether or not he has already done so, he now has a further opportunity to file amended claims or other application documents within a non-extendable time limit of ONE MONTH after notification of the present communication (Rule 109 EPC).

The claims applicable on expiry of the above time limit, i.e. those filed on entry into the European phase or in response to the present communication, will form the basis for any supplementary search to be carried out under Article 157(2) EPC (Rule 109 EPC).

--2/

REGISTERED LETTER

EPO Form 1226 (01.02)

GB* 7001227 07/03/02
003



(2) Claims fees under Rule 110 EPC

If the application documents on which the European grant procedure is to be based comprise more than ten claims, a claims fee shall be payable for the eleventh and each subsequent claim within the period provided for in Rule 107(1) EPC.

] All necessary claims fees have already been paid.

] The claims fee due for the claims were not paid within the above-mentioned period.

These fees or claims fees which are calculated on basis of amended claims pursuant to Rule 109 EPC may still be validly paid within a non-extendable period of grace of ONE MONTH after notification of this communication.

If a payment is made for only some of the claims, it must be indicated for which claims it is intended. If a claims fee is not paid in due time, the claim concerned is deemed to be abandoned (Rule 110(4) EPC).

If claims fees have already been paid, but on expiry of the above-mentioned time limit there is a new set of claims containing fewer fee-incurring claims than previously, the claims fees in excess of those due under Rule 110(2), 2nd sentence, EPC will be refunded (Rule 110(3) EPC).

You are reminded that any supplementary search under Article 157(2) EPC will relate only to the last set of claims applicable on expiry of the above time limit AND will be confined to those fee-incurring claims for which fees have been paid in due time.

The fee for the eleventh and each subsequent claim is 40 EUR.

RECEIVING SECTION

Van Laar-Rabelink, Bertie



Anmeldung Nr./Application No./Demande n°//Patent Nr./Patent No./Brevet n° 00955352.0	Blatt/Page/Feuille 2
---	-------------------------

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

COESTER, Thomas, M.
Blakely, Sokoloff, Taylor & Zafman
12400 Wilshire Boulevard
7th Floor
Los Angeles, CA 90025
ETATS-UNIS D'AMERIQUE

570-031

27.02.2002

Date of mailing (day/month/year) 21 février 2002 (21.02.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 57103/120	
International application No. PCT/US00/21211	International filing date (day/month/year) 02 août 2000 (02.08.00)

1. The following indications appeared on record concerning:

the applicant the inventor the agent the common representative

Name and Address

UTLEY, Brian, G.
1930 SW 8th Street
Boca Raton, FL 33486
United States of America

State of Nationality

US

State of Residence

US

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

the person the name the address the nationality the residence

Name and Address

UTLEY, Brian, G.
by Bernstein, Eliot, L.
Iviewit Holdings, Inc.
505 North Brand Boulevard
Suite 1420
Glendale, CA 91203
United States of America

State of Nationality

US

State of Residence

US

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

the receiving Office the designated Offices concerned
 the International Searching Authority the elected Offices concerned
 the International Preliminary Examining Authority other:

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer</p> <p style="text-align: center;">Marie-Thérèse Priser</p> <p>Telephone No.: (41-22) 338.83.38</p>
--	---


An das Europäische Patentamt

Nur für ab 1. Juli 1999 eingereichte internationale Anmeldungen!

Eintritt in die europäische Phase vor dem (EPA als Bestimmungsamt oder ausgewähltes Amt)
To the European Patent Office

Only for international applications filed from 1 July 1999 onwards!

Entry into the European phase (EPO as designated or elected Office)
A l'office européen des brevets

Seulement pour les demandes internationales déposées à compter du 1er juillet 1999!

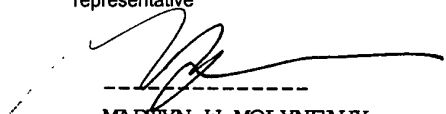
Entrée dans la phase européenne (l'OEB agissant en qualité d'office désigné ou élu)

Europäische Anmeldenummer oder, falls nicht bekannt, PCT-Aktenzeichen oder PCT-Veröffentlichungsnummer	European application number, or, if not known, PCT application or publication number <u>00955352.0</u>	Numéro de dépôt de la demande de brevet européen ou, à défaut numéro de dépôt PCT ou de publication PCT
Zeichen des Anmelders oder Vertreters (max. 15 Positionen)	Applicant's or representative's reference (max. 15 spaces) <u>P/1783.ÉP/MWM</u>	Référence du demandeur ou du mandataire (15 caractères ou espaces au maximum)
<input checked="" type="checkbox"/> 1. Anmelder Die Angaben über den (die) Anmelder sind in der internationalen Veröffentlichung enthalten oder vom Internationalen Büro nach der internationalen Veröffentlichung vermerkt werden. <input type="checkbox"/> Änderungen, die das Internationale Büro noch nicht vermerkt hat, sind auf einem Zusatzblatt angegeben. Zustellanschrift (siehe Merkblatt II, 1)	1. Applicant Indications concerning the applicant(s) are contained in the international publication or recorded by the International Bureau after the international publication. Changes which have not yet been recorded by the International Bureau are set out on an additional sheet. Address for correspondence (see Notes II, 1)	1. Demandeur Les indications concernant le(s) demandeur(s) figurent dans la publication internationale ou ont été enregistrées par le Bureau international après la publication internationale. Les changements qui n'ont pas encore été enregistrés par le Bureau international sont indiqués sur une feuille additionnelle. Adresse pour la correspondance (voir notice II, 1)
2. Vertreter Name (Nur einen Vertreter angeben, der in das europäische Patentregister eingetragen und an den zugestellt wird) Geschäftsanschrift Telefon Telefax Telex <input type="checkbox"/> Weitere(r) Vertreter auf Zusatzblatt	2. Representative Name (Name only one representative who is to be listed in the Register of European Patents and to whom notification is to be made) MARTYN W MOLYNEAUX Address of place of business WILDMAN HARROLD 11th FLOOR, TOWER 3 CLEMENTS INN LONDON WC2A 2AZ Telephone + 44 20 7831 0009 Fax Telex 44 20 7831 9005 Additional representative(s) on additional sheet	2. Mandataire Nom (N'indiquer qu' un seul mandataire, qui sera inscrit au Registre européen des brevets et auquel signification sera faite) Adresse professionnelle Téléphone Téléfax Téléc Autre(s) mandataire(s) sur une feuille additionnelle
3. Vollmacht <input type="checkbox"/> Einzelvollmacht ist beigelegt. <input type="checkbox"/> Allgemeine Vollmacht ist registriert unter Nummer: <input type="checkbox"/> Allgemeine Vollmacht ist eingereicht, aber noch nicht registriert. <input type="checkbox"/> Die beim EPA als PCT-Anmeldeamt eingereichte Vollmacht schließt ausdrücklich die regionale Phase ein.	3. Authorisation Individual authorisation is attached. General authorisation has been registered under No: <input type="checkbox"/> A general authorisation has been filed, but not yet registered. <input type="checkbox"/> The authorisation filed with the EPO as PCT receiving Office expressly includes the regional phase.	3. Pouvoir Un pouvoir spécial est joint. Un pouvoir général a été enregistré sous le n°: <input type="checkbox"/> Un pouvoir général a été déposé, mais n'est pas encore enregistré. <input type="checkbox"/> Le pouvoir général déposé à l'OEB agissant en qualité d'office récepteur au titre du PCT s'applique expressément à la phase régionale.

<input checked="" type="checkbox"/> 4. Prüfungsantrag Hiermit wird die Prüfung der Anmeldung gemäß Art. 94 EPÜ beantragt. Die Prüfungsgebühr wird (wurde) entrichtet. <i>Prüfungsantrag in einer zugelassenen Nichtamtssprache (siehe Merkblatt III, 5.2):</i>	4. Request for examination Examination of the application under Art. 94 EPC is hereby requested. The examination fee is being (has been, will be) paid. <i>Request for examination in an admissible non-EPO language (see Notes III, 5.2):</i>	4. Requête en examen Il est demandé que soit examinée la demande de brevet, conformément à l'art. 94 CBE. Il est (a été, sera) procédé au paiement de la taxe d'examen. <i>Requête en examen dans une langue non officielle autorisée (voir notice III, 5.2):</i>
<input type="checkbox"/> 5. Abschriften Zusätzliche Abschrift(en) der im ergänzenden europäischen Recherchenbericht angeführten Schriftstücke wird (werden) beantragt. Anzahl der zusätzlichen Sätze von Abschriften	5. Copies Additional copy (copies) of the documents cited in the supplementary European search report is (are) requested. Number of additional sets of copies	5. Copies Prière de fournir une ou plusieurs copie supplémentaire des documents cités dans le rapport complémentaire de recherche européenne. Nombre de jeux supplémentaires de copies
6. Für das Verfahren vor dem EPA bestimmte Unterlagen 6.1 Dem Verfahren vor dem EPA als Bestimmungsamt (PCT I) sind folgende Unterlagen zugrunde zu legen: <input checked="" type="checkbox"/> die vom Internationalen Büro veröffentlichten Anmeldungsunterlagen (mit allen Ansprüchen, Beschreibung und Zeichnungen), gegebenenfalls mit den geänderten Ansprüchen nach Art. 19 PCT <input type="checkbox"/> soweit sie nicht ersetzt werden durch die beigefügten Änderungen . <i>Falls nötig, sind Klarstellungen auf einem Zusatzblatt einzureichen!</i> 6.2 Dem Verfahren vor dem EPA als ausgewähltem Amt (PCT II) sind folgende Unterlagen zugrunde zu legen: <input checked="" type="checkbox"/> die dem Internationalen vorläufigen Prüfungsbericht zugrunde gelegten Unterlagen einschließlich seiner eventuellen Anlagen (<i>Solche Anlagen müssen immer beigefügt werden</i>) <input checked="" type="checkbox"/> soweit sie nicht ersetzt werden durch die beigefügten Änderungen . <i>Falls nötig, sind Klarstellungen auf einem Zusatzblatt einzureichen!</i> <input checked="" type="checkbox"/> Sind dem EPA als mit der internationalen vorläufigen Prüfung beauftragten Behörde Versuchsberichte zugegangen, dürfen diese dem Verfahren vor dem EPA zugrunde gelegt werden.	6. Documents intended for proceedings before the EPO 6.1 Proceedings before the EPO as designated Office (PCT I) are to be based on the following documents: the application documents published by the International Bureau (with all claims, description and drawings), where applicable with amended claims under Art. 19 PCT unless replaced by the amendments enclosed. <i>Where necessary, clarifications must be submitted on a separate sheet!</i> 6.2 Proceedings before the EPO as elected Office (PCT II) are to be based on the following documents: the documents on which the international preliminary examination report is based , including its possible annexes (<i>Such annexes must always be filed</i>) unless replaced by the amendments enclosed. <i>Where necessary, clarifications must be submitted on a separate sheet!</i> If the EPO as International Preliminary Examining Authority has received test reports , these may be used as the basis of proceedings before the EPO.	6. Pièces destinées à la procédure devant l'OEB 6.1 La procédure devant l'OEB agissant en qualité d'office désigné (PCT I) doit se fonder sur les pièces suivantes: les pièces de la demande publiée par le Bureau international (avec toutes les revendications, la description et les dessins), éventuellement avec les revendications modifiées conformément à l'article 19 du PCT dans la mesure où elles ne sont pas remplacées par les modifications jointes. <i>Le cas échéant, des explications doivent être jointes sur une feuille additionnelle!</i> 6.2 La procédure devant l'OEB agissant en qualité d'office élu (PCT II) doit se fonder sur les pièces suivantes: les pièces sur lesquelles se fonde le rapport d'examen préliminaire international , y compris ses annexes éventuelles (<i>De telles annexes sont toujours à joindre</i>) dans la mesure où elles ne sont pas remplacées par les modifications jointes. <i>Le cas échéant, des explications doivent être jointes sur une feuille additionnelle!</i> Si l'OEB, agissant en qualité d'administration chargée de l'examen préliminaire international, a reçu des rapports d'essais , ceux-ci peuvent constituer la base de la procédure devant l'OEB.

<p>7. Übersetzungen Beigefügt sind die nachfolgend angekreuzten Übersetzungen in einer der Amtssprachen des EPA (Deutsch, Englisch, Französisch):</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Im Verfahren vor dem EPA als Bestimmungsamt oder ausgewähltem Amt (PCT I+II):</i> <p><input type="checkbox"/> Übersetzung der ursprünglich eingereichten internationalen Anmeldung (Beschreibung, Ansprüche, etwaige Textbestandteile in den Zeichnungen), der veröffentlichten Zusammenfassung, und etwaiger Angaben über biologisches Material nach Regel 13^{bis}.3 und 13^{bis}.4 PCT, in drei Stücken</p> <p><input type="checkbox"/> Übersetzung der prioritätsbegründenden Anmeldung(en)</p> <p><input type="checkbox"/> Es wird hiermit erklärt, daß die internationale Anmeldung in ihrer ursprünglich eingereichten Fassung eine vollständige Übersetzung der früheren Anmeldung ist (Regel 38(5) EPÜ)</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Zusätzlich im Verfahren vor dem EPA als Bestimmungsamt (PCT I):</i> <p><input type="checkbox"/> Übersetzung der nach Art. 19 PCT geänderten Ansprüche nebst Erklärung, falls diese dem Verfahren vor dem EPA zugrunde gelegt werden sollen (siehe Feld 6), in drei Stücken</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Zusätzlich im Verfahren vor dem EPA als ausgewähltem Amt (PCT II):</i> <p><input type="checkbox"/> Übersetzung der Anlagen zum internationalen vorläufigen Prüfungsbericht, in drei Stücken</p>	<p>7. Translations Translations in one of the official languages of the EPO (English, French, German) are enclosed as crossed below:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In proceedings before the EPO as designated or elected Office (PCT I + II):</i> <p>Translation of the international application (description, claims, any text in the drawings) as originally filed, of the abstract as published and of any indication under Rule 13^{bis}.3 and 13^{bis}.4 PCT regarding biological material, in triplicate</p> <p>Translation of the priority application(s)</p> <p>It is hereby declared that the international application as originally filed is a complete translation of the previous application (Rule 38(5) EPC)</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In addition, in proceedings before the EPO as designated Office (PCT I):</i> <p>Translation of amended claims and any statement under Art. 19 PCT, if the claims as amended are to form the basis for the proceedings before the EPO (see Section 6), in triplicate</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In addition, in proceedings before the EPO as elected office (PCT II):</i> <p>Translation of any annexes to the international preliminary examination report, in triplicate</p>	<p>7. Traductions Vous trouverez ci-jointes les traductions cochées ci-après dans l'une des langues officielles de l'OEB (allemand, anglais, français):</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Dans la procédure devant l'OEB agissant en qualité d'office désigné ou élu (PCT I + II):</i> <p>Traduction de la demande internationale telle que déposée initialement (description, revendications, textes figurant éventuellement dans les dessins), de l'abrégé publié, et de toutes indications visées aux règles 13^{bis}.3 et 13^{bis}.4 du PCT concernant le matériel biologique, en trois exemplaires</p> <p>Traduction de la (des) demande(s) ouvrant le droit de priorité</p> <p>Il est déclaré par la présente que la demande internationale telle que déposée initialement est une traduction intégrale de la demande antérieure (règle 38(5) CBE)</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>De plus, dans la procédure devant l'OEB agissant en qualité d'office désigné (PCT I):</i> <p>Traduction des revendications modifiées et de la déclaration faite conformément à l'article 19 du PCT, si la procédure devant l'OEB doit être fondée sur les revendications modifiées (voir la rubrique 6), en trois exemplaires</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>De plus, dans la procédure devant l'OEB agissant en qualité d'office élu (PCT II):</i> <p>Traduction des annexes du rapport d'examen préliminaire international, en trois exemplaires</p>
<p>8. Biologisches Material</p> <p><input type="checkbox"/> Die Erfindung bezieht sich auf bzw. verwendet biologisches Material, das nach Regel 28 EPÜ hinterlegt worden ist.</p> <p><input type="checkbox"/> Die Angaben nach Regel 28(1)c) EPÜ (falls noch nicht bekannt, die Hinterlegungsstelle und das (die) Bezugszeichen [Nummer, Symbole usw.] des Hinterlegers) sind in der internationalen Veröffentlichung oder in der gemäß Feld 7 eingereichten Übersetzung enthalten auf:</p> <p>Seite(n) / Zeile(n)</p> <hr/> <p>Die Empfangsbescheinigung(en) der Hinterlegungsstelle</p> <p><input type="checkbox"/> ist (sind) beigefügt</p> <p><input type="checkbox"/> wird (werden) nachgereicht</p> <p><input type="checkbox"/> Verzicht auf die Verpflichtung des Antragstellers nach Regel 28(3) auf gesondertem Schriftstück</p>	<p>8. Biological material</p> <p>The invention relates to and/or uses biological material deposited under Rule 28 EPC.</p> <p>The particulars referred to in Rule 28(1)(c) EPC (if not yet known, the depository institution and the identification references [number, symbols, etc.] of the depositor) are given in the international publication or in the translation submitted under Section 7 on:</p> <p>page(s) / line(s)</p> <hr/> <p>The receipt(s) of deposit issued by the depository institution</p> <p><input type="checkbox"/> is (are) enclosed</p> <p><input type="checkbox"/> will be filed at a later date</p> <p><input type="checkbox"/> Waiver of the right to an undertaking from the requester pursuant to Rule 28(3) attached.</p>	<p>8. Matière biologique</p> <p>L'invention concerne et/ou utilise la matière biologique, déposée conformément à la règle 28 CBE.</p> <p>Les indications visées à la règle 28(1)c) CBE (si pas encore connues, l'autorité de dépôt et la (les) référence(s) d'identification [numéro ou symboles etc.] du déposant) figurent dans la publication internationale ou dans une traduction produite conformément à la rubrique 7 à la / aux:</p> <p>page(s) / ligne(s)</p> <hr/> <p>Le(s) récépissé(s) de dépôt délivré(s) par l'autorité de dépôt</p> <p><input type="checkbox"/> est (sont) joint(s)</p> <p><input type="checkbox"/> sera (seront) produit(s) ultérieurement</p> <p><input type="checkbox"/> Renonciation, sur document distinct, à l'engagement du requérant au titre de la règle 28(3).</p>

<p>9. Nucleotid- und Aminosäuresequenzen</p> <p><input type="checkbox"/> Die nach Regeln 5.2 und 13^{ter} PCT sowie Regel 111(3) EPÜ erforderlichen Unterlagen liegen dem EPA bereits vor.</p> <p><input type="checkbox"/> Das schriftliche Sequenzprotokoll wird anlegend in einer Amtssprache des EPA nachgereicht.</p> <p><input type="checkbox"/> Das Sequenzprotokoll geht nicht über den Inhalt der Anmeldung in der ursprünglich eingereichten Fassung hinaus.</p> <p><input type="checkbox"/> Der vorgeschriebene maschinenlesbare Datenträger ist beigelegt.</p> <p><input type="checkbox"/> Die auf dem Datenträger gespeicherte Information stimmt mit dem schriftlichen Sequenzprotokoll überein.</p>	<p>9. Nucleotide and amino acid sequences</p> <p>The items necessary in accordance with Rules 5.2 and 13^{ter} PCT and Rule 111(3) EPC have already been furnished to the EPO.</p> <p>The written sequence listing is furnished herewith in an official language of the EPO.</p> <p>The sequence listing does not include matter which goes beyond the content of the application as filed.</p> <p>The prescribed machine-readable data carrier is enclosed.</p> <p>The information recorded on the data carrier is identical to the written sequence listing.</p>	<p>9. Séquences de nucléotides et d'acides aminés</p> <p>Les pièces requises selon les règles 5.2 et 13^{ter} PCT et la règle 111(3) CBE ont déjà été déposées auprès de l'OEB.</p> <p>La liste de séquences écrite est produite ci-joint dans une des langues officielles de l'OEB.</p> <p>La liste de séquences ne contient pas d'éléments s'étendant au-delà du contenu de la demande telle qu'elle a été déposée.</p> <p>Le support de données prescrit, déchiffirable par machine, est annexé.</p> <p>L'information figurant sur le support de données est identique à celle que contient la liste de séquences écrite.</p>
<p>10. Benennungsgebühren *</p> <p><input checked="" type="checkbox"/> 10.1 Es ist derzeit beabsichtigt, den siebenfachen Betrag einer Benennungsgebühr zu entrichten. Damit gelten die Benennungsgebühren für alle Vertragsstaaten des EPÜ¹ als entrichtet (Art. 2 Nr. 3 GebO), soweit sie in der internationalen Anmeldung bestimmt sind.</p> <p><input type="checkbox"/> 10.2 Abweichend von der Erklärung in Nr. 10.1 ist derzeit beabsichtigt, weniger als sieben Benennungsgebühren für folgende in der internationalen Anmeldung bestimmte Vertragsstaaten des EPÜ² zu entrichten:</p> <p>(1) <input type="checkbox"/> _____</p> <p>(2) <input type="checkbox"/> _____</p> <p>(3) <input type="checkbox"/> _____</p> <p>Soweit unter Nr. 10.2 Vertragsstaaten aufgeführt sind, wird beantragt, für die dort nicht angeführten Vertragsstaaten von der Zustellung von Mitteilungen nach Regel 108(3) EPÜ abzusehen.</p>	<p>10. Designation fees *</p> <p>10.1 It is currently intended to pay seven times the amount of the designation fee. The designation fees for all the EPC contracting states¹ designated in the international application are thereby deemed to have been paid (Art. 2 No. 3 RFees).</p> <p>10.2 The declaration in No. 10.1 does not apply. Instead, it is currently intended to pay fewer than seven designation fees for the following EPC contracting states² designated in the international application:</p> <p>(4) <input type="checkbox"/> _____</p> <p>(5) <input type="checkbox"/> _____</p> <p>(6) <input type="checkbox"/> _____</p> <p>If contracting states are indicated under No. 10.2, it is requested that no communications under Rule 108(3) EPC be issued for contracting states not thus indicated.</p>	<p>10. Taxes de désignation *</p> <p>10.1 Il est actuellement envisagé de payer un montant correspondant à sept fois la taxe de désignation. Les taxes de désignation sont ainsi réputées payées pour tous les Etats contractants de la CBE¹ désignés dans la demande internationale (art. 2, point 3 du RRT).</p> <p>10.2 Contrairement à ce qui est indiqué au n° 10.1, il est actuellement envisagé de payer moins de sept taxes de désignation pour les Etats contractants de la CBE² suivants désignés dans la demande internationale:</p> <p>(4) <input type="checkbox"/> _____</p> <p>(5) <input type="checkbox"/> _____</p> <p>(6) <input type="checkbox"/> _____</p> <p>Si des états contractants sont mentionnés au n°. 10.2, prière de ne pas procéder à la signification des notifications prévues par la règle 108(3) CBE pour les Etats contractants n'y ayant pas été mentionnés.</p>
<p><input checked="" type="checkbox"/> 10.3 Wird ein automatischer Abbuchungsauftrag erteilt (Feld 12), so wird das EPA beauftragt, bei Ablauf der Grundfrist nach Regel 107(1)d) EPÜ den siebenfachen Betrag einer Benennungsgebühr abzubuchen. Ist eine Erklärung nach Nr. 10.2 abgegeben worden, so sollen die Benennungsgebühren nur für die dort angegebenen Vertragsstaaten abgebucht werden, sofern dem EPA nicht bis zum Ablauf der Grundfrist ein anderslautender Auftrag zugeht.</p>	<p>10.3 If an automatic debit order has been issued (Section 12), the EPO is authorised, on expiry of the basic period under Rule 107(1)(d) EPC, to debit seven times the amount of the designation fee. If states are indicated under No. 10.2, the EPO will debit designation fees only for those states, unless instructed otherwise before the basic period expires.</p>	<p>10.3 Si un ordre de prélèvement automatique est donné (rubrique 12), il est demandé à l'OEB de prélever, à l'expiration du délai normal visé à la règle 107(1)d) CBE, un montant correspondant à sept fois la taxe de désignation. Si une déclaration a été faite au n° 10.2, les taxes de désignation ne sont à prélever que pour les Etats contractants qui y sont indiqués, sauf instruction contraire reçue par l'OEB avant l'expiration du délai normal.</p>
<p>* Form 1200 (01.02) nur verwenden für internationale Anmeldungen, die ab 1. Juli 1999 eingereicht worden sind.</p>	<p>* Use Form 1200 (01.02) only for international applications filed from 1 July 1999 onwards.</p>	<p>* Veuillez utiliser le formulaire 1200 (01.02) seulement pour les demandes internationales déposées à compter du 1^{er} juillet 1999.</p>
<p>1 Stand bei Drucklegung: 20 Vertragsstaaten, und zwar: / Status when this form was printed: 20 contracting states, namely / Situation à la date d'impression: 20 Etats contractants, à savoir: AT Österreich / Austria / Autriche, BE Belgien / Belgium / Belgique, CH/LI Schweiz und Liechtenstein / Switzerland and Liechtenstein / Suisse et Liechtenstein, CY Zypern / Cyprus / Chypre, DE Deutschland / Germany / Allemagne, DK Dänemark / Denmark / Danemark, ES Spanien / Spain / Espagne, FI Finnland / Finland / Finlande, FR Frankreich / France / France, GB Vereinigtes Königreich / United Kingdom / Royaume-Uni, GR Griechenland / Greece / Grèce, IE Irland / Ireland / Irlande, IT Italien / Italy / Italie, LU Luxemburg / Luxembourg / Luxembourg, MC Monaco / Monaco / Monaco, NL Niederlande / Netherlands / Pays-Bas, PT Portugal / Portugal / Portugal, SE Schweden / Sweden / Suède, TR Türkei / Turkey / Turquie</p>		
<p>2 Für Türkei nur möglich, falls in der internationalen Anmeldung am oder nach dem 1. November 2000 bestimmt. / For Turkey possible only if designated in the international application on or after 1 November 2000. / En ce qui concerne Turquie, seulement si la désignation a été effectuée dans la demande internationale le 1^{er} novembre 2000 ou à une date ultérieure.</p>		

<input checked="" type="checkbox"/> 11. Erstreckung des europäischen Patents Diese Anmeldung gilt auch als Erstreckungsantrag für alle in der internationalen Anmeldung bestimmten Nicht-Vertragsstaaten des EPÜ, mit denen bei Einreichung der internationalen Anmeldung »Erstreckungsabkommen« in Kraft waren. Die Erstreckung wird jedoch nur wirksam, wenn die vorgeschriebene Erstreckungsgebühr entrichtet wird. Es wird derzeit beabsichtigt, die Erstreckungsgebühr für die nachfolgend angekreuzten Staaten zu entrichten: <input type="checkbox"/> SI Slowenien <input type="checkbox"/> LT Litauen <input type="checkbox"/> LV Lettland <input type="checkbox"/> AL Albanien <input type="checkbox"/> RO Rumänien <input type="checkbox"/> MK Ehemalige jugoslawische Republik Mazedonien <input type="checkbox"/> _____ 1)	11. Extension of the European patent This application is also considered as being a request for extension to all the non-Contracting States to the EPC designated in the International application with which "extension agreements" were in force on the date of filing the international application. However, the extension only takes effect if the prescribed extension fee is paid. It is currently intended to pay the extension fee for the States marked with a cross below: Slovenia Lithuania Latvia Albania Romania Former Yugoslav Republic of Macedonia _____ 1)	11. Extension des effets du brevet européen La présente demande est également réputée demande d'extension à tous les Etats non contractants de la CBE désignés dans la demande internationale, avec lesquels existaient, lors du dépôt de la demande, des «accords d'extension». Toutefois l'extension ne produit ses effets que si la taxe d'extension prescrite est acquittée. Il est actuellement envisagé de payer la taxe d'extension pour les Etats dont le nom est coché ci-après: Slovénie Lituanie Lettonie Albanie Roumanie Ex-République yougoslave de Macédoine _____ 1)
<input type="checkbox"/> 12. Automatischer Abbuchungsauftrag (Nur möglich für Inhaber von beim EPA geführten laufenden Konten) Das EPA wird beauftragt, nach Maßgabe der Vorschriften über das automatische Abbuchungsverfahren fällige Gebühren und Auslagen vom untenstehenden laufenden Konto abzubuchen. Im Bezug auf die Benennungsgebühren wird auf Feld 10.3 verwiesen. Das EPA wird ferner beauftragt, die Erstreckungsgebühren für jeden in Feld 11 angekreuzten »Erstreckungsstaat« bei Ablauf der Grundfrist zu ihrer Zahlung abzubuchen, sofern ihm nicht bis dahin ein anderslautender Auftrag zugeht. Nummer und Kontoinhaber _____	12. Automatic debit order (for EPO deposit account holders only) The EPO is hereby authorised, under the Arrangements for the automatic debiting procedure, to debit from the deposit account below any fees and costs falling due. For designation fees, see Section 10.3. The EPO is also authorised, on expiry of the basic period for paying the extension fees, to debit those fees for each of the "extension states" marked with a cross in Section 11, unless instructed otherwise before the said period expires. Number and account holder _____	12. Ordre de prélèvement automatique (uniquement possible pour les titulaires de comptes courants ouverts auprès de l'OEB) Par la présente, il est demandé à l'OEB de prélever du compte courant ci-dessous les taxes et frais venant à échéance, conformément à la réglementation relative au prélèvement automatique. Pour les taxes de désignation, se reporter à la rubrique 10.3. Il est en outre demandé à l'OEB de prélever, à l'expiration du délai normal prévu pour leur paiement, les taxes d'extension pour chaque « Etat autorisant l'extension » coché à la rubrique 11, sauf instruction contraire reçue avant l'expiration de ce délai. Numéro et titulaire du compte _____
<input checked="" type="checkbox"/> 13. Eventuelle Rückzahlungen auf das beim EPA geführte laufende Konto Nummer und Kontoinhaber _____	13. Any reimbursement to EPO deposit account Number and account holder 2805 0319 WILDMAN HARROLD _____	13. Remboursements éventuels à effectuer sur le compte courant ouvert auprès de l'OEB Numéro et titulaire du compte _____
14. Unterschrift(en) des (der) Anmelder(s) oder Vertreters Ort / Datum Für Angestellte (Art. 133(3) EPÜ) mit allgemeiner Vollmacht: Nr. _____ Name(n) des (der) Unterzeichneten bitte in Druckschrift wiederholen. Bei juristischen Personen bitte auch die Stellung des (der) Unterzeichneten innerhalb der Gesellschaft in Druckschrift angeben.	14. Signature(s) of applicant(s) or representative  ----- MARTYN W MOLYNEAUX Place / Date London, England/30.1.02 For employees (Art. 133(3) EPC) having a general authorisation: No. _____ Please print name(s) under signature(s). In the case of legal persons, the position of the signatory within the company should also be printed.	14. Signature(s) du (des) demandeur(s) ou du mandataire Lieu / Date Pour les employés (art. 133(3) CBE) disposant d'un pouvoir général: N° _____ Le ou les noms des signataires doivent être indiqués en caractères d'imprimerie. S'il s'agit d'une personne morale, la position occupée au sein de celle-ci par le ou les signataires doit également être indiquée en caractères d'imprimerie.

Wildman, Harrold, Allen & Dixon
11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
Tel. (020) 7831 0009
Fax (020) 7831 9005
www.wildmanharrold.com

EPO - Munich
67
04. Feb. 2002



Wildman Harrold
Attorneys and Counselors

BY FACSIMILE

January 30, 2002

The European Patent Office
D-80298 Munich
GERMANY

CONFIRMATION

Dear Sirs

RE: European Patent Application derived
from PCT/US00/21211
IVIEWIT HOLDINGS, INC
European Patent Application No. 00955352.0
Our Ref: P/1783.EP/MWM

The above referenced PCT application is entering the European regional phase.

The applicant wishes to designate the following member states, namely:

AUSTRIA	BELGIUM
CYPRUS	DENMARK
SWITZERLAND	GERMANY
FINLAND	SPAIN
FRANCE	UNITED KINGDOM
GREECE	IRELAND
ITALY	LUXEMBOURG
MONACO	NETHERLANDS
PORTUGAL	SWEDEN.

Zur Keese

We enclose the following:

- 1) Form 1200;
- 2) Amended pages 11 to 14 of the description and a set of claims upon which prosecution is to be effected.

We request Substantive Examination of this application.

January 30, 2002

Page 2

We also enclose a debit order form in respect of fees. If there is any discrepancy in the fees paid herewith, we request our Deposit Account 2805 0319 be debited/credited.

Please address all correspondence relating to this application to Martyn W Molyneaux at our letterhead address.

Please acknowledge safe receipt of this letter by returning a copy of the attached form 1037.

Yours faithfully
WILDMAN HARROLD
ALLEN & DIXON



MARTYN W MOLYNEAUX
(Professional Representative of
the Applicant)

MWM/kj

Note that the source image (si) may have a different aspect ratio than the viewing window (vw). To place the viewing image (vi) in the viewing window (vw), a subset of pixels from the source image (si) must be selected and scaled. The viewing image height (vih) and viewing image width (viw) within the viewing window (vw) can be determined by comparing the source image aspect ratio (sir) to the viewing window aspect ratio (vwr), as shown:

if $sir < vwr$ then:

$$vih = vwh$$

$$viw = vih * sir$$

but if $sir \geq vwr$ then:

$$viw = vww$$

$$vih = viw / sir$$

This relationship is illustrated in FIG. 7.

Note that the target image (ti) is created from the source image (si), by scaling the image (si) down to fit within the viewing window (vw). When the target image (ti) is scaled down by the desired maximum magnification factor (mmf) to fit within the viewing window (vw), the scaled target image is called the viewing image (vi).

The maximum magnification factor (mmf) is defined as the ratio of the target image area (tia) to the viewing image area (via). This ratio will determine the amount of zoom available without causing the image to distort due to pixelation, i.e., when fewer pixels are in the viewing image being displayed than available in the viewing window. So:

$$\text{target image area (tia)} = tiw \times tih$$

and since

$$via = viw \times vih$$

then

$$tia = via \times mmf$$

To obtain the target image width and height:

$$tiw = \sqrt{(tia * sir)}$$

$$tih = tiw / sir$$

The relationship between the target image and the viewing image is shown in FIG. 7. The relationship between the target image and the viewing window is also shown. A zoom to the maximum level will be shown in the viewing window as illustrated at representation 120 of FIG. 7.

5 By panning the viewing window, every portion of the target image may be viewed from each level of zooming.

To determine the minimum scan density (msd) to avoid pixelation at the desired maximum magnification factor (mmf):

$$msd = tih/sih = tiw/siw$$

10 EXAMPLE 1

Determine the Target Image Area and dimensions, and minimum scan density for the following case:

Source Image = 5" wide x 4" high

Desired Magnification Factor = 20

15 Source Image Aspect Ratio = $5 / 4 = 1.25$

Define the Viewing Window: assume 480w x 320h pixels

Viewing Window Aspect Ratio = $480 / 320 = 1.5$

The Source Image Aspect Ratio is < the Viewing Window Aspect Ratio:

$1.25 < 1.5$ therefore:

20 $vih = vwh = 320$ pixels

$viw = vih * 1.25 = 320 * 1.25 = 400$ pixels

The Viewing Image Area = $vis = 320 \times 400 = 128,000$ pixels

The Target Image Area = $vis \times 20 = 128,000 \times 20 = 2,560,000$ pixels

The Target Image width = $\sqrt{2,560,000 / 0.8} = 1789$ pixels

25 The Target Image height = $1789 \times 0.8 = 1431$ pixels

The Minimum Scan Density = $1789 / 5 = 358$ pixels per inch The

photo scan can be any scan density > 357 pixels per inch

Thus, a 5 x 4" print film image should be scanned at greater than 357 pixels per inch to allow magnification/zoom up to 20 times in a

30 viewing window of: 480 x 320 pixels. An enhanced digital image file

having 2,560,000 pixels provides a sufficient number of pixels for this example.

EXAMPLE 2

Determine the Target Image Area and dimensions, and minimum scan density for the following case:

Source Image = 5" wide x 4" high

Desired Maximum Magnification Factor = 20

Source Image Aspect Ratio = $5 / 4 = 1.25$

Define the Viewing Window: assume 400w x 360h pixels

Viewing Window Aspect Ratio = $400 / 360 = 1.11$

The Source Image Aspect Ratio is > the Viewing Window Aspect Ratio:

$1.25 > 1.11$ therefore:

$$v_{iw} = v_{ww} = 400 \text{ pixels}$$

$$v_{ih} = v_{iw} / 1.25 = 400 / 1.25 = 320 \text{ pixels}$$

The Viewing Image Area = $v_{ia} = 400 \times 320 = 128,000$ pixels

The Target Image Area = $v_{ia} \times 20 = 128,000 \times 20 = 2,560,000$ pixels

The Target Image width = $\sqrt{2,560,000 \times 1.25} = 1789$ pixels

The Target Image height = $1789 / 1.25 = 1431$ pixels

The Minimum Scan Density = $1431 / 4 = 358$ pixels per inch

The photo scan can be any scan density > 357 pixels per inch

EXAMPLE 3

Determine the Target Image Area and dimensions, and minimum scan density for the following case:

Source Image = 4" wide x 5" high (portrait orientation)

Desired Magnification Factor = 20

Source Image Aspect Ratio = $4 / 5 = 0.8$

Define the Viewing Window: assume 400w x 360h pixels

Viewing Window Aspect Ratio = $400 / 360 = 1.11$

The Source Image Aspect Ratio is < the Viewing Window Aspect Ratio:

$0.8 < 1.11$ therefore:

$$v_{ih} = v_{wh} = 360 \text{ pixels}$$

$$v_{iw} = v_{ih} * 0.8 = 360 * 0.8 = 288 \text{ pixels}$$

The Viewing Image area = $v_{ia} = 360 \times 288 = 103,680$ pixels

The Target Image area = $v_{ia} \times 20 = 103,680 \times 20 = 2,073,600$ pixels

The Target Image width = $\sqrt{2,073,600 * 0.8} = 1288$ pixels

5 The Target Image height = $1288 / 0.8 = 1610$ pixels

The Minimum Scan Density = $1610 / 5 = 322$ pixels per inch

The photo scan can be any scan density > 321 pixels per inch

Returning now to FIG. 2, at step 60, the enhanced digital image file is provided to computer 22 in a digitized format, i.e., pixel-based, bitmapped, etc. (as opposed to vector graphics based format), such as in either in a bitmap BMP format or a compressed JPEG format. Computer 22 performs a touch-up operation on the scanned image in order to make refinements or enhancements thereto. This touch-up operation is accomplished by utilizing imaging software. Touch-up steps may include cleaning the edges of the image, adjusting lighting, adjusting colors, etc. Adobe PhotoShop software, manufactured by Adobe Systems Inc., San Jose, California, can be used as the imaging software for touching up the images.

According to one example, multiple images can be stitched together after scanning, and before or after compression, thereby creating a panoramic scene or image, or simply a scene requiring a plurality of photographs. This stitching operation can be performed by utilizing photo stitching software such as, for example, Photo Vista software by Live Picture, Live Picture Reality Studio or Live Picture Object Modeler. Stitching may comprise sufficient photos for a 360 degree panoramic image of a scene. If images are stitched, they may be touched-up at step 60.

At step 62, if desired, and if the enhanced digital image file has not yet been compressed (e.g., by scanning device 18 or the touch-up software), the image is then converted from a bitmap file format (e.g., BMP) to a compressed file format (e.g., JPEG). Other compression algorithms are contemplated. Adobe Image Ready software is utilized to perform the BMP-to-JPEG file conversion in this exemplary embodiment.

CLAIMS

1. A method comprising:
determining a target image size as a function of an image magnification factor and a size
5 of a viewing window that will appear on a user display to enable the viewing of a digital image
file therein according to the image magnification factor;
and
generating the digital image file including a fixed number of pixels that form an image
whose size is determined as a function of the target image size and is larger than the viewing
10 window size.
2. The method of claim 1, wherein the target image size is a further function of the size of a
source image, and wherein the image in the digital image file is generated based on the source
image.
- 15 3. The method of claim 2, wherein the target image size is determined by multiplying the
magnification factor by one of the height and width of the viewing window.
4. The method of claim 1 further comprising providing a user interface for the digital image
20 file, the user interface configured to display the digital image file in the viewing window and to
allow a user to zoom into the image displayed in the viewing window.
5. The method of claim 1, wherein the image size is at least ten times that of the viewing
window size.
- 25 6. The method of claim 4, wherein the user interface is configured to allow the user to pan
across the image being displayed.
7. The method of claim 4, wherein the user interface prevents the user from zooming into
30 the image to the point of pixelation.
8. The method of claim 4, wherein the digital image file includes the user interface in a
single data file.
- 35 9. The method of claim 4, wherein the user interface is an application program applet.

10. The method of claim 4, wherein the user interface is an application program controlled by the user's computer.

5 11. The method of claim 1, wherein the digital image file is generated by further compressing the image.

12. The method of claim 1 further comprising uploading the digital image file to a network server.

10

13. The method of claim 1, wherein the digital image file is generated from a print film image.

14. The method of claim 1, wherein the digital image file is acquired with a digital camera.

15

15. The method of claim 1, wherein the viewing window size represents a full-screen size of the user display.

20

16. The method of claim 1 further comprising providing higher resolution for segments of said image by repeating the determination and generation steps using a plurality of different depth digital images.

17. The method of claim 16 further comprising linking the plurality of different depth digital images to respective segments of said image.

25

18. A method comprising:

a) providing a digital image, including a fixed number of pixels, whose size is determined based on a target image size and is larger than a viewing window size, wherein the viewing window size is the size of a viewing window that will appear on a user display to enable
30 the viewing of the digital image therein according to an image magnification factor, and wherein the target image size is based on the image magnification factor and the viewing window size; and

b) providing the digital image to a server that can be accessed to download the digital image for appearing on the user display.

35

19. The method of claim 18, wherein the target image size is further based on the size of a source image, and wherein the digital image is generated based on the source image.
20. The method of claim 19, wherein the target image size is determined by multiplying the magnification factor by one of the height and width of the viewing window.
21. The method of claim 18 further comprising compressing the digital image prior to providing the compressed digital image to the server.
22. The method of claim 18 further comprising:
under user control, transmitting the digital image over a network;
displaying the transmitted image to the user in the viewing window; and
under user control, magnifying the displayed image within the viewing window.
23. The method of claim 22 further comprising, under user control, moving the displayed image in the viewing window.
24. The method of claim 22 further comprising providing the user with a plurality of selectable magnification levels to view the displayed image within the viewing window.
25. The method of claim 24, wherein the selectable magnification levels are limited such that no more than one pixel of the user display can display one pixel of the digital image.
26. The method of claim 21, wherein the digital image is compressed to a JPEG format.
27. The method of claim 18, wherein the digital image is provided by enlarging and scanning a print film image.
28. The method of claim 18, wherein the digital image is provided by acquiring it using a digital camera.
29. The method of claim 22, wherein the digital image is transmitted over the Internet.

30. The method of claim 18 further comprising providing higher resolution for segments of said digital image by providing different depth digital images whose size is determined according to a).

5 31. The method of claim 30 further comprising linking the plurality of different depth digital images to respective segments of said image.

32. A computer file comprising:

10 digital image data, whose image size is determined based on a target image size and is larger than a viewing window size, wherein the viewing window size is the size of a viewing window that will appear on a display to enable the viewing of the digital image data according to an image magnification factor, and wherein the target image size is based on the image magnification factor and the viewing window size; and

control data to allow a user to control the magnification factor.

15

33. The file of claim 32, wherein the digital image data is compressed.

34. The file of claim 32, wherein the control data is to provide zoom buttons and pan buttons to a user.

20

35. The file of claim 34, wherein the control data includes a Java applet.

36. The file of claim 34, wherein the digital image data has a number of pixels sufficient to allow a user to magnify without pixelation the digital image data being displayed in the viewing window by a magnification factor of at least ten.

25

37. The file of claim 36, wherein the digital image data has a number of pixels sufficient to allow a user to magnify without pixelation the digital image data being displayed in the viewing window by a magnification factor of at least one hundred.

30

38. The file of claim 32, wherein respective segments of the digital image data are linked to a plurality of different depth digital images to provide higher resolution for the segments.

Zur Kasse

A € 3200,-

1

An das Europäische Patentamt*Nur für ab 1. Juli 1999 eingereichte internationale Anmeldungen!***Eintritt in die europäische Phase vor dem (EPA als Bestimmungsamt oder ausgewähltes Amt)****To the European Patent Office***Only for international applications filed from 1 July 1999 onwards!***Entry into the European phase (EPO as designated or elected Office)****A l'office européen des brevets***Seulement pour les demandes internationales déposées à compter du 1er juillet 1999!***Entrée dans la phase européenne (l'OEB agissant en qualité d'office désigné ou élu)**

Europäische Anmeldenummer oder, falls nicht bekannt, PCT-Aktenzeichen oder PCT-Veröffentlichungsnummer

European application number, or, if not known, PCT application or publication number

Numéro de dépôt de la demande de brevet européen ou, à défaut numéro de dépôt PCT ou de publication PCT

00955352.0

Zeichen des Anmelders oder Vertreters (max. 15 Positionen)

Applicant's or representative's reference (max. 15 spaces)

Référence du demandeur ou du mandataire (15 caractères ou espaces au maximum)

P/1783.FP/MWM

**1. Anmelder**

Die Angaben über den (die) Anmelder sind in der internationalen Veröffentlichung enthalten oder vom internationalen Büro nach der internationalen Veröffentlichung vermerkt werden.

1. Applicant

Indications concerning the applicant(s) are contained in the international publication or recorded by the International Bureau after the international publication.

1. Demandeur

Les indications concernant le(s) demandeur(s) figurent dans la publication internationale ou ont été enregistrées par le Bureau International après la publication internationale.



Änderungen, die das internationale Büro noch nicht vermerkt hat, sind auf einem Zusatzblatt angegeben.

Changes which have not yet been recorded by the International Bureau are set out on an additional sheet.

Les changements qui n'ont pas encore été enregistrés par le Bureau international sont indiqués sur une feuille additionnelle.

Zustellanschrift (siehe Merkblatt II, 1)

Address for correspondence (see Notes II, 1)

Adresse pour la correspondance (voir notice II, 1)

2. Vertreter

Name (Nur einen Vertreter angeben, der in das europäische Patentregister eingetragen und an den zugestellt wird)

2. RepresentativeName (Name only one representative who is to be listed in the Register of European Patents and to whom notification is to be made)
MARTYN W MOLYNEAUX**2. Mandataire**

Nom (N'indiquer qu'un seul mandataire, qui sera inscrit au Registre européen des brevets et auquel signification sera faite)

Geschäftsanschrift

Address of place of business
WILDMAN HARROLD
11th FLOOR, TOWER 3
CLEMENTS INN
LONDON WC2A 2AZ

Adresse professionnelle

Telefon

Telephone
+ 44 20 7831 0009

Téléphone

Telefax Telex

Fax Tolcx
44 20 7831 9005

Téléfax Télcx



Weitere(r) Vertreter auf Zusatzblatt

Additional representative(s) on additional sheet

Autre(s) mandataire(s) sur une feuille additionnelle

3. Vollmacht

Einzelvollmacht ist beigelegt.

3. Authorisation

Individual authorisation is attached.

3. Pouvoir

Un pouvoir spécial est joint.



Allgemeine Vollmacht ist registriert unter Nummer:

General authorisation has been registered under No:

Un pouvoir général a été enregistré sous le n°:



Allgemeine Vollmacht ist eingereicht, aber noch nicht registriert.

A general authorisation has been filed, but not yet registered.

Un pouvoir général a été déposé, mais n'est pas encore enregistré.



Die beim EPA als PCT-Anmeldeamt eingereichte Vollmacht schließt ausdrücklich die regionale Phase ein.

The authorisation filed with the EPO as PCT receiving Office expressly includes the regional phase.

Le pouvoir général déposé à l'OEB agissant en qualité d'office récepteur au titre du PCT s'applique expressément à la phase régionale.

<input checked="" type="checkbox"/> 4. Prüfungsantrag Hiermit wird die Prüfung der Anmeldung gemäß Art. 94 EPO beantragt. Die Prüfungsgebühr wird (wurde) entrichtet. <i>Prüfungsantrag in einer zugelassenen Nichtamtssprache (siehe Merkblatt III, 5.2):</i>	4. Request for examination Examination of the application under Art. 94 EPC is hereby requested. The examination fee is being (has been, will be) paid. <i>Request for examination in an admissible non-EPO language (see Notes III, 5.2):</i>	4. Requête en examen Il est demandé que soit examinée la demande de brevet, conformément à l'art. 94 CBE. Il est (a été, sera) procédé au paiement de la taxe d'examen. <i>Requête en examen dans une langue non officielle autorisée (voir notice III, 5.2):</i>
<input type="checkbox"/> 5. Abschriften Zusätzliche Abschrift(en) der im ergänzenden europäischen Recherchenbericht angeführten Schriftstücke wird (werden) beantragt. Anzahl der zusätzlichen Sätze von Abschriften	5. Copies Additional copy (copies) of the documents cited in the supplementary European search report is (are) requested. Number of additional sets of copies	5. Copies Prière de fournir une ou plusieurs copie supplémentaire des documents cités dans le rapport complémentaire de recherche européenne. Nombre de jeux supplémentaires de copies
6. Für das Verfahren vor dem EPA bestimmte Unterlagen 6.1 Dem Verfahren vor dem EPA als Bestimmungsamt (PCT I) sind folgende Unterlagen zugrunde zu legen: <input checked="" type="checkbox"/> die vom Internationalen Büro veröffentlichten Anmeldeunterlagen (mit allen Ansprüchen, Beschreibung und Zeichnungen), gegebenenfalls mit den geänderten Ansprüchen nach Art. 19 PCT <input type="checkbox"/> soweit sie nicht ersetzt werden durch die beigefügten Änderungen. <i>Falls nötig, sind Klarstellungen auf einem Zusatzblatt einzureichen!</i>	6. Documents intended for proceedings before the EPO 6.1 Proceedings before the EPO as designated Office (PCT I) are to be based on the following documents: the application documents published by the International Bureau (with all claims, description and drawings), where applicable with amended claims under Art. 19 PCT unless replaced by the amendments enclosed. <i>Where necessary, clarifications must be submitted on a separate sheet!</i>	6. Pièces destinées à la procédure devant l'OEI 6.1 La procédure devant l'OEI agissant en qualité d' office désigné (PCT I) doit se fonder sur les pièces suivantes: les pièces de la demande publiée par le Bureau international (avec toutes les revendications, la description et les dessins), éventuellement avec les revendications modifiées conformément à l'article 19 du PCT dans la mesure où elles ne sont pas remplacées par les modifications jointes. <i>Le cas échéant, des explications doivent être jointes sur une feuille additionnelle!</i>
6.2 Dem Verfahren vor dem EPA als ausgewähltem Amt (PCT II) sind folgende Unterlagen zugrunde zu legen: <input checked="" type="checkbox"/> die dem Internationalen vorläufigen Prüfungsbericht zugrunde gelegten Unterlagen einschließlich seiner eventuellen Anlagen (Solche Anlagen müssen immer beigefügt werden) <input checked="" type="checkbox"/> soweit sie nicht ersetzt werden durch die beigefügten Änderungen. <i>Falls nötig, sind Klarstellungen auf einem Zusatzblatt einzureichen!</i>	6.2 Proceedings before the EPO as elected Office (PCT II) are to be based on the following documents: the documents on which the international preliminary examination report is based, including its possible annexes (Such annexes must always be filed) unless replaced by the amendments enclosed. <i>Where necessary, clarifications must be submitted on a separate sheet!</i>	6.2 La procédure devant l'OEI agissant en qualité d' office élu (PCT II) doit se fonder sur les pièces suivantes : les pièces sur lesquelles se fonde le rapport d'examen préliminaire international, y compris ses annexes éventuelles (De telles annexes sont toujours à joindre) dans la mesure où elles ne sont pas remplacées par les modifications jointes. <i>Le cas échéant, des explications doivent être jointes sur une feuille additionnelle!</i>
<input checked="" type="checkbox"/> Sind dem EPA als mit der internationalen vorläufigen Prüfung beauftragten Behörde Versuchsberichte zugegangen, dürfen diese dem Verfahren vor dem EPA zugrunde gelegt werden.	If the EPO as International Preliminary Examining Authority has received test reports, these may be used as the basis of proceedings before the EPO.	Si l'OEI, agissant en qualité d'administration chargée de l'examen préliminaire international, a reçu des rapports d'essais , ceux-ci peuvent constituer la base de la procédure devant l'OEI.

<p>7. Übersetzungen Beigefügt sind die nachfolgend angekreuzten Übersetzungen in einer der Amtssprachen des EPA (Deutsch, Englisch, Französisch):</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Im Verfahren vor dem EPA als Bestimmungsamt oder ausgewähltem Amt (PCT I+II):</i> <p><input type="checkbox"/> Übersetzung der ursprünglich eingereichten internationalen Anmeldung (Beschreibung, Ansprüche, etwaige Textbestandteile in den Zeichnungen), der veröffentlichten Zusammenfassung, und etwaiger Angaben über biologisches Material nach Regel 13^{bis} 3 und 13^{bis} 4 PCT, in drei Stücken</p> <p><input type="checkbox"/> Übersetzung der prioritätsbegründenden Anmeldung(en)</p> <p><input type="checkbox"/> Es wird hiermit erklärt, daß die internationale Anmeldung in ihrer ursprünglich eingereichten Fassung eine vollständige Übersetzung der früheren Anmeldung ist (Regel 38(5) EPÜ)</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Zusätzlich im Verfahren vor dem EPA als Bestimmungsamt (PCT I):</i> <p><input type="checkbox"/> Übersetzung der nach Art. 19 PCT geänderten Ansprüche nebst Erklärung, falls diese dem Verfahren vor dem EPA zugrunde gelegt werden sollen (siehe Feld 6), in drei Stücken</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Zusätzlich im Verfahren vor dem EPA als ausgewähltem Amt (PCT II):</i> <p><input type="checkbox"/> Übersetzung der Anlagen zum internationalen vorläufigen Prüfungsbericht, in drei Stücken</p>	<p>7. Translations Translations in one of the official languages of the EPO (English, French, German) are enclosed as crossed below:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In proceedings before the EPO as designated or elected Office (PCT I + II):</i> <p>Translation of the international application (description, claims, any text in the drawings) as originally filed, of the abstract as published and of any indication under Rule 13^{bis} 3 and 13^{bis} 4 PCT regarding biological material, in triplicate</p> <p>Translation of the priority application(s)</p> <p>It is hereby declared that the international application as originally filed is a complete translation of the previous application (Rule 38(5) EPC)</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In addition, in proceedings before the EPO as designated Office (PCT I):</i> <p>Translation of amended claims and any statement under Art. 19 PCT, if the claims as amended are to form the basis for the proceedings before the EPO (see Section 6), in triplicate</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>In addition, in proceedings before the EPO as elected office (PCT II):</i> <p>Translation of any annexes to the international preliminary examination report, in triplicate</p>	<p>7. Traductions Vous trouverez ci-jointes les traductions cochées ci-après dans l'une des langues officielles de l'OEB (allemand, anglais, français):</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Dans la procédure devant l'OEB agissant en qualité d'office désigné ou élu (PCT I + II):</i> <p>Traduction de la demande internationale telle que déposée initialement (description, revendications, textes figurant éventuellement dans les dessins), de l'abrégé publié, et de toutes indications visées aux règles 13^{bis} 3 et 13^{bis} 4 du PCT concernant le matériel biologique, en trois exemplaires</p> <p>Traduction de la (des) demande(s) ouvrant le droit de priorité</p> <p>Il est déclaré par la présente que la demande internationale telle que déposée initialement est une traduction intégrale de la demande antérieure (règle 38(5) CBE)</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>De plus, dans la procédure devant l'OEB agissant en qualité d'office désigné (PCT I):</i> <p>Traduction des revendications modifiées et de la déclaration faite conformément à l'article 19 du PCT, si la procédure devant l'OEB doit être fondée sur les revendications modifiées (voir la rubrique 6), en trois exemplaires</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>De plus, dans la procédure devant l'OEB agissant en qualité d'office élu (PCT II):</i> <p>Traduction des annexes du rapport d'examen préliminaire international, en trois exemplaires</p>
<p>8. Biologisches Material</p> <p><input type="checkbox"/> Die Erfindung bezieht sich auf bzw. verwendet biologisches Material, das nach Regel 28 EPÜ hinterlegt worden ist.</p> <p><input type="checkbox"/> Die Angaben nach Regel 28(1)c) EPÜ (falls noch nicht bekannt, die Hinterlegungsstelle und das (die) Bezugszeichen (Nummer, Symbole usw.) des Hinterlegers) sind in der internationalen Veröffentlichung oder in der gemäß Feld 7 eingereichten Übersetzung enthalten auf:</p> <p>Seite(n) / Zeile(n)</p> <p>Die Empfangsbescheinigung(en) der Hinterlegungsstelle</p> <p><input type="checkbox"/> ist (sind) beigelegt</p> <p><input type="checkbox"/> wird (werden) nachgereicht</p> <p><input type="checkbox"/> Verzicht auf die Verpflichtung des Antragstellers nach Regel 28(3) auf gesondertem Schriftstück</p>	<p>8. Biological material</p> <p>The invention relates to and/or uses biological material deposited under Rule 28 EPC.</p> <p>The particulars referred to in Rule 28(1)(c) EPC (if not yet known, the depository institution and the identification references(s) [number, symbols, etc.] of the depositor) are given in the international publication or in the translation submitted under Section 7 on:</p> <p>page(s) / line(s)</p> <p>The receipt(s) of deposit issued by the depository institution</p> <p>is (are) enclosed</p> <p>will be filed at a later date</p> <p>Waiver of the right to an undertaking from the requester pursuant to Rule 28(3) attached.</p>	<p>8. Matière biologique</p> <p>L'invention concerne et/ou utilise la matière biologique, déposée conformément à la règle 28 CBE.</p> <p>Les indications visées à la règle 28(1)c) CBE (si pas encore connues, l'autorité de dépôt et la (les) référence(s) d'identification [numéro ou symboles etc.] du déposant) figurent dans la publication internationale ou dans une traduction produite conformément à la rubrique 7 à la / aux:</p> <p>page(s) / ligne(s)</p> <p>Le(s) récépissé(s) de dépôt délivré(s) par l'autorité de dépôt</p> <p>est (sont) joint(s)</p> <p>sera (seront) produit(s) ultérieurement</p> <p>Renonciation, sur document distinct, à l'engagement du requérant au titre de la règle 28(3).</p>

<p>9. Nucleotid- und Aminosäuresequenzen</p> <p><input type="checkbox"/> Die nach Regeln 5.2 und 13^{ter} PCT sowie Regel 111(3) EPÜ erforderlichen Unterlagen liegen dem EPA bereits vor.</p> <p><input type="checkbox"/> Das schriftliche Sequenzprotokoll wird anlegend in einer Amtssprache des EPA nachgereicht.</p> <p><input type="checkbox"/> Das Sequenzprotokoll geht nicht über den Inhalt der Anmeldung in der ursprünglich eingereichten Fassung hinaus.</p> <p><input type="checkbox"/> Der vorgeschriebene maschinenlesbare Datenträger ist beigelegt.</p> <p><input type="checkbox"/> Die auf dem Datenträger gespeicherte Information stimmt mit dem schriftlichen Sequenzprotokoll überein.</p>	<p>9. Nucleotide and amino acid sequences</p> <p>The items necessary in accordance with Rules 5.2 and 13^{ter} PCT and Rule 111(3) EPC have already been furnished to the EPO.</p> <p>The written sequence listing is furnished herewith in an official language of the EPO.</p> <p>The sequence listing does not include matter which goes beyond the content of the application as filed.</p> <p>The prescribed machine-readable data carrier is enclosed.</p> <p>The information recorded on the data carrier is identical to the written sequence listing.</p>	<p>9. Séquences de nucléotides et d'acides aminés</p> <p>Les pièces requises selon les règles 5.2 et 13^{ter} PCT et la règle 111(3) CBE ont déjà été déposées auprès de l'OEB.</p> <p>La liste de séquences écrite est produite ci-joint dans une des langues officielles de l'OEB.</p> <p>La liste de séquences ne contient pas d'éléments s'étendant au-delà du contenu de la demande telle qu'elle a été déposée.</p> <p>Le support de données prescrit, déchiffirable par machine, est annexé.</p> <p>L'information figurant sur le support de données est identique à celle que contient la liste de séquences écrites.</p>
<p>10. Benennungsgebühren *</p> <p><input checked="" type="checkbox"/> 10.1 Es ist derzeit beabsichtigt, den siebenfachen Betrag einer Benennungsgebühr zu entrichten. Damit gelten die Benennungsgebühren für alle Vertragsstaaten des EPÜ¹ als entrichtet (Art. 2 Nr. 3 GebO), soweit sie in der internationalen Anmeldung bestimmt sind.</p> <p><input type="checkbox"/> 10.2 Abweichend von der Erklärung in Nr. 10.1 ist derzeit beabsichtigt, weniger als sieben Benennungsgebühren für folgende in der internationalen Anmeldung bestimmte Vertragsstaaten des EPÜ² zu entrichten:</p> <p>(1) <input type="text"/></p> <p>(2) <input type="text"/></p> <p>(3) <input type="text"/></p> <p>Soweit unter Nr. 10.2 Vertragsstaaten aufgeführt sind, wird beantragt, für die dort nicht angeführten Vertragsstaaten von der Zustellung von Mitteilungen nach Regel 108(3) EPÜ abzusehen.</p>	<p>10. Designation fees *</p> <p>10.1 It is currently intended to pay seven times the amount of the designation fee. The designation fees for all the EPC contracting states¹ designated in the International application are thereby deemed to have been paid (Art. 2 No. 3 RFees).</p> <p>10.2 The declaration in No. 10.1 does not apply. Instead, it is currently intended to pay fewer than seven designation fees for the following EPC contracting states² designated in the international application:</p> <p>(4) <input type="text"/></p> <p>(5) <input type="text"/></p> <p>(6) <input type="text"/></p> <p>If contracting states are indicated under No. 10.2, it is requested that no communications under Rule 108(3) EPC be issued for contracting states not thus indicated.</p>	<p>10. Taxes de désignation *</p> <p>10.1 Il est actuellement envisagé de payer un montant correspondant à sept fois la taxe de désignation. Les taxes de désignation sont ainsi réputées payées pour tous les États contractants de la CBE¹ désignés dans la demande internationale (art. 2, point 3 du RRT).</p> <p>10.2 Contrairement à ce qui est indiqué au n° 10.1, il est actuellement envisagé de payer moins de sept taxes de désignation pour les États contractants de la CBE² suivants désignés dans la demande internationale:</p> <p>(4) <input type="text"/></p> <p>(5) <input type="text"/></p> <p>(6) <input type="text"/></p> <p>Si des états contractants sont mentionnés au n°, 10.2, prière de ne pas procéder à la signification des notifications prévues par la règle 108(3) CBE pour les États contractants n'y ayant pas été mentionnés.</p>
<p><input checked="" type="checkbox"/> 10.3 Wird ein automatischer Abbuchungsauftrag erteilt (Feld 12), so wird das EPA beauftragt, bei Ablauf der Grundfrist nach Regel 107(1)(d) EPÜ den siebenfachen Betrag einer Benennungsgebühr abzubuchen. Ist eine Erklärung nach Nr. 10.2 abgegeben worden, so sollen die Benennungsgebühren nur für die dort angegebenen Vertragsstaaten abgebucht werden, sofern dem EPA nicht bis zum Ablauf der Grundfrist ein anderslautender Auftrag zugeht.</p>	<p>10.3 If an automatic debit order has been issued (Section 12), the EPO is authorised, on expiry of the basic period under Rule 107(1)(d) EPC, to debit seven times the amount of the designation fee. If states are indicated under No. 10.2, the EPO will debit designation fees only for those states, unless instructed otherwise before the basic period expires.</p>	<p>10.3 Si un ordre de prélèvement automatique est donné (rubrique 12), il est demandé à l'OEB de prélever, à l'expiration du délai normal visé à la règle 107(1)(d) CBE, un montant correspondant à sept fois la taxe de désignation. Si une déclaration a été faite au n° 10.2, les taxes de désignation ne sont à prélever que pour les États contractants qui y sont indiqués, sauf instruction contraire reçue par l'OEB avant l'expiration du délai normal.</p>

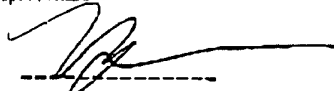
* Form 1200 (01.02) nur verwenden für internationale Anmeldungen, die ab 1. Juli 1999 eingereicht worden sind.

* Use Form 1200 (01.02) only for international applications filed from 1 July 1999 onwards.

* Veuillez utiliser le formulaire 1200 (01.02) seulement pour les demandes internationales déposées à compter du 1^{er} juillet 1999.

1 Stand bei Drucklegung: 20 Vertragsstaaten, und zwar: / Status when this form was printed: 20 contracting states, namely / Situation à la date d'impression: 20 États contractants. À savoir: AT Österreich / Austria / Autriche, BE Belgien / Belgium / Belgique, CHLI Schweiz und Liechtenstein / Switzerland and Liechtenstein / Suisse et Liechtenstein, CY Zypern / Cyprus / Chypre, DE Deutschland / Germany / Allemagne, DK Dänemark / Denmark / Danemark, ES Spanien / Spain / Espagne, FI Finnland / Finland / Finlande, FR Frankreich / France / Franco, GB Vereinigtes Königreich / United Kingdom / Royaume-Uni, GR Griechenland / Greece / Grèce, IE Irland / Ireland / Irlande, IT Italien / Italy / Italie, LU Luxemburg / Luxembourg / Luxembourg, MC Monaco / Monaco / Monaco, NL Niederlande / Netherlands / Pays-Bas, PT Portugal / Portugal / Portugal, SE Schweden / Sweden / Suède, TR Türkei / Turkey / Turquie

2 Für Türkei nur möglich, falls in der internationalen Anmeldung am oder nach dem 1. November 2000 bestimmt. / For Turkey possible only if designated in the international application on or after 1 November 2000. / En ce qui concerne Turquie, seulement si la désignation a été effectuée dans la demande internationale le 1^{er} novembre 2000 ou à une date ultérieure.

<input checked="" type="checkbox"/> 11. Er Streckung des europäischen Patents Diese Anmeldung gilt auch als Er Streckungsantrag für alle in der internationalen Anmeldung bestimmten Nicht-Vortragsstaaten des EPO, mit denen bei Einreichung der internationalen Anmeldung »Erstreckungsabkommen« in Kraft waren. Die Er Streckung wird jedoch nur wirksam, wenn die vorgeschriebene Er Streckungsgebühr entrichtet wird. Es wird derzeit beabsichtigt, die Er Streckungsgebühr für die nachfolgend angekreuzten Staaten zu entrichten: <input type="checkbox"/> SI Slowenien <input type="checkbox"/> LT Litauen <input type="checkbox"/> LV Lettland <input type="checkbox"/> AL Albanien <input type="checkbox"/> RO Rumänien <input type="checkbox"/> MK Ehemalige jugoslawische Republik Mazedonien <input type="checkbox"/> _____ 1)	11. Extension of the European patent This application is also considered as being a request for extension to all the non-Contracting States to the EPC designated in the international application with which "extension agreements" were in force on the date of filing the international application. However, the extension only takes effect if the prescribed extension fee is paid. It is currently intended to pay the extension fee for the States marked with a cross below: Slovenia Lithuania Latvia Albania Romania Former Yugoslav Republic of Macedonia <input type="checkbox"/> _____ 1)	11. Extension des effets du brevet européen La présente demande est également réputée demande d'extension à tous les Etats non contractants de la CBE désignés dans la demande internationale, avec lesquels existaient, lors du dépôt de la demande, des «accords d'extension». Toutefois l'extension ne produit ses effets que si la taxe d'extension prescrite est acquittée. Il est actuellement envisagé de payer la taxe d'extension pour les Etats dont le nom est coché ci-après: Slovénie Lituanie Lettonie Albanie Roumanie Ex-République yougoslave de Macédoine <input type="checkbox"/> _____ 1)
<input type="checkbox"/> 12. Automatischer Abbuchungsauftrag (Nur möglich für Inhaber von beim EPA geführten laufenden Konten) Das EPA wird beauftragt, nach Maßgabe der Vorschriften über das automatische Abbuchungsverfahren fällige Gebühren und Auslagen vom untenstehenden laufenden Konto abzubuchen. Im Bezug auf die Benennungsgebühren wird auf Feld 10.3 verwiesen. Das EPA wird ferner beauftragt, die Er Streckungsgebühren für jeden in Feld 11 angekreuzten »Er Streckungsstaat« bei Ablauf der Grundfrist zu Ihrer Zahlung abzubuchen, sofern ihm nicht bis dahin ein anderslautender Auftrag zugeht. Nummer und Kontoinhaber _____	12. Automatic debit order (for EPO deposit account holders only) The EPO is hereby authorised, under the Arrangements for the automatic debiting procedure, to debit from the deposit account below any fees and costs falling due. For designation fees, see Section 10.3. The EPO is also authorised, on expiry of the basic period for paying the extension fees, to debit those fees for each of the "extension states" marked with a cross in Section 11, unless instructed otherwise before the said period expires. Number and account holder _____	12. Ordre de prélèvement automatique (uniquement possible pour les titulaires de comptes courants ouverts auprès de l'OEB) Par la présente, il est demandé à l'OEB de prélever du compte courant ci-dessous les taxes et frais venant à échéance, conformément à la réglementation relative au prélèvement automatique. Pour les taxes de désignation, se reporter à la rubrique 10.3. Il est en outre demandé à l'OEB de prélever, à l'expiration du délai normal prévu pour leur paiement, les taxes d'extension pour chaque « Etat autorisant l'extension » coché à la rubrique 11, sauf instruction contraire reçue avant l'expiration de ce délai. Numéro et titulaire du compte _____
<input checked="" type="checkbox"/> 13. Eventuelle Rückzahlungen auf das beim EPA geführte laufende Konto Nummer und Kontoinhaber _____	13. Any reimbursement to EPO deposit account Number and account holder <u>2805 0319 WILDMAN HAROLD</u>	13. Remboursements éventuels à effectuer sur le compte courant ouvert auprès de l'OEB Numéro et titulaire du compte _____
14. Unterschrift(en) des (der) Anmelders(s) oder Vertreters Ort / Datum Für Angestellte (Art. 133(3) EPÜ) mit allgemeiner Vollmacht: Nr. _____ <small>Name(n) des (der) Unterzeichneten bitte in Druckschrift wiederholen. Bei juristischen Personen bitte auch die Stellung des (der) Unterzeichneten innerhalb der Gesellschaft in Druckschrift angeben.</small>	14. Signature(s) of applicant(s) or representative  MARTYN W MOLYNEAUX Place / Date London, England/30.1.02 For employees (Art. 133(3) EPC) having a general authorisation: No. _____ <small>Please print name(s) under signature(s). In the case of legal persons, the position of the signatory within the company should also be printed.</small>	14. Signature(s) du (des) demandeur(s) ou du mandataire Lieu / Date Pour les employés (art. 133(3) CBE) disposant d'un pouvoir général: N° _____ <small>Le ou les noms des signataires doivent être indiqués en caractères d'imprimerie. S'il s'agit d'une personne morale, la position occupée au sein de celle-ci par le ou les signataires doit également être indiquée en caractères d'imprimerie.</small>

Note that the source image (si) may have a different aspect ratio than the viewing window (vw). To place the viewing image (vi) in the viewing window (vw), a subset of pixels from the source image (si) must be selected and scaled. The viewing image height (vih) and viewing image width (viw) within the viewing window (vw) can be determined by comparing the source image aspect ratio (sir) to the viewing window aspect ratio (vwr), as shown:

if $sir < vwr$ then:

$$vih = vwh$$

$$viw = vih * sir$$

but if $sir \geq vwr$ then:

$$viw = vww$$

$$vih = viw / sir$$

This relationship is illustrated in FIG. 7.

Note that the target image (ti) is created from the source image (si), by scaling the image (si) down to fit within the viewing window (vw). When the target image (ti) is scaled down by the desired maximum magnification factor (mmf) to fit within the viewing window (vw), the scaled target image is called the viewing image (vi).

The maximum magnification factor (mmf) is defined as the ratio of the target image area (tia) to the viewing image area (via). This ratio will determine the amount of zoom available without causing the image to distort due to pixelation, i.e., when fewer pixels are in the viewing image being displayed than available in the viewing window. So:

$$\text{target image area (tia)} = tiw \times tih$$

and since

$$via = viw \times vih$$

then

$$tia = via \times mmf$$

To obtain the target image width and height:

$$tiw = \sqrt{(tia * sir)}$$

$$tih = tiw / sir$$

The relationship between the target image and the viewing image is shown in FIG. 7. The relationship between the target image and the viewing window is also shown. A zoom to the maximum level will be shown in the viewing window as illustrated at representation 120 of FIG. 7.

5 By panning the viewing window, every portion of the target image may be viewed from each level of zooming.

To determine the minimum scan density (msd) to avoid pixelation at the desired maximum magnification factor (mmf):

$$\text{msd} = \text{tih}/\text{sih} = \text{tiw}/\text{siw}$$

10 EXAMPLE 1

Determine the Target Image Area and dimensions, and minimum scan density for the following case:

Source Image = 5" wide x 4" high

Desired Magnification Factor = 20

15 Source Image Aspect Ratio = $5 / 4 = 1.25$

Define the Viewing Window: assume 480w x 320h pixels

Viewing Window Aspect Ratio = $480 / 320 = 1.5$

The Source Image Aspect Ratio is < the Viewing Window Aspect Ratio:

1.25 < 1.5 therefore:

20 $\text{vih} = \text{vwh} = 320$ pixels

$\text{viw} = \text{vih} * 1.25 = 320 * 1.25 = 400$ pixels

The Viewing Image Area = $\text{vis} = 320 \times 400 = 128,000$ pixels

The Target Image Area = $\text{vis} \times 20 = 128,000 \times 20 = 2,560,000$ pixels

The Target Image width = $\sqrt{2,560,000 / 0.8} = 1789$ pixels

25 The Target Image height = $1789 \times 0.8 = 1431$ pixels

The Minimum Scan Density = $1789 / 5 = 358$ pixels per inch The

photo scan can be any scan density > 357 pixels per inch

Thus, a 5 x 4" print film image should be scanned at greater than 357 pixels per inch to allow magnification/zoom up to 20 times in a
30 viewing window of: 480 x 320 pixels. An enhanced digital image file

having 2,560,000 pixels provides a sufficient number of pixels for this example.

EXAMPLE 2

Determine the Target Image Area and dimensions, and minimum scan density

5 for the following case:

Source Image = 5" wide x 4" high

Desired Maximum Magnification Factor = 20

Source Image Aspect Ratio = $5 / 4 = 1.25$

Define the Viewing Window: assume 400w x 360h pixels

10 Viewing Window Aspect Ratio = $400 / 360 = 1.11$

The Source Image Aspect Ratio is > the Viewing Window Aspect Ratio:

$1.25 > 1.11$ therefore:

$viw = vww = 400$ pixels

$vih = viw / 1.25 = 400 / 1.25 = 320$ pixels

15 The Viewing Image Area = $via = 400 \times 320 = 128,000$ pixels

The Target Image Area = $via \times 20 = 128,000 \times 20 = 2,560,000$ pixels

The Target Image width = $\sqrt{2,560,000 \times 1.25} = 1789$ pixels

The Target Image height = $1789 / 1.25 = 1431$ pixels

The Minimum Scan Density = $1431 / 4 = 358$ pixels per inch

20 The photo scan can be any scan density > 357 pixels per inch

EXAMPLE 3

Determine the Target Image Area and dimensions, and minimum scan density

for the following case:

Source Image = 4" wide x 5" high (portrait orientation)

25 Desired Magnification Factor = 20

Source Image Aspect Ratio = $4 / 5 = 0.8$

Define the Viewing Window: assume 400w x 360h pixels

Viewing Window Aspect Ratio = $400 / 360 = 1.11$

The Source Image Aspect Ratio is < the Viewing Window Aspect Ratio:

30 $0.8 < 1.11$ therefore:

$vih = vwh = 360$ pixels

$$v_{iw} = v_{ih} * 0.8 = 360 * 0.8 = 288 \text{ pixels}$$

The Viewing Image area = $v_{ia} = 360 \times 288 = 103,680$ pixels

The Target Image area = $v_{ia} \times 20 = 103,680 \times 20 = 2,073,600$ pixels

The Target Image width = $\sqrt{2,073,600 * 0.8} = 1288$ pixels

5 The Target Image height = $1288 / 0.8 = 1610$ pixels

The Minimum Scan Density = $1610 / 5 = 322$ pixels per inch

The photo scan can be any scan density > 321 pixels per inch

Returning now to FIG. 2, at step 60, the enhanced digital image file is provided to computer 22 in a digitized format, i.e., pixel-based, bitmapped, etc. (as opposed to vector graphics based format), such as in either in a bitmap BMP format or a compressed JPEG format. Computer 22 performs a touch-up operation on the scanned image in order to make refinements or enhancements thereto. This touch-up operation is accomplished by utilizing imaging software. Touch-up steps may include cleaning the edges of the image, adjusting lighting, adjusting colors, etc. Adobe PhotoShop software, manufactured by Adobe Systems Inc., San Jose, California, can be used as the imaging software for touching up the images.

According to one example, multiple images can be stitched together after scanning, and before or after compression, thereby creating a panoramic scene or image, or simply a scene requiring a plurality of photographs. This stitching operation can be performed by utilizing photo stitching software such as, for example, Photo Vista software by Live Picture, Live Picture Reality Studio or Live Picture Object Modeler. Stitching may comprise sufficient photos for a 360 degree panoramic image of a scene. If images are stitched, they may be touched-up at step 60.

At step 62, if desired, and if the enhanced digital image file has not yet been compressed (e.g., by scanning device 18 or the touch-up software), the image is then converted from a bitmap file format (e.g., BMP) to a compressed file format (e.g., JPEG). Other compression algorithms are contemplated. Adobe Image Ready software is utilized to perform the BMP-to-JPEG file conversion in this exemplary embodiment.

CLAIMS

1. A method comprising:
determining a target image size as a function of an image magnification factor and a size
5 of a viewing window that will appear on a user display to enable the viewing of a digital image
file therein according to the image magnification factor;
and
generating the digital image file including a fixed number of pixels that form an image
whose size is determined as a function of the target image size and is larger than the viewing
10 window size.
2. The method of claim 1, wherein the target image size is a further function of the size of a
source image, and wherein the image in the digital image file is generated based on the source
image.
- 15 3. The method of claim 2, wherein the target image size is determined by multiplying the
magnification factor by one of the height and width of the viewing window.
4. The method of claim 1 further comprising providing a user interface for the digital image
20 file, the user interface configured to display the digital image file in the viewing window and to
allow a user to zoom into the image displayed in the viewing window.
5. The method of claim 1, wherein the image size is at least ten times that of the viewing
window size.
- 25 6. The method of claim 4, wherein the user interface is configured to allow the user to pan
across the image being displayed.
7. The method of claim 4, wherein the user interface prevents the user from zooming into
30 the image to the point of pixelation.
8. The method of claim 4, wherein the digital image file includes the user interface in a
single data file.
- 35 9. The method of claim 4, wherein the user interface is an application program applet.

10. The method of claim 4, wherein the user interface is an application program controlled by the user's computer.

5 11. The method of claim 1, wherein the digital image file is generated by further compressing the image.

12. The method of claim 1 further comprising uploading the digital image file to a network server.

10

13. The method of claim 1, wherein the digital image file is generated from a print film image.

14. The method of claim 1, wherein the digital image file is acquired with a digital camera.

15

15. The method of claim 1, wherein the viewing window size represents a full-screen size of the user display.

16. The method of claim 1 further comprising providing higher resolution for segments of said image by repeating the determination and generation steps using a plurality of different depth digital images.

20

17. The method of claim 16 further comprising linking the plurality of different depth digital images to respective segments of said image.

25

18. A method comprising:

a) providing a digital image, including a fixed number of pixels, whose size is determined based on a target image size and is larger than a viewing window size, wherein the viewing window size is the size of a viewing window that will appear on a user display to enable the viewing of the digital image therein according to an image magnification factor, and wherein the target image size is based on the image magnification factor and the viewing window size; and

30

b) providing the digital image to a server that can be accessed to download the digital image for appearing on the user display.

35

19. The method of claim 18, wherein the target image size is further based on the size of a source image, and wherein the digital image is generated based on the source image.
20. The method of claim 19, wherein the target image size is determined by multiplying the magnification factor by one of the height and width of the viewing window.
21. The method of claim 18 further comprising compressing the digital image prior to providing the compressed digital image to the server.
22. The method of claim 18 further comprising:
under user control, transmitting the digital image over a network;
displaying the transmitted image to the user in the viewing window; and
under user control, magnifying the displayed image within the viewing window.
23. The method of claim 22 further comprising, under user control, moving the displayed image in the viewing window.
24. The method of claim 22 further comprising providing the user with a plurality of selectable magnification levels to view the displayed image within the viewing window.
25. The method of claim 24, wherein the selectable magnification levels are limited such that no more than one pixel of the user display can display one pixel of the digital image.
26. The method of claim 21, wherein the digital image is compressed to a JPEG format.
27. The method of claim 18, wherein the digital image is provided by enlarging and scanning a print film image.
28. The method of claim 18, wherein the digital image is provided by acquiring it using a digital camera.
29. The method of claim 22, wherein the digital image is transmitted over the Internet.

30. The method of claim 18 further comprising providing higher resolution for segments of said digital image by providing different depth digital images whose size is determined according to a).

5 31. The method of claim 30 further comprising linking the plurality of different depth digital images to respective segments of said image.

32. A computer file comprising:

digital image data, whose image size is determined based on a target image size and is
10 larger than a viewing window size, wherein the viewing window size is the size of a viewing window that will appear on a display to enable the viewing of the digital image data according to an image magnification factor, and wherein the target image size is based on the image magnification factor and the viewing window size; and
control data to allow a user to control the magnification factor.

15

33. The file of claim 32, wherein the digital image data is compressed.

34. The file of claim 32, wherein the control data is to provide zoom buttons and pan buttons to a user.

20

35. The file of claim 34, wherein the control data includes a Java applet.

36. The file of claim 34, wherein the digital image data has a number of pixels sufficient to allow a user to magnify without pixelation the digital image data being displayed in the viewing
25 window by a magnification factor of at least ten.

30

37. The file of claim 36, wherein the digital image data has a number of pixels sufficient to allow a user to magnify without pixelation the digital image data being displayed in the viewing window by a magnification factor of at least one hundred.

38. The file of claim 32, wherein respective segments of the digital image data are linked to a plurality of different depth digital images to provide higher resolution for the segments.

Wildman, Harrold, Allen & Dixon
11th Floor, Tower 3,
Clements Inn
London
WC2A 2AZ
United Kingdom
Tel. (020) 7831 0009
Fax (020) 7831 9005
www.wildmanharrold.com



Wildman Harrold
Attorneys and Counselors

BY FACSIMILE

January 30, 2002

The European Patent Office
D-80298 Munich
GERMANY

Dear Sirs

RE: European Patent Application derived
from PCT/US00/21211
IVIEWIT HOLDINGS, INC
European Patent Application No. 00955352.0
Our Ref: P/1783.EP/MWM

The above referenced PCT application is entering the European regional phase.

The applicant wishes to designate the following member states, namely:

AUSTRIA	BELGIUM
CYPRUS	DENMARK
SWITZERLAND	GERMANY
FINLAND	SPAIN
FRANCE	UNITED KINGDOM
GREECE	IRELAND
ITALY	LUXEMBOURG
MONACO	NETHERLANDS
PORTUGAL	SWEDEN.

We enclose the following:

- 1) Form 1200;
- 2) Amended pages 11 to 14 of the description and a set of claims upon which prosecution is to be effected.

We request Substantive Examination of this application.


January 30, 2002
Page 2

We also enclose a debit order form in respect of fees. If there is any discrepancy in the fees paid herewith, we request our Deposit Account 2805 0319 be debited/credited.

Please address all correspondence relating to this application to Martyn W Molyneaux at our letterhead address.

Please acknowledge safe receipt of this letter by returning a copy of the attached form 1037.

Yours faithfully
WILDMAN HARROLD
ALLEN & DIXON

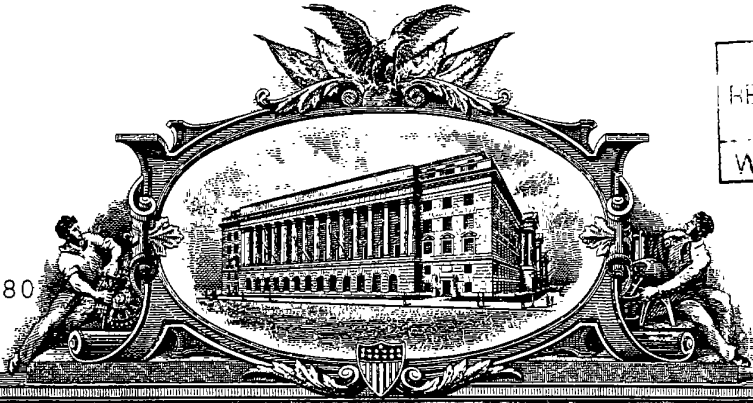


MARTYN W MOLYNEAUX
(Professional Representative of
the Applicant)

MWM/kj

REC'D 25 OCT 2000
WIPO PCT

P1 301180



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

**UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office**

October 18, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

**APPLICATION NUMBER: 09/522,721
FILING DATE: March 10, 2000
PCT APPLICATION NUMBER: PCT/US00/21211**

EJK



**By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS**

M. Lee

**M. LEE
Certifying Officer**

**PRIORITY
DOCUMENT**

**SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)**

13-13-00

A

03/10/00
1-c781 U.S. PTO

Please type a plus sign (+) inside this box →

PTO/SB/05 (4/98)
Approved for use through 09/30/2000. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL <small>(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))</small>	Attorney Docket No.	5865-1
	First Inventor or Application Identifier	Eliot I. Bernstein
	Title	APPARATUS AND METHOD FOR PRODUCING...
	Express Mail Label No.	FL355808767US

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

- Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
- Specification [Total Pages 15]
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the invention
 - Brief Summary of the invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
- Drawing(s) (35 U.S.C. 113) [Total Sheets 4]
- Oath or Declaration [Total Pages 2]
 - Newly executed (original or copy)
 - Copy from a prior application (37 C.F.R. § 1.63(d))
(for continuation/divisional with Box 16 completed)
 - DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

- Microfiche Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission, (if applicable, all necessary)
 - Computer Readable Copy
 - Paper Copy (identical to computer copy)
 - Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

- Assignment Papers (cover sheet & document(s))
- 37 C.F.R. § 3.73(b) Statement of Power of Attorney (when there is an assignee)
- English Translation Document (if applicable)
- Information Disclosure Statement (IDS)/PTO-1449 Copies of IDS Citations
- Preliminary Amendment
- Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
- Small Entity Statement(s) Statement filed in prior application, Status still proper and desired (PTO/SB/09-12)
- Certified Copy of Priority Document(s) (if foreign priority is claimed)
- Other: _____

*NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

Continuation Divisional Continuation-in-part (CIP) of prior application No: _____

Prior application information: Examiner _____ Group / Art Unit: _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

Customer Number or Bar Code Label or Correspondence address below

(Insert Customer No. or Attach bar code label here)

Name	Raymond A. Joao, Esq.		
	Meltzer, Lippe, Goldstein & Schlissel, P.C.		
Address	The Chancery 190 Willis Avenue		
City	Mineola	State	New York
		Zip Code	11501
Country	USA	Telephone	516-747-0300
		Fax	516-747-9363

Name (Print/Type)	Raymond A. Joao	Registration No. (Attorney/Agent)	35,907
Signature		Date	03/10/00

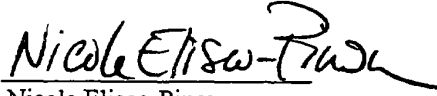
Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

1-c678 U.S. PTO
09/522721
03/10/00

Express Mail Label No.: EL355808767US

March 10, 2000

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.



Nicole Eliseo-Pinou

Attorney Docket No.: 5865-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: ELIOT I. BERNSTEIN
Serial No.: Please Assign
Filed: Concurrently Herewith
For: **APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES**

Assistant Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

TRANSMITTAL LETTER

Sir:

Please find enclosed herewith for filing the following:

- 1) Utility Patent Application Transmittal Sheet;
- 2) Fee Transmittal Sheet (in duplicate);
- 3) Declaration (signed, faxed copy);
- 4) Patent Application, including Specification, Claims and Abstract of the Disclosure (15 pages) and Drawings (4 sheets);
- 5) Check for \$354 for the filing fee; and
- 6) Statement Claiming Small Entity Status (37 CFR 1.9(f) & 1.27(b)) - Independent Inventor
- 7) Statement Claiming Small Entity Status (37 CFR 1.9(f) & 1.27(c)) - Small Business Concern
- 8) Return receipt postcard.

It is respectfully requested that the above documents be filed as a Patent Application.

Respectfully submitted,



Raymond A. Joao

Reg. No. 35,907

March 10, 2000
Meltzer, Lippe, Goldstein & Schlissel, P.C.
190 Willis Avenue
Mineola, NY 11501
(516) 747-0300

**APPARATUS AND METHOD FOR PRODUCING
ENHANCED DIGITAL IMAGES**

FIELD OF THE INVENTION

The present invention is directed to an apparatus and a method for producing enhanced digital images and, in particular, to an apparatus and a method for producing enhanced resolution digital images from a print film image.

BACKGROUND OF THE INVENTION

The fields of telecommunications, multimedia, and related areas, are growing at increasing rates. With this continued growth, the need for high resolution digital imagery, for utilization in conjunction with the corresponding technologies, is becoming greater. Current technologies utilize digital panoramic cameras, as opposed to film or print film cameras. While the utilization of digital cameras may appear to many to be a viable manner by which to obtain digital images, there are, in fact, many disadvantages and shortcomings associated with digital camera images.

Conventional digital technologies typically have very low zoom quality and low image size restrictions or limitations associated therewith. The differences between digital imagery and print film imagery lie in the respective processing technologies and methods which are used in the processing of digital images versus those technologies and methods utilized in the processing of print film images. Generally speaking, print film produces a higher resolution image, and an associated higher resolution scanning quality, which further facilitates an improved enlargement

or reduction of the image for different sizes and different depths, without pixel distortion. Digital photography, and associated images, utilize pixels which typically have a certain size. When enlarged or reduced, these pixels of the digital image become distorted, a feature which typically results in the digital image being fixed to an original size, or being available at very low magnifications, such as, for example, magnifications of from 200 times to 300 times. These digital images are also difficult to enlarge to a full screen size without a tremendous amount of distortion present in the end product.

Currently, panoramic imaging techniques utilize digital images as their starting point. With such associated limitations, the ability to provide enhanced resolution digital images and, especially, an enhanced resolution digital panoramic image, such as those utilized on, or over, the Internet and/or the World Wide Web, has been greatly compromised.

Another major drawback in the current technology lies in the fact that conventional processes often utilize panoramic lenses in order to capture an image. This practice has been criticized as creating distortions in the image immediately upon the image's enlargement or reduction. The conventional techniques associated with the use of panoramic lenses are known to result in image "bending", which further curtails one's ability to obtain realistic views, especially upon performing any associated cropping and/or editing processes. In such instances, the upper end and the lower end of the image must be either erased, or covered, in order to prevent the flaw from being exposed. This typically results in the resulting image having a "fishbowl-type" distortion. In some instances, 32 mm lenses have been utilized in order to obtain enhanced floor to ceiling images without experiencing image bending. In these applications,

however, the ability of the lens to capture optimal images varies depending upon the scene or image being photographed.

SUMMARY OF THE INVENTION

The present invention provides an apparatus and a method for producing digital images which overcomes the shortcomings of the prior art. The apparatus includes a camera, which can be a conventional print film camera, a developing device, which can be any device or collection of devices for developing the image taken by the camera, into a print film image, and an enlarging device, for enlarging the print film image. A digital camera can also be utilized to obtain the image. If the image is taken with a digital camera, a print image is obtained from the digital image. The print image can then be enlarged.

The apparatus also includes a computer and associated peripheral devices for performing the various processing routines of the method of the present invention. The apparatus also includes a scanning device, for scanning the print film image or photograph in order to obtain a digital image representation of same.

The print film image, which is obtained by the camera, can be developed by the developing device, and enlarged by the enlarger. The image print can then be scanned by the scanner in order to generate a digital file or other high quality image extension file. A plurality of these digital files can then be stitched together thereby creating a panoramic scene or image.

The computer may be utilized in order to perform touch-up operations on the obtained image or image collection in order to make refinements and/or enhancements thereto. The image

can then be converted from a high resolution image compression extension file to a low resolution graphic or video image extension file.

The resulting file may then be processed so that the image represented therein can be displayed and/or posted for display to a host computer or other suitable device.

The above process can be repeated using different photo depths for any of the obtained images, or portions thereof, in order to create areas of higher resolution for closer inspections of these areas at different image depths.

Accordingly, it is an object of the present invention to provide an apparatus and a method for providing enhanced digital images from print film images.

It is another object of the present invention to provide an apparatus and a method for producing digital images, from print film images, which have improved and enhanced resolution.

It is still another object of the present invention to provide an apparatus and a method for producing digital images, from print film images, which are suitable for display and/or downloading in a digital computer and/or in a telecommunications environment.

It is still another object of the present invention to provide an apparatus and a method for providing a digital image which is characterized by effective image compression subsequent to a stitching operation, thereby avoiding any dramatic loss in image quality.

It is yet another object of the present invention to provide an apparatus and a method for producing digital images which are characterized by high definition resolution, and which are suitable for high definition television, Web television and large, full screen, panoramic internet applications, without loss of resolution upon image magnification or reduction.

It is another object of the present invention to provide an apparatus and a method for producing and transmitting digital images in a network environment which dispenses with the need for plug-in software.

It is still another object of the present invention to provide an apparatus and a method for producing digital images which facilitates high speed file transfer in a network environment and/or in a computer environment.

Other objects and advantages of the present invention will be apparent to those skilled in the art upon a review of the Description of the Preferred Embodiment taken in conjunction with the Drawings which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

Figure 1 illustrates the apparatus of the present invention, in block diagram form; and Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides an apparatus and a method for providing enhanced digital images which can be utilized and which can be easily managed, when displayed, projected, or posted to an Internet Web server, Web site or Web page. In particular, the present invention

provides an apparatus and a method for producing an enhanced digital image from a print film image, or from a photographic image, which is taken with a print film camera. The digital images which are produced by the apparatus and method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The digital images, which are produced by the apparatus and method of the present invention, can be utilized and displayed on computers, projection devices, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page.

The present invention, in a preferred embodiment, is utilized to produce enhanced images for posting and/or for downloading, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World Wide Web server, a Web site, or Web page. In this manner, enhanced digital images can be produced from print film images, with the resulting digital images having enhanced resolution. This resolution is unaffected by the typical resolution limiting parameters and phenomena which are associated with conventional digital image processing equipment, techniques and methods.

Figure 1 illustrates the apparatus of the present invention which is denoted generally by the reference numeral 100, in block diagram form. With reference to Figure 1, the apparatus 100 includes a camera 105 which, in the preferred embodiment, is a conventional print film camera, such as those cameras manufactured by Nikon, Canon, Hasselblad, or any other manufacturer. A digital camera may also be utilized to obtain the image. In the preferred embodiment, the camera 105 contains a 24-32 mm lens and can be a hand-held camera, a fixed camera, or a camera which is mountable, such as on a tripod or on a stand. The camera 105 is utilized to obtain the print film image of the image or scene which is being photographed.

The apparatus 100 also includes a developing device 110 which can be any device or collection of devices for developing the film print image which is taken by the camera 105 into a film print image. The apparatus 100 also includes an enlarging device 115 for enlarging the film print image.

The apparatus 100 also includes a computer 120, for performing the various processing routines of the method of the present invention. The computer 120 may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, or any other suitable computer or computer system. The computer 120 includes a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The computer 120 may also include any other hardware or software needed to perform any of the processing tasks described herein. The input device may include a keyboard, a mouse, or other pointing device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color inkjet printer.

The apparatus 100 also includes a scanning device 125, for scanning the print film image or photograph in order to obtain a digital image representation of same. Any suitable computer or scanner and any suitable scanning software may be utilized in conjunction with the present invention. In a preferred embodiment, a UMAX™ Astra scanner is utilized in conjunction with Microsoft® Photo Editor software.

Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form. With reference to Figures 2A, 2B and 2C, the method of the present invention commences at step 200. At step 201, a scene or image is photographed by using the print film camera 105.

At step 202, the print film image, which is obtained by the camera 105, is developed by the developing device 110 in order to produce a high gloss photographic image print. If the image is obtained with a digital camera, a print image should be obtained from the digital image. In this manner, the higher resolution print image can then be enlarged and scanned. At step 203, the image print is enlarged by the enlarger 115. In the preferred embodiment, the image prints are enlarged to sizes of between 8"x6" to 8"x12". Although enlargement to any size may be obtained and utilized, the aforementioned sizes represent the respective lower end and upper end limits for the print sizes which provide optimal magnification capability in the preferred embodiment. In the preferred embodiment, a magnification capability of up to 1700 times may be attained for most views or scenes. It is, however, recommended that larger enlargement sizes be obtained for smaller object images.

At step 204, the image print, obtained at step 203, is scanned by the scanner 125 in order to generate a bitmap image file or other high quality image extension file. At step 205, a plurality of bit map files, which are obtained for the image prints, can be stitched together by the scanner 125, thereby creating a panoramic scene or image, or simply a scene requiring a plurality of photographs. This stitching operation is performed by utilizing photo stitching software such as, for example, Photo Vista software by Live Picture, Live Picture Reality Studio, and/or Live Picture Object Modeler and/or Photo Vista software.

At step 206, the computer 120 performs a touch-up operation on the scanned image or stitched image collection in order to make refinements and/or enhancement thereto. This touch-up operation is accomplished by utilizing imaging software. In the preferred embodiment, Adobe Photoshop software is used as the imaging software for touching up the images. At step 207, the

image is then converted from a bitmap file, or any other suitable high resolution image compression extension file, to a JPEG file or other suitable low resolution graphic or video image extension file. In the preferred embodiment, Adobe Image Ready software is utilized to perform the bitmap to JPEG file conversion. The bitmap to JPEG file conversion, which is performed at step 207, serves to preserve video image quality and resolution, thereby providing an optimum video image. At step 208, the JPEG file of the image is compressed by utilizing image compression software, such as Adobe Image Ready software. The compressed image is, thereafter, ready for display and/or posting to a host computer, a Web server, a Web site, or a Web page.

The above process can be repeated using different depth photos for any of the images obtained in order to create areas of higher resolution or "hot spots", for closer inspections of these areas at different depths. These depth photos can also be stitched into the respective image or image portion by using the stitching techniques described above, which are hereby incorporated by reference herein. The above process can be utilized in order to create higher zoom capabilities with each new depth layer of an image.

At step 208, a determination is made as to whether different depth photographs are desired. If different depth photographs are desired, the method repeats steps 201 through 207 to obtain the desired image. If no additional depth photographs are desired, the method proceeds to step 209.

At step 209, the resulting digital image can be displayed on a digital display device, projected from a projection device, or posted to a host computer, a Web server, a Web site, or a Web page. In the instance where the image is posted to an Internet Web server, Web site, or

Web page, the upload from the computer 120, to the respective server, site, or page, can be performed by utilizing file uploading software, such as WFTP Pro software. The image can then be viewed at reasonable speeds. Upon completion of the file upload at Step 209, the method ceases operation at Step 210.

The processing steps described herein provide for the production of digital images which have enhanced resolution and which can be easily and effectively managed in applications involving the display of same, or the posting of same, to a host computer, a Web server, a Web site, a Web page, a computer display, and/or a full screen projection display. Further, the method of the present invention provides for effective image compression after a requisite stitching operation, thereby preserving image quality. The apparatus and method of the present invention provides images which have enhanced resolution and quality while requiring less file management efforts.

The resulting images are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic internet applications, such as those involving displaying video images, while preserving resolution upon image magnification or reduction. The present invention also dispenses with the need for plug-in software during download and/or file transfer operations. Further, a zoom capacity of up to 1700 times or greater may be easily obtained with the present invention. The present invention also facilitates high speed file transfers of high resolution digital images thereby dispensing with the need to engage in long and slow conventional file downloads and/or file transfers.

The digital images obtained with the present invention can be utilized for any digital or projection application, including full screen display and/or projection applications.

While the present invention has been described and illustrated in various preferred embodiments, such descriptions are merely illustrative of the present invention and are not to be construed to be limitations thereof. In this regard, the present invention encompasses any and all modifications, variations, and/or alternate embodiments, with the scope of the present invention being limited only by the claims which follow.

U.S. PATENT AND TRADEMARK OFFICE

CLAIMS

What Is Claimed Is:

1. An apparatus for producing a digital image, comprising:
 - a device for generating a digital signal file from a print film image; and
 - a processor for processing said digital signal file and for generating an image file,wherein said processor generates a first signal file from said digital signal file, and further wherein said processor processes said first signal file and generates said image file.
2. The apparatus of claim 1, further comprising:
 - a camera for obtaining a photographic representation of an image.
3. The apparatus of claim 2, further comprising:
 - a developing device for developing said photographic representation and for generating said print film image.
4. The apparatus of claim 3, further comprising:
 - an enlarging device for enlarging said print film image.
5. The apparatus of claim 4, further comprising:
 - a scanning device for generating said digital signal file from said print film image.
6. The apparatus of claim 1, wherein said first signal file is a bitmap file.
7. The apparatus of claim 1, wherein said image file is a JPEG file.
8. An apparatus for producing a digital image, comprising:
 - means for generating a digital signal file from a print film image file; and
 - means for processing said digital signal file and for generating an image file,

wherein said processing means generates a first signal file from said digital signal file, and further wherein said processing means processes said first signal file and generates said image file.

9. The apparatus of claim 8, further comprising:

means for obtaining a photographic representation of an image.

10. The apparatus of claim 9, further comprising:

means for developing said photographic representation and for generating said print film image.

11. The apparatus of claim 10, further comprising:

means for enlarging said print film image.

12. The apparatus of claim 11, further comprising:

means for generating said digital signal file from said print film image.

13. The apparatus of claim 8, wherein said image file is a bitmap file.

14. The apparatus of claim 8, wherein said image file is a JPEG file.

15. A method for producing a digital image, comprising:

generating a digital signal file from a print film image;

processing said digital signal file; and

generating an image file, wherein said processing operation further comprises:

generating a first signal file from said digital signal file; and

processing said first signal file and generating said image file.

16. The method of claim 15, further comprising:

obtaining a photographic representation of an image.

17. The method of claim 16, further comprising:
developing said photographic representation; and
generating said print film image.
18. The method of claim 16, further comprising:
enlarging said print film image; and
generating said digital signal file from said print film image.
19. The method of claim 15, wherein at least one of said digital signal file, said print film image and said image file, is a three-dimensional image file.
20. The apparatus of claim 15, wherein said first signal file is a bitmap file, and further wherein said image file is a JPEG file.
21. The method of claim 15, further comprising:
stitching together at least two digital representations of images.

FROM :

1900.03.10 12:05 #440 P.03/04

Please type a plus sign (+) inside this box →

PTO/SB/01 (12-97)
Approved for use through 9/30/00 OMB 0851-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it carries a valid OMB control number.

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63) <input type="checkbox"/> Declaration Submitted with Initial Filing OR <input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e) required))	Attorney Docket Number	5865-1
	First Named Inventor	Eliot I. Bernatkin
	<i>COMPLETE IF KNOWN</i>	
	Application Number	/
	Filing Date	
	Group Art Unit	
	Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES

the specification of which *(Title of the Invention)*

is attached hereto
OR
 was filed on (MM/DD/YYYY) _____ as United States Application Number or PCT International Application Number _____ and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 355(b) of any foreign application(s) for patent or inventor's certificate or 365(a) of any PCT international application which designated at least one country other than the United States or America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.
60/125,824	03/24/99	

(Page 1 of 2)

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

FROM :

1988.03-10 12:05 8440 P.04/04

Please type a plus sign (+) inside the box →

PTO/SB01 (12-97)

Approved for use through 9/30/00 OMB 0561-0032

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT International application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB02A attached hereto

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Customer Number

OR

Registered practitioner(s) name/registration number listed below

Please Customer Number Bar Code Label Here

Name	Registration Number	Name	Registration Number
Raymond A. Joao, Esq.	35,907		

Appoint registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB02C attached hereto

Direct all correspondence to: Customer Number or Bar Code Label

OR Correspondence address below

Name	Raymond A. Joao, Esq.,		
Address	Meltzer, Lippe, Goldstein & Schissel, P.C.		
Address	The Chancery, 190 Willis Avenue		
City	Mineola	State	NY
Country	USA	Telephone	516-747-0300
		ZIP	11501
		Fax	516-747-9363

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issues thereon.

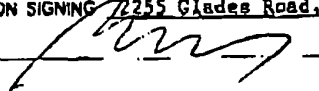
Name of Sole or First Inventor: A petition has been filed for this unsigned inventor

Given Name (first and middle (if any))	Eliot J.			Family Name or Surname	BERNSTEIN		
Inventor's Signature				Date	03/07/00		
Residence: City	Boca Raton	State	FL	Country	USA		
Post Office Address	500 S.E. Mizner Blvd., Suite 102						
Post Office Address	Boca Raton, FL 33432-6080						
City	Boca Raton	State	FL	ZIP	33432-6080	Country	USA

Additional inventors are being named on the supplemental Additional Inventor(s) sheet(s) PTO/SB02A attached hereto

Approved for use through 09/30/2000 OMB 0861-0031
Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(c))--SMALL BUSINESS CONCERN		Docket Number (Optional) 5865-1
Applicant, Patentee, or Identifier: <u>iviewit Holdings, Inc.</u>		
Application or Patent No.: _____		
Filed or issued: _____		
Title: <u>APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES</u>		
I hereby state that I am <input type="checkbox"/> the owner of the small business concern identified below <input checked="" type="checkbox"/> an official of the small business concern empowered to act on behalf of the concern identified below.		
NAME OF SMALL BUSINESS CONCERN <u>iviewit Holdings, Inc.</u>		
ADDRESS OF SMALL BUSINESS CONCERN <u>One Boca Place 2255 Glades Road</u> <u>Suite 337 West Boca Raton, Florida 33431</u>		
I hereby state that the above identified small business concern qualifies as a small business concern as defined in 13 CFR Part 121 for purposes of paying reduced fees to the United States Patent and Trademark Office. Questions related to size standards for a small business concern may be directed to: Small Business Administration Size Standards Staff, 409 Third Street, SW, Washington, DC 20416.		
I hereby state that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in:		
<input type="checkbox"/> the specification filed herewith with title as listed above. <input checked="" type="checkbox"/> the application identified above <input type="checkbox"/> the patent identified above.		
If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate statements as to their status as small entities, and no rights in the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).		
Each person, concern, or organization having any rights in the invention is listed below: <input type="checkbox"/> no such person, concern, or organization exists. <input checked="" type="checkbox"/> each such person, concern, or organization is listed below.		
Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)		
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))		
NAME OF PERSON SIGNING <u>Brian Utley</u>		
TITLE OF PERSON IF OTHER THAN OWNER <u>President</u>		
ADDRESS OF PERSON SIGNING <u>2255 Glades Road, Suite 337 W. Boca Raton, FL 33431</u>		
SIGNATURE 		DATE <u>3/10/2000</u>

Burden Hour Statement. This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20221. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20221.

Approved for use through 8/30/00 OMB 0631-0031
Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)
5065-1

Applicant, Patentee, or Identifier: Eliot I. Bernstein

Application or Patent No.: _____

Filed or Issued: _____

Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- the specification filed herewith with title as listed above.
- the application identified above.
- the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below

- No such person, concern, or organization exists.
- Each such person, concern, or organization is listed below.

iviewit Holdings, Inc.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Eliot I. Bernstein
NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

[Signature]
Signature of inventor

Signature of inventor

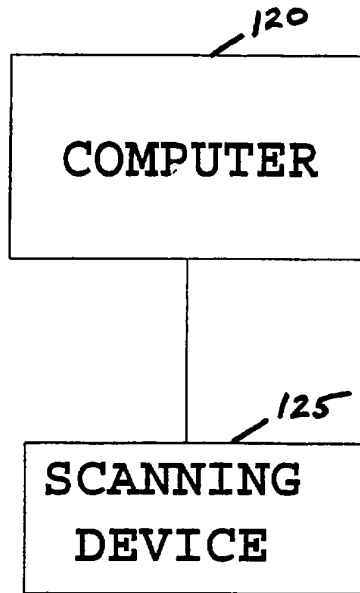
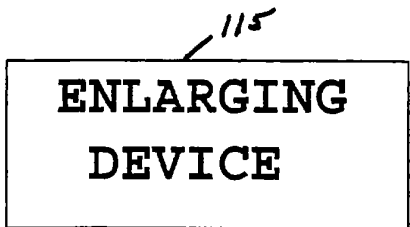
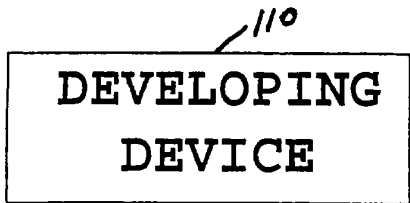
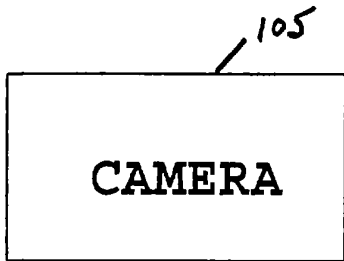
Signature of inventor

03/09/00
Date

Date

Date

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



100

FIG. 1

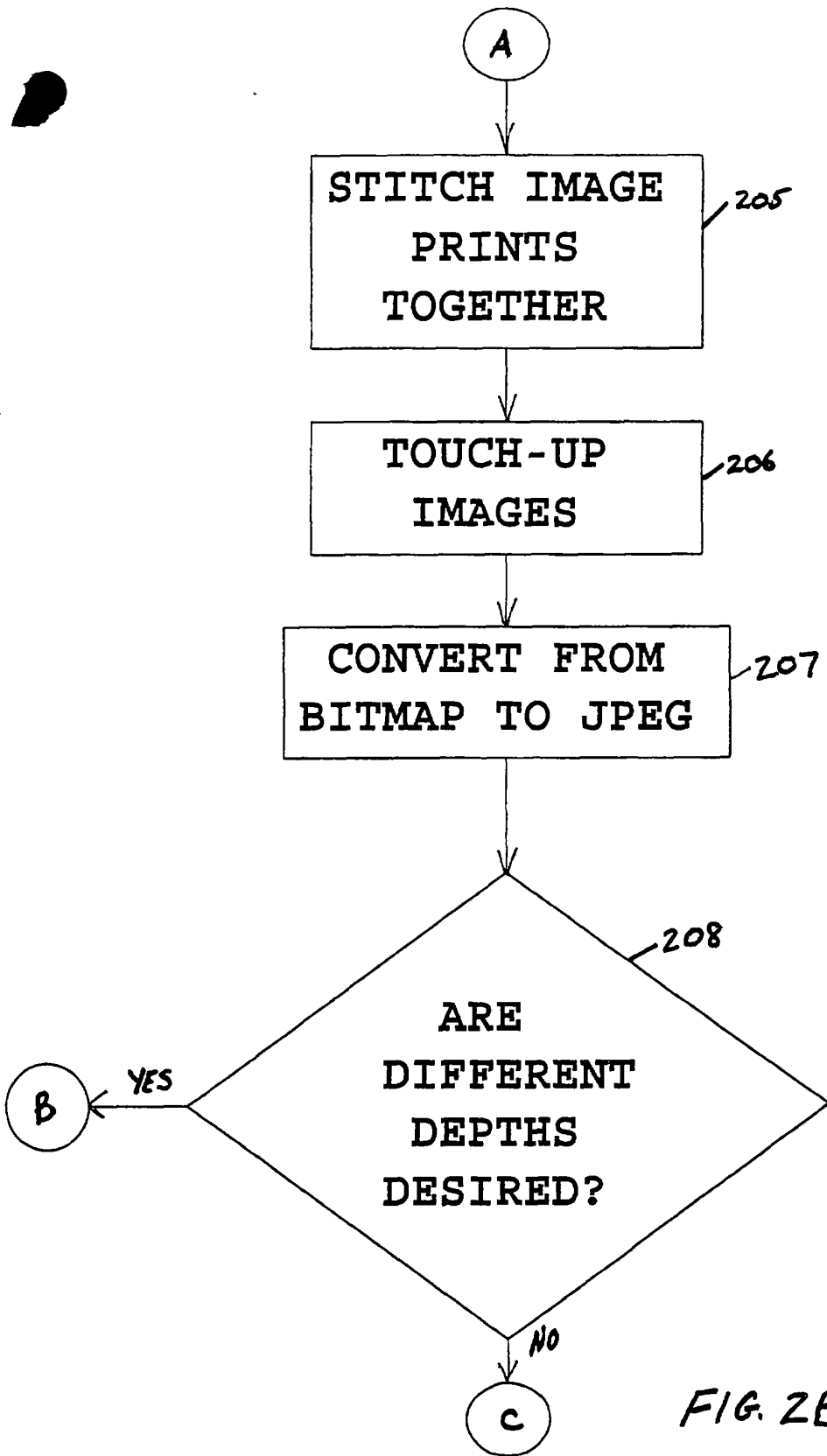


FIG. 2B

P1 301183

REC'D 25 OCT 2000

IPO

PCT

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

October 18, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 60/155,404
FILING DATE: *September 22, 1999*
PCT APPLICATION NUMBER: PCT/US00/21211

EJK



By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS

M. Lee

M. LEE
Certifying Officer

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

A / PROV

1520 U.S. PTO
09/22/99

Please type a plus sign (+) inside this box →

PTO/SB/16 (2-98)
Approved for use through 01/31/2001. OMB 0651-0037
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

1520 U.S. PTO
60/155404
09/22/99

INVENTOR(S)					
Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)			
Eliot I.	BERNSTEIN	500 S.E. Mizner Blvd. Suite 102 Boca Raton, FL 33432-6080			
<input type="checkbox"/> Additional inventors are being named on the ___ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
APPARATUS AND METHOD FOR PRODUCING ENHANCED VIDEO IMAGES AND/OR VIDEO FILES					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number		[]		Place Customer Number Bar Code Label here	
OR Type Customer Number here					
<input checked="" type="checkbox"/> Firm or Individual Name	Raymond A. Joao, Esq.				
Address	Meltzer, Lippe, Goldstein & Schlissel, P.C.				
Address	190 Willis Avenue				
City	Mineola	State	NY	ZIP	11501
Country	USA	Telephone	516-747-0300	Fax	516-747-9363
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages	29	<input checked="" type="checkbox"/> Small Entity Statement			
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	4	<input checked="" type="checkbox"/> Other (specify)	Power of Attorney		
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees				FILING FEE AMOUNT (\$)	
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: []				75.00	
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,
SIGNATURE Raymond A. Joao
TYPED or PRINTED NAME Raymond A. Joao, Esq.
TELEPHONE 516-747-0300, xtn-240

Date 9, 22, 99
REGISTRATION NO. 35,907
(if appropriate)
Docket Number: 5865-7

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C., 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C., 20231.

1999-09-22 13:43 #465 P.03/03

FROM: VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(c) & 1.27(b))--INDEPENDENT INVENTOR

Attorney Docket No.: 5865-7

Applicant or Patente: Eliot I. Bernstein

Serial or Patent No.: Please assign

Filed or Issued: Concurrently herewith

Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED VIDEO IMAGES AND/OR VIDEO FILES

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- X the specification filed herewith with title as listed above.
the application identified above.
the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention as listed below:

- X No such person, concern, or organization exists.
Each such person, concern, or organization is listed below.

Separate verified statements are required from each named person, concern or organization having the rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

ELIOT I. BERNSTEIN
NAME OF PERSON SIGNING

500 S.E. Mizner Boulevard
Suite 102
Boca Raton, FL 33432-6090
ADDRESS OF PERSON SIGNING

SIGNATURE

9/22/99

DATE

PTO/SB/ 09 (10-92)

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

APPARATUS AND METHOD FOR PRODUCING ENHANCED VIDEO IMAGES
AND/OR VIDEO FILES

FIELD OF THE INVENTION

The present invention is directed to an apparatus and a method for producing enhanced images and/or video files and, in particular, to an apparatus and a method for producing enhanced resolution digital images and/or digital video files obtained via digital and/or film video cameras and/or recording devices.

BACKGROUND OF THE INVENTION

The fields of telecommunications, multimedia, and related areas, are growing at increasing rates. With this continued growth, the need for high resolution digital imagery, for utilization in conjunction with the corresponding technologies, is becoming greater. Current technologies utilize film cameras and recorders as well as digital cameras and recorders.

Conventional video and image technologies typically have very low zoom quality and low image size restrictions or limitations associated therewith. Generally speaking, enlarged images produce a higher resolution image, and an associated higher resolution scanning quality, which further facilitates an improved enlargement or reduction of the image for different

5865-7

sizes and different depths, without pixel distortion.

Photographs, negatives, and associated images, utilize pixels which typically have a certain size. When enlarged or reduced, these pixels of the image become distorted, a feature which typically results in the image being fixed to an original size, or being available at very low magnifications, such as, for example, magnifications of from 200 times to 300 times. These images are also difficult to enlarge to a full screen size without a tremendous amount of distortion present in the end product.

Currently, panoramic imaging techniques utilize non-enlarged images as their starting point. With such associated limitations, the ability to provide enhanced resolution digital images and, especially, an enhanced resolution digital panoramic image, such as those utilized on, or over, the Internet and/or the World Wide Web, has been greatly compromised.

Another major drawback in the current technology lies in the fact that conventional processes often utilize panoramic lenses in order to capture an image. This practice has been criticized as creating distortions in the image immediately upon the image's enlargement or reduction. The conventional techniques associated with the use of panoramic lenses are known to result in image "bending", which further curtails one's ability to obtain realistic views, especially upon performing any associated

cropping and/or editing processes. In such instances, the upper end and the lower end of the image must be either erased, or covered, in order to prevent the flaw from being exposed. This typically results in the resulting image having a "fishbowl-type" distortion.

In some instances, wide angle lenses have been utilized in order to obtain enhanced floor to ceiling images without experiencing image bending. In these applications, however, the ability of the lens to capture optimal images varies depending upon the scene or image being photographed.

As a result, the ability to obtain enhanced video images and/or video files from film cameras and film recorders, from negatives and from digital cameras and recorders, has been limited.

SUMMARY OF THE INVENTION

The present invention provides an apparatus and a method for providing enhanced digital video images and/or digital video files which overcomes the shortcomings of the prior art. The digital images and/or digital files produced by utilizing the present invention can be easily managed, when displayed, projected, and/or posted on any viewing device and/or entity such

s, but not limited to, an Internet Web server, Web site or Web page, television, etc.

The present invention provides an apparatus and a method for producing enhanced digital video images and video files from video which may be recorded as print film image or file, a negative image or file, and/or a digital video image and/or file. The video images and/or files may be obtained via a digital camera, a digital recording device, a digital recorder, a digital camcorder, a film video camera, recorder, and/or camcorder, a VHS video camera, recorder, and/or camcorder, a beta video camera, recorder, and/or camcorder, and/or any other suitable video recording device.

The video images and/or video files which are produced by the apparatus and method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The video images and/or files, which are produced by the apparatus and method of the present invention, can be utilized and displayed on computers, projection devices, televisions, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page. The video images and/or files can be transmitted over a communication network and/or in computer-to-computer applications.

The present invention, in a preferred embodiment, is utilized to produce enhanced video images and/or files for posting and/or for downloading, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World Wide Web server, a Web site, and/or Web page. In this manner, enhanced video images and/or video files can be produced from video images and/or video files which can be recorded using any video recording device and recording medium such as, but not limited to, digital cameras, digital recorders, film cameras, film recorders, etc. The video images and/or files obtained are thereafter processed in accordance with the apparatus and method of the present invention in order to produce enhanced video images and/or video files.

These resulting video images and/or video files have enhanced resolution which is unaffected by the typical resolution limiting and degrading parameters and phenomena which are associated with conventional digital and/or film video cameras, recorders and corresponding processing equipment, methods and/or techniques.

The apparatus can include a video camera or recorder which can be any one of an analog camera and/or a digital camera, an analog and/or digital recording device, an analog and/or digital camcorder, a film camera, a film recording device, and/or a film camcorder. For full motion video, a 3CCD chip, and/or any other

appropriate and/or suitable motion capture recording device, can be utilized in conjunction with the present invention. The camera can also be a hand-held camera, a fixed camera, and/or a camera which is mountable, such as on a tripod or on a stand. The camera can be utilized to obtain the video image and/or video file which will be processed in accordance with the present invention.

The present invention preserves image integrity from the point of capture of the image through and including any final compression or compressions of same. The apparatus can also include a developing device, which can be utilized for developing video images and/or files which are obtained on film. In the case of video images and/or files which are obtained digitally, no developing device would be needed. The apparatus can also include an enlarging device which can be utilized to enlarge the video images obtained. An enlarger can be utilized for enlarging either film images and/or digital images.

The apparatus can also include a computer, for performing the various processing routines during operation of the apparatus and method of the present invention. The computer may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, a network computer, a server computer, and/or any other suitable computer or computer system.

The computer can include a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The input device may include a keyboard, a mouse, or other pointing device, and/or any other data and/or command input device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color inkjet printer. The computer can also include a receiver for receiving data and/or information over a communication network and a transmitter for transmitting data and/or information over the communication network.

The computer can also include a video capture device, which may or may not be an integral component of the computer. The video capture can also be an external peripheral device. Video data and/or information can be fed into, and/or played through, the video capture device, thereby digitizing the video data and/or information. The present invention preserves the integrity of any and/or all data and/or information upon conversion to digital formats. If full motion video is captured, any conversion can utilize full motion capture software and/or hardware. The video data and/or information can be fed into, and/or through, the video capture card, in real-time, thereby facilitating real-time video transmissions.

The computer can also include any other hardware device or peripheral device and/or software which is, or which may be, needed and/or desired in order to perform any of the functions and/or operation described herein. The computer can also include a video data capture device for capturing and processing the video images and/or files processed by the present invention.

The apparatus can also include a scanning device, for scanning video images or files, if needed, whether they be of a digital or of a print film type, in order to obtain a digital image representation of same.

The apparatus and method of the present invention provides video images and/or files which have enhanced resolution and quality while requiring less file management efforts.

The resulting video images and/or files which are obtained via the apparatus and method of the present invention are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic Internet applications, including video playback and/or video transmission, which preserving resolution upon image and/or video file magnification or reduction.

The present invention also facilitates high speed file transfers of high resolution video images and/or video files,

thereby dispensing with the need to engage in long and slow conventional file downloads and/or file transfers.

The apparatus and method of the present invention can also be utilized in conjunction with three-dimensional images and video files in order to produce high resolution, three-dimensional video images and/or video files.

Accordingly, it is an object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files from files obtained via digital and/or film video cameras and/or a recording devices.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files from files obtained via digital and/or film video cameras and/or a recording devices, which have improved and enhanced resolution.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording

devices digital images, which are suitable for display and/or for downloading to a digital computer, a television, and/or any other communication device utilized in a telecommunication environment and/or communications environment.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which are characterized by image compression and/or minimal image compression thereby avoiding any dramatic loss in image quality.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which may dispense with the need to compress the image data.

It is yet another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which are characterized by high definition resolution, and which are suitable for high definition television, Web television and

large, full screen, panoramic internet applications, without loss of resolution upon image magnification or reduction.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which can be transmitted in a network environment.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, from files obtained via digital and/or film video cameras and/or a recording devices, which facilitates high speed file transfer in a network environment and/or in a computer environment.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, which preserves image integrity from the point of capture of the image through and including final compression or compressions.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files, which

preserves the integrity of any and/or all data and/or information upon conversion to digital formats.

Other objects and advantages of the present invention will be apparent to those skilled in the art upon a review of the Description of the Preferred Embodiment taken in conjunction with the Drawings which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

Figure 1 illustrates the apparatus of the present invention, in block diagram form; and

Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides an apparatus and a method for providing enhanced digital video images and/or digital video files which can be utilized and which can be easily managed, when displayed, projected, and/or posted on any viewing device and/or entity such as, but not limited to, an Internet Web server, Web site or Web page, television, etc. In particular, the present

2025 RELEASE UNDER E.O. 14176

invention provides an apparatus and a method for producing enhanced digital video images and video files from video which may be recorded as a digital video image and/or files and/or as a film video image and/or file a print film image.

The video images and/or files may be obtained via a digital camera, a digital recording device, a digital recorder, a digital camcorder, a film video camera, recorder, and/or camcorder, a VHS video camera, recorder, and/or camcorder, a beta video camera, recorder, and/or camcorder, and/or any other suitable video recording device. The video images and/or video files which are produced by the apparatus and method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The video images and/or files, which are produced by the apparatus and method of the present invention, can be utilized and displayed on computers, projection devices, televisions, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page. The video images and/or files can be transmitted over a communication network and/or in computer-to-computer applications.

The present invention, in a preferred embodiment, is utilized to produce enhanced video images and/or files for posting and/or for downloading, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World

Wide Web server, a Web site, and/or Web page. In this manner, enhanced video images and/or video files can be produced from video images and/or video files which can be recorded using any video recording device and recording medium such as, but not limited to, digital cameras, digital recorders, film cameras, film recorders, etc. The video images and/or files obtained are thereafter processed in accordance with the apparatus and method of the present invention in order to produce enhanced video images and/or video files.

These resulting video images and/or video files have enhanced resolution which is unaffected by the typical resolution limiting parameters and phenomena which are associated with conventional digital and film video cameras, recorders and corresponding processing equipment, methods and/or techniques.

Figure 1 illustrates the apparatus of the present invention which is denoted generally by the reference numeral 100, in block diagram form. With reference to Figure 1, the apparatus 100 includes a video camera or recorder 105 which, in the preferred embodiment, can be any one of a digital camera, a digital recording device, digital camcorder, a film camera, a film recording device, and/or a film camcorder. In the preferred embodiment, the camera 105 may be a hand-held camera, a fixed camera, and/or a camera which is mountable, such as on a tripod or on a stand. The camera 105 is utilized to obtain the video

image and/or video file which will be processed as described herein.

For full motion video, a 3CCD chip, and/or any other appropriate and/or suitable motion capture recording device, can be utilized in conjunction with the present invention.

The present invention can also be utilized in conjunction with any imaging and/or any video recording device and/or equipment, such as, but not limited to, those devices and equipment utilized in, or in conjunction with, medical imaging equipment, devices and/or instruments, motion picture production equipment, devices and/or instruments and/or in any other equipment, device, and/or instrument, which is, or which can be, utilized in conjunction with imaging and/or video applications and/or uses.

The apparatus 100 also includes a developing device 115, which would be utilized for developing video images and/or files which are obtained on film. In the case of video images and/or files which are obtained digitally, no developing device. The apparatus also includes an enlarging device which can be utilized to enlarge the video images obtained. The apparatus can include an enlarger for both film images as well as for digital images.

The apparatus 100 also includes a computer 120, for performing the various processing routines during operation of the apparatus and method of the present invention. The computer 120 may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, a network computer, a server computer, and/or any other suitable computer or computer system.

The computer 120 includes a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The input device may include a keyboard, a mouse, or other pointing device, and/or any other data and/or command input device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color inkjet printer. The computer 120 also includes a receiver for receiving data and/or information over a communication network and a transmitter for transmitting data and/or information over the communication network.

The computer 120 also includes a video capture device 121 which, in the preferred embodiment, is an integral component of the computer 120. The video capture device 121, in the preferred embodiment, is a video capture card 121 which is located internal to the computer 120. The video computer device 121 may also be an external peripheral device. As described

herein, the video data and/or information is fed into, and/or played through, the video capture device 121, thereby digitizing the video data and/or information. The video data and/or information can be fed into, and/or through, the video capture card 121, in real-time, thereby facilitating real-time video transmissions.

The computer 120 may also include any other hardware device or peripheral device and/or software which is, or which may be needed and/or desired in order to perform any of the functions and/or operation described herein. In particular, the computer 120 will also include a video data capture device for capturing and processing the video images and/or files processed by the present invention.

The apparatus 100 also includes a scanning device 125, for scanning video images or files, if needed, whether they be digital or of a print film type, in order to obtain a digital image representation of same. Any suitable computer or scanner, and any suitable scanning software, may be utilized in conjunction with the present invention. In a preferred embodiment, any suitable scanning device can be utilized in conjunction with any appropriate software.

Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form. With reference to Figures 2A, 2B and 2C, the method of the present invention commences at step 200. At step 201, the video images and/or files are recorded with the video camera 105. The video can be recorded in any format, such as, but not limited to, i.e., beta, VHS, digital, and/or any of the standard file formats, including, but not limited to, *.AVI, *.MOV, *.MPEG, etc., by utilizing the video recording device 105. The video recording device 105 may also be a reel-to-reel recording device and/or a live video recording device.

At step 202, the video images and/or files are converted to a converted to digital files, if necessary, by utilizing the scanner 110. At step 203, digital video image files are loaded into the computer 120 for processing. At step 204, the video image files are fed into, or through, the capture device 121 of the computer 120. The video capture operation, which is performed by the video capture device 121, in the preferred embodiment, can be performed without compression and/or encoding operations being performed on the video image files and/or with only minimal compression and/or encoding operations being performed on the video image files.

The video capture device, in the preferred embodiment, can be any suitable video capture device or card and/or any other

appropriate and/or suitable video capture hardware. The capture software utilized can be any appropriate and/or suitable video capture software.

At step 205, the video images and/or files are edited, if necessary, by using any standard video editing tools, such as, for example, any editing software. At step 206, the video image files are then converted to any suitable real video format such as, for example, a *.RM format. At step 207, the size of the video within the file code is set either manually or automatically. In the preferred embodiment, the size of the video is set within the file code, which may or may not be the HTML file code to a 640 x 480 frame resolution, or any other suitable resolution, such as, but not limited to, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200 or other sizes.

At step 208, the obtained video image file or files is then posted to the computer 120 and/or to another hosting computer. If the posting is to an computer other than the computer 120, the posting is performed by transmitting the video file or files over a communication network to the hosting computer. In the preferred embodiment, the video file or files are posted via the Internet, and/or the World Wide Web, and can posted to a Web Page, a Web site, and/or any other network device. The posting operation is performed by utilizing any suitable posting software.

At step 209, the computer 120 or other hosting computer generates or writes a file or script, such as an ASCII file which calls the video to stream or to download. This results in video which will stream or "streaming" video for a full screen application which will be characterized by a good clarity and quality. At step 210, a separate file or script, such as an ASCII file is written and saved to an appropriately formatted file, such as an *.RPM file, or other suitable file format, which will call the original video file. This script can be typically included in any suitable code, such as an HTML code.

In the case of MPEG videos, Steps 201 through 203 are followed as described above. At step 204, however, the video file is converted, if not previously converted, to an MPEG format. Thereafter, the video is inserted into the appropriate file which may contain suitable coding, such as HTML codes. Thereafter, the file can be sized to any of herein-described resolutions. Thereafter, the video file is uploaded to the hosting computer, if utilized. Thereafter, the MPEG file is played from the computer 120 or the hosting computer, the Web page, and/or the Web site, depending upon the application, by first downloading a small portion of the file and by playing the file through a suitable device such as a player which supports any suitable video formats, such as AVI, MPEG-type, etc., and/or other suitable formats.

Thereafter, operation of the apparatus ceases at step 210.

The processing steps described herein provide for the production of video images and/or video files which have enhanced resolution and which can be easily and effectively managed in applications involving the display of same, the posting of same, to a host computer, a Web server, a Web site, a Web page, a computer display, a full screen projection display and/or a video presentation and/or playback of same, respectively. Further, the method of the present invention provides for image processing, including various image and/or file processing techniques, which may or may not include image compression and/or encoding operations.

The apparatus and method of the present invention provides video images and/or files which have enhanced resolution and quality while requiring less file management efforts.

The resulting video images and/or files which are obtained via the apparatus and method of the present invention are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic Internet applications, including video playback and/or video transmission, which preserving resolution upon image and/or video file magnification or reduction. The present invention also dispenses with the need for plug-in software

200001050000

and/or information of and for sound and/or audio files, text files, video files, image files, and/or graphics files, and/or any other information source, data, information and/or file, which can be, and/or which may be linked to or with, and/or which can be operated and/or utilized in conjunction with, any video and/or image data and/or information. For example, any image and/or video data, information, or file, obtained via the present invention, can be utilized in conjunction with any sound file, audio file, text file, video file, image file, and/or graphics file, and/or any other data, information and/or file utilized in a multimedia environment, thereby providing for the utilization of enhanced images and/or video in conjunction with the respective file.

While the present invention has been described and illustrated in various preferred embodiments, such descriptions are merely illustrative of the present invention and are not to be construed to be limitations thereof. In this regard, the present invention encompasses any and all modifications, variations, and/or alternate embodiments, with the scope of the present invention being limited only by the claims which follow.

CLAIMS

What Is Claimed Is:

1. An apparatus for producing a digital image, comprising:
 - a device for generating a digital signal file from an image; and
 - a processor for processing said digital signal file and for generating an image file,
 - wherein said processor generates a first signal file from said digital signal file, and further wherein said processor processes said first signal file and generates said image file.
2. The apparatus of claim 1, further comprising:
 - one of a camera and a recording device for obtaining one of a photographic representation of an image, a film image, a negative image and a digital image.
3. The apparatus of claim 2, further comprising:
 - a developing device for developing one of said photographic representation of an image, a film image and a negative image.
4. The apparatus of claim 3, further comprising:
 - an enlarging device for enlarging said image.

SECRET 1015103

5. The apparatus of claim 4, further comprising:
a scanning device for generating said digital signal file from said one of photographic representation of an image, a film image and a negative image.
6. The apparatus of claim 1, further comprising:
a video capture device for one capturing and processing said digital signal file.
7. The apparatus of claim 1, wherein said first signal file is an image file.
8. An apparatus for producing a digital image, comprising:
means for generating a digital signal file from an image file; and
means for processing said digital signal file and for generating an image file,
wherein said processing means generates a first signal file from said digital signal file, and further wherein said processing means processes said first signal file and generates said image file.
9. The apparatus of claim 8, further comprising:
means for obtaining said one of a photographic representation of an image, a film image, a negative image and a digital image.

10. The apparatus of claim 8, further comprising:
means for developing said one of photographic representation of an image, a film image and a negative image.
11. The apparatus of claim 8, further comprising:
means for enlarging said image.
12. The apparatus of claim 8, further comprising:
means for generating said digital signal file from said image.
13. The apparatus of claim 8, further comprising:
means for one of capturing and processing said digital signal file.
14. A method for producing a digital image, comprising:
generating a digital signal file from an image;
processing said digital signal file; and
generating an image file, wherein said processing operation further comprises:
generating a first signal file from said digital signal file; and
processing said first signal file and generating said image file.

15. The method of claim 14, further comprising:
obtaining one of a photographic representation of an image, a film image, a negative image and a digital image..
16. The method of claim 14, further comprising:
developing said one of photographic representation of an image, a film image, and a negative image; and
generating said image.
17. The method of claim 14, further comprising:
enlarging said image.
19. The method of claim 14, further comprising:
generating said digital signal file from said image.
20. The method of claim 14, further comprising:
one of capturing and processing said digital signal file.
21. The apparatus of any one of claims 1 to 13, wherein said image file is utilized in conjunction with at least one of a sound file, an audio file, a text file, a video file, an image file, and a graphics file.
22. The method of any one of claims 14 to 20, wherein said image file is utilized in conjunction with at least one of a sound

file, an audio file, a text file, a video file, an image file,
and a graphics file.

SECRET

ABSTRACT OF THE DISCLOSURE

An apparatus and method for producing a digital image, including a device for generating a digital signal file from an image and a processor for processing said digital signal file and for generating an image file. The processor generates a first signal file from the digital signal file. The processor processes the first signal file and generates the image file.

162260-11133703

FROM :

1999.09-22 13:42 #466 P.02/03

Attorney Docket No.: 5865-7

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

POWER OF ATTORNEY

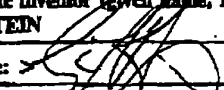
Application of: Eliot I. Bernstein
 Serial No.: Please assign
 Filed on: Concurrently herewith
 Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL VIDEO IMAGES AND/OR VIDEO FILES

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

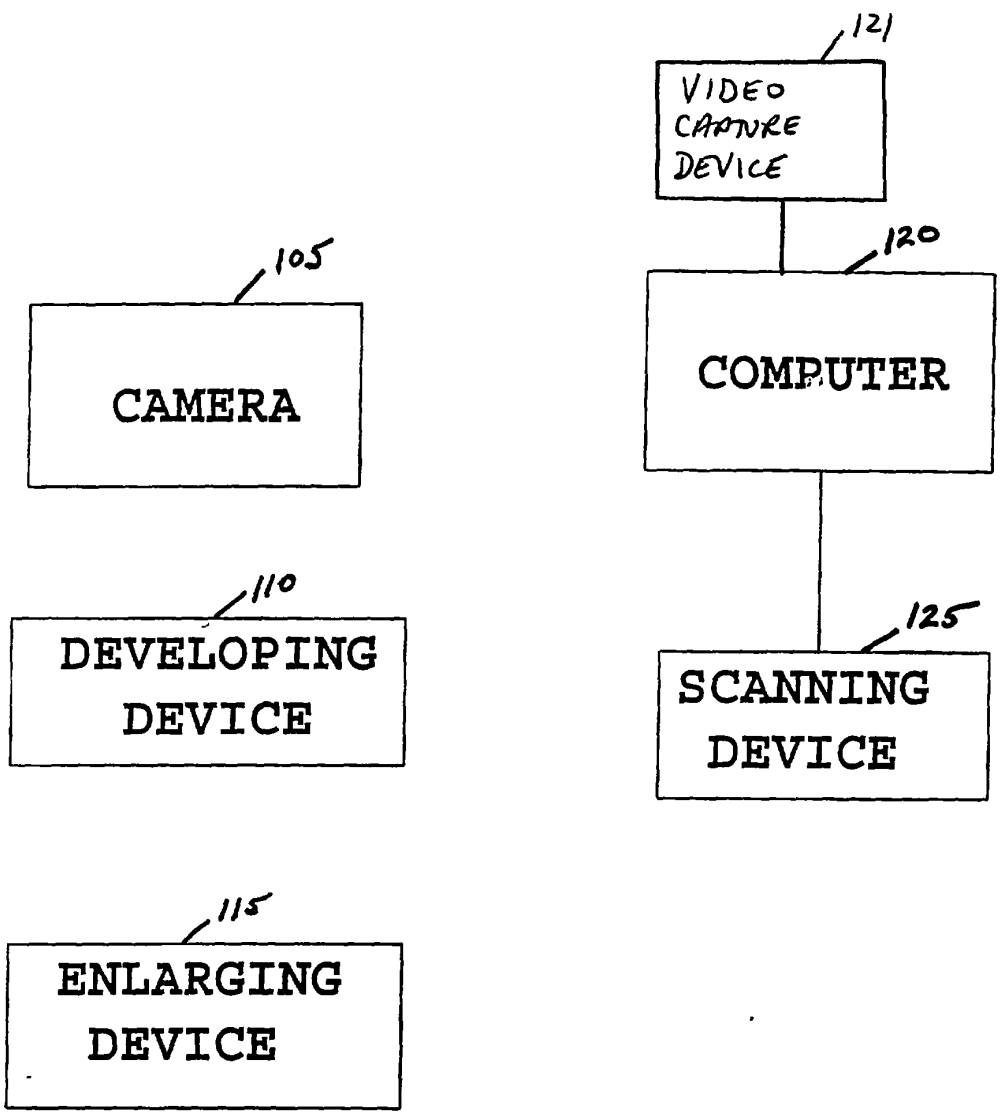
RAYMOND A. JOAO, Reg. No. 35,907

Address all telephone calls to Raymond A. Joao at telephone number: (516) 747-0300
 Address all correspondence to Meltzer, Lappe, Goldstein and Schissel, P.C.
 196 Willis Avenue
 Mineola, New York 11501

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of the sole inventor (given name, family name): ELIOT L. BERNSTEIN	
Inventor's signature: 	Date: 9/22/99
Residence: 500 S.E. Mizner Boulevard Suite 182 Boca Raton, FL 33432-6090	Citizenship: U.S.A.
Post Office Address: SAME AS ABOVE	

602667-1033703



562530" 10153105

100

FIG. 1

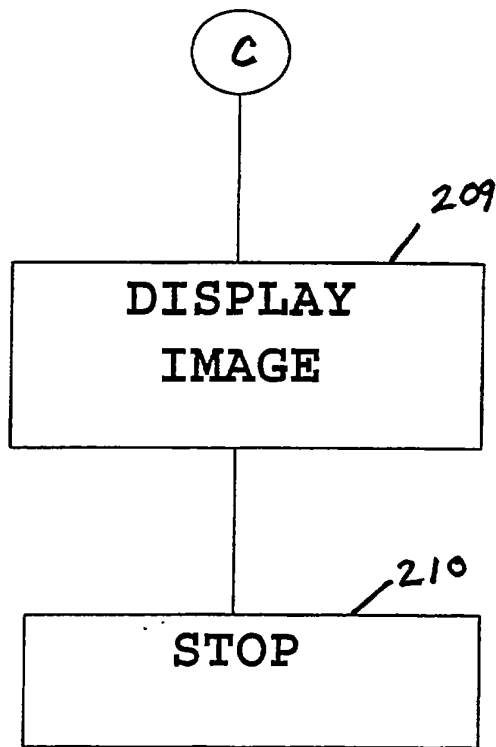
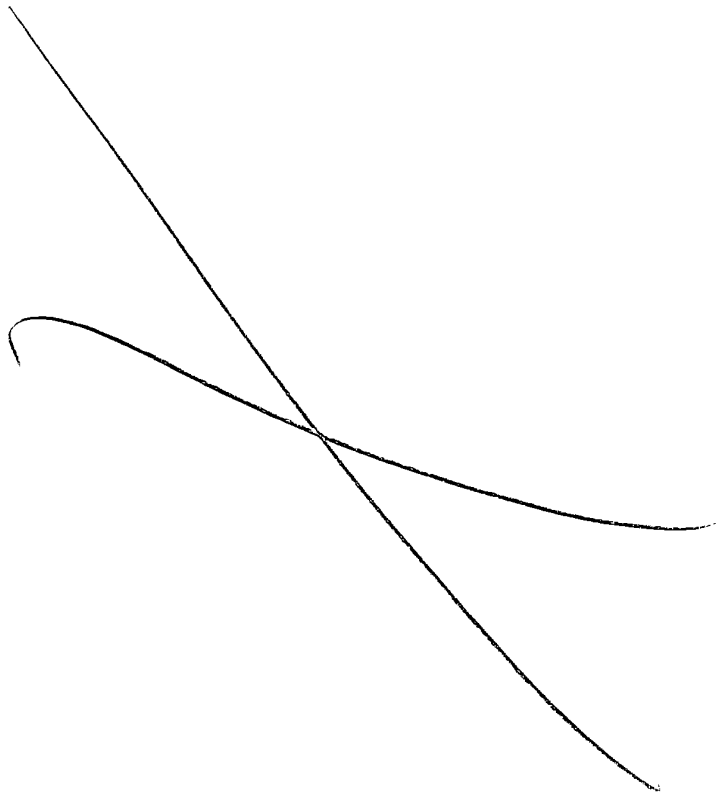


FIG. 2C

62260" 11313113

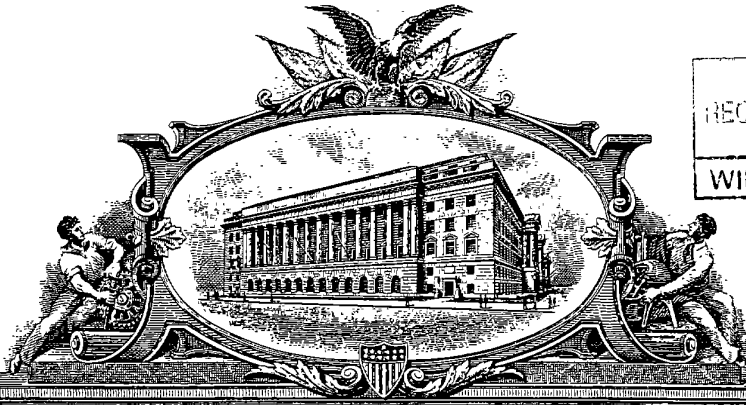


REGD 25 OCT 2000

WIPO

FCI

PI 301181



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

October 19, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 60/146,726
FILING DATE: August 02, 1999
PCT APPLICATION NUMBER: PCT/US00/21211

ESK

By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS



W. Montgomery
W. MONTGOMERY
Certifying Officer

**PRIORITY
DOCUMENT**

SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

1c960 U.S. PTO
08/02/99

Please type a plus sign (+) inside this box →

PTO/SB/16 (2-98)
Approved for use through 01/31/2001. OMB 0651-0037
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
valid OMB control number.

A / PPROV

+

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

1c526 U.S. PTO
60/146726
08/02/99

INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
Eliot I.	Bernstein	500 S.E. Mizner Blvd. Suite 102 Boca Raton, FL 33432-6080			
<input type="checkbox"/> Additional inventors are being named on the ___ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number		[]		Place Customer Number Bar Code Label here	
OR Type Customer Number here					
<input checked="" type="checkbox"/> Firm or Individual Name	Raymond A. Joao, Esq.				
Address	Meltzer, Lippe, Goldstein				
Address	190 Willis Ave.				
City	Mineola	State	NY	ZIP	11501
Country	USA	Telephone	516-747-0300	Fax	516-747-9363
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages	18	<input checked="" type="checkbox"/> Small Entity Statement			
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	4	<input checked="" type="checkbox"/> Other (specify)	Power of Atty.		
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees				FILING FEE AMOUNT (\$)	
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: []				\$75.00	
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,

SIGNATURE Raymond A. Joao

TYPED or PRINTED NAME Raymond A. Joao

TELEPHONE 516-747-0300, 240

Date 8 / 2 / 99

REGISTRATION NO. 35,907

(if appropriate)
Docket Number: 5865-6

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C., 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C., 20231.

+

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Eliot I. Bernstein
Serial No.: Please assign
Filed on: Concurrently herewith
Title: APPARATUS AND METHOD FOR PRODUCING
ENHANCED DIGITAL IMAGES

Box Provisional Application
Assistant Commissioner for Patents
Washington, D.C. 20231

PROVISIONAL PATENT APPLICATION TRANSMITTAL LETTER

Sir:

Please find transmitted herewith for filing the following:

- (1) Provisional Application for Patent Cover Sheet;
- (2) Provisional Patent Application including Specification -
18 pages, 4 sheets of drawings.
- (3) Verified Statement Claiming Small Entity Status;
- (4) Check in the amount of \$75.00 for the filing fee; and

- (5) Power of Attorney form; and
- (6) Return Receipt Postcard.

It is respectfully requested that the above papers be filed as a Provisional Patent Application.

Respectfully submitted,
MELTZER, LIPPE, GOLDSTEIN,
WOLF & SCHLISSEL, P.C.

By: Raymond A. Joao
Raymond A. Joao
Reg. No. 35,907

August 2, 1999

MELTZER, LIPPE, GOLDSTEIN,
WOLF & SCHLISSEL, P.C.
190 Willis Avenue
Mineola, New York 11501

Tel. No.: (516) 747-0300
Fax No.: (516) 747-9363

"Express Mail" mailing label number FL26352002548

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated below and is addressed to: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231

Date of Deposit: August 2, 1999

(Signature) NICOLA ELISEO PIADU

08/02/99 MON 10:56 FAX

003

VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(b))—INDEPENDENT INVENTOR

Attorney Docket No.: 5865-6

Applicant or Patentee: Eliot I. Bernstein

Serial or Patent No.: Please assign

Filed or Issued: Concurrently herewith

Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- the specification filed herewith with title as listed above.
- the application identified above.
- the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention as listed below:

- No such person, concern, or organization exists.
- Each such person, concern, or organization is listed below.


Separate verified statements are required from each named person, concern or organization having the rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

ELIOT I. BERNSTEIN
NAME OF PERSON SIGNING

500 S.E. Mizner Boulevard
Suite 102
Boca Raton, FL 33432-6080
ADDRESS OF PERSON SIGNING


SIGNATURE

8/2/99
DATE

**APPARATUS AND METHOD FOR PRODUCING
ENHANCED DIGITAL IMAGES**

FIELD OF THE INVENTION

The present invention is directed to an apparatus and a method for producing enhanced digital images and, in particular, to an apparatus and a method for producing enhanced resolution digital images from an enlarged print, negative, or digital image.

BACKGROUND OF THE INVENTION

The fields of telecommunications, multimedia, and related areas, are growing at increasing rates. With this continued growth, the need for high resolution digital imagery, for utilization in conjunction with the corresponding technologies, is becoming greater. Current technologies utilize digital panoramic cameras, as opposed to film or print film cameras.

Conventional digital technologies typically have very low zoom quality and low image size restrictions or limitations associated therewith. Generally speaking, enlarged images produce a higher resolution image, and an associated higher resolution scanning quality, which further facilitates an improved enlargement or reduction of the image for different sizes and different depths, without pixel distortion. Photographs, and associated images, utilize pixels which typically have a certain size. When enlarged or reduced, these pixels of the image become distorted, a feature which typically results in the image being fixed to an original size,

or being available at very low magnifications, such as, for example, magnifications of from 200 times to 300 times. These images are also difficult to enlarge to a full screen size without a tremendous amount of distortion present in the end product.

Currently, panoramic imaging techniques utilize non-enlarged images as their starting point. With such associated limitations, the ability to provide enhanced resolution digital images and, especially, an enhanced resolution digital panoramic image, such as those utilized on, or over, the Internet and/or the World Wide Web, has been greatly compromised.

Another major drawback in the current technology lies in the fact that conventional processes often utilize panoramic lenses in order to capture an image. This practice has been criticized as creating distortions in the image immediately upon the image's enlargement or reduction. The conventional techniques associated with the use of panoramic lenses are known to result in image "bending", which further curtails one's ability to obtain realistic views, especially upon performing any associated cropping and/or editing processes. In such instances, the upper end and the lower end of the image must be either erased, or covered, in order to prevent the flaw from being exposed. This typically results in the resulting image having a "fishbowl-type" distortion. In some instances, 32 mm lenses have been utilized in order to obtain enhanced floor to ceiling images without experiencing image bending. In these applications, however, the ability of the lens to capture optimal images varies depending upon the scene or image being photographed.

SUMMARY OF THE INVENTION

The present invention provides an apparatus and a method for producing digital images which overcomes the shortcomings of the prior art. The apparatus includes a camera, which can be a conventional print film camera, a digital camera and/or digital recording device, a developing device, which can be any device or collection of devices for developing the image taken by the camera, into an enlarged print film image or a digital image, and an enlarging device, for enlarging the image. If the image is taken with a digital camera, a print image may be obtained from the digital image. The image may be enlarged either digitally and/or from a print film image, a negative, or a digital image, depending upon the application.

The apparatus also includes a computer and associated peripheral devices for performing the various processing routines of the method of the present invention. The apparatus also includes a scanning device, for scanning the print film image or photograph in order to obtain a digital image representation of same.

The print film or digital image, which is obtained with the camera, can be developed by the developing device, and enlarged by the enlarger. The image print may then be scanned by the scanner in order to generate a digital file or other high quality image extension file. A plurality of these digital files can then be stitched together thereby creating a panoramic scene or image.

The computer may be utilized in order to perform touch-up operations on the obtained image or image collection in order to make refinements and/or enhancements thereto. The image may then be converted from a high resolution image compression extension file to a low resolution graphic or video image extension file. This compression step may be optional, depending upon the speed of the video or image.

The resulting file may then be processed so that the image represented therein can be displayed and/or posted for display to a host computer or other suitable device.

The above process can be repeated using different photo depths for any of the obtained images, or portions thereof, in order to create areas of higher resolution for closer inspections of these areas at different image depths.

Accordingly, it is an object of the present invention to provide an apparatus and a method for providing enhanced digital images from print film images, analog images, or digital images.

It is another object of the present invention to provide an apparatus and a method for producing digital images, from images, which have improved and enhanced resolution.

It is still another object of the present invention to provide an apparatus and a method for producing digital images, from print film images, and/or analog images which are suitable

display and/or downloading to a digital computer, a television, a telecommunications environment, and/or any other communications environment.

It is still another object of the present invention to provide an apparatus and a method for providing a digital image which is characterized by effective image compression subsequent to a stitching operation, thereby avoiding any dramatic loss in image quality.

It is another object of the present invention to provide an apparatus and a method for providing an enhanced digital image which dispenses with the need to compress the image data.

It is yet another object of the present invention to provide an apparatus and a method for producing digital images which are characterized by high definition resolution, and which are suitable for high definition television, Web television and large, full screen, panoramic internet applications, without loss of resolution upon image magnification or reduction.

It is another object of the present invention to provide an apparatus and a method for producing and transmitting digital images in a network environment which dispenses with the need for plug-in software.

It is still another object of the present invention to provide an apparatus and a method for producing digital images which facilitates high speed file transfer in a network environment and/or in a computer environment.

Other objects and advantages of the present invention will be apparent to those skilled in the art upon a review of the Description of the Preferred Embodiment taken in conjunction with the Drawings which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

Figure 1 illustrates the apparatus of the present invention, in block diagram form; and

Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides an apparatus and a method for providing enhanced digital images which can be utilized and which can be easily managed, when displayed, projected, or posted to an Internet Web server, Web site or Web page and/or in other networks and/or communications environments. In particular, the present invention provides an apparatus and a method for producing an enhanced digital image from an image which can be taken by any type of camera or recorder, a print film image, a negative, a transparency, a photograph, or a digital image, and/or otherwise. The digital images which are produced by the apparatus and

method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The digital images, which are produced by the apparatus and method of the present invention, can be utilized and displayed on computers, projection devices, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page and/or which can be downloaded to a computer, a television and/or any other suitable communication device.

The present invention, in a preferred embodiment, is utilized to produce enhanced images for posting and/or for downloading, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World Wide Web server, a Web site, or Web page. In this manner, enhanced digital images can be produced from enlarged images, with the resulting digital images having enhanced resolution. This resolution is unaffected by the typical resolution limiting parameters and phenomena which are associated with conventional digital image processing equipment, techniques and methods.

Figure 1 illustrates the apparatus of the present invention which is denoted generally by the reference numeral 100, in block diagram form. With reference to Figure 1, the apparatus 100 includes a camera 105 which, in the preferred embodiment, is a conventional print film camera, such as those cameras manufactured by Nikon, Canon, Hasselblad, or any other manufacturer. A digital camera may also be utilized to obtain the image. In the preferred embodiment, the camera 105 contains a 24-32 mm lens and can be a hand-held camera, a fixed camera, a camera, a recorder, and/or a camcorder, which is mountable, such as on a tripod or

on a stand. The camera 105 is utilized to obtain the image of the image or scene which is being photographed.

The apparatus 100 also includes a developing device 110 which can be any device or collection of devices for developing the film print image which is taken by the camera 105 into a film print image. The apparatus 100 also includes an enlarging device 115 for enlarging either the print film or the digital image.

The apparatus 100 also includes a computer 120, for performing the various processing routines of the method of the present invention. The computer 120 may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, or any other suitable computer or computer system. The computer 120 includes a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The computer 120 may also include any other hardware or software needed to perform any of the processing tasks described herein. The input device may include a keyboard, a mouse, or other pointing device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color inkjet printer.

The apparatus 100 also includes a scanning device 125, for scanning the print film image, negative, transparency, or photograph, in order to obtain a digital image representation of same. Any suitable computer or scanner and any suitable scanning software may be utilized in

conjunction with the present invention. In a preferred embodiment, a UMAX™ Astra scanner is utilized in conjunction with Microsoft® Photo Editor software.

Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form. With reference to Figures 2A, 2B and 2C, the method of the present invention commences at step 200. At step 201, a scene or image is photographed by using the camera 105.

At step 202, the print film image, which is obtained by the camera 105, is developed by the developing device 110 in order to produce a high gloss photographic print or digital image. If the image is obtained with a digital camera, a print image should be obtained from the digital image. In this manner, the higher resolution print image can then be enlarged and scanned. At step 203, the image print, analog image, or digital image, is enlarged by the enlarger 115. In the preferred embodiment, the image prints are enlarged to sizes of between 8"x6" to 8"x12". Although enlargement to any size may be obtained and utilized, the aforementioned sizes represent the respective lower end and upper end limits for the print sizes which provide optimal magnification capability in the preferred embodiment. In the preferred embodiment, a magnification capability of up to 1700 times may be attained for most views or scenes. It is, however, recommended that larger enlargement sizes be obtained for smaller object images.

At step 204, the image print, obtained at step 203, is scanned by the scanner 125 in order to generate a bitmap image file or other high or low quality image extension file. At step 205,

a plurality of bit map, JPEG, gif, etc. files, which are obtained for the image prints, can be stitched together by the scanner 125, thereby creating a panoramic scene or image, or simply a scene requiring a plurality of photographs. This stitching operation is performed by utilizing photo stitching software such as, for example, Photo Vista software by Live Picture, Live Picture Reality Studio, and/or Live Picture Object Modeler and/or Photo Vista software.

At step 206, the computer 120 performs a touch-up operation on the scanned image or stitched image collection in order to make refinements and/or enhancement thereto. This touch-up operation is accomplished by utilizing imaging software. In the preferred embodiment, Adobe Photoshop software is used as the imaging software for touching up the images. At step 207, the image is then converted from a bitmap file, or any other suitable high resolution image compression extension file, to a JPEG file or other suitable low resolution graphic or video image extension file. Step 207 is performed only if the file is not already in a low resolution format, such as, for example, a JPEG format. In the preferred embodiment, Adobe Image Ready software is utilized to perform the bitmap to JPEG file conversion. The bitmap to JPEG file conversion, which is performed at step 207, serves to preserve image quality and resolution, thereby providing an optimum image. At step 208, the JPEG file of the image is compressed by utilizing image compression software, such as Adobe Image Ready software. Step 208 may be optional, especially if the image is not in a JPEG format. The compressed image is, thereafter, ready for display and/or posting to a host computer, a Web server, a Web site, or a Web page. Either or both of the conversion step performed at step 207 and/or the

compression step performed at step 208 may be optional and may be dispensed with depending upon the application.

The above process can be repeated using different depth photos for any of the images obtained in order to create areas of higher resolution or "hot spots", for closer inspections of these areas at different depths. These depth photos can also be stitched into the respective image or image portion by using the stitching techniques described above, which are hereby incorporated by reference herein. The above process can be utilized in order to create higher zoom capabilities with each new depth layer of an image.

At step 208, a determination is made as to whether different depth photographs are desired. If different depth photographs are desired, the method repeats steps 201 through 207 to obtain the desired image. If no additional depth photographs are desired, the method proceeds to step 209.

At step 209, the resulting digital image can be displayed on a digital display device, projected from a projection device, or posted to a host computer, a Web server, a Web site, or a Web page. In the instance where the image is posted to an Internet Web server, Web site, or Web page, the upload from the computer 120, to the respective server, site, or page, can be performed by utilizing file uploading software, such as WFTP Pro software. The image can then be viewed at reasonable speeds. Upon completion of the file upload at Step 209, the method ceases operation at Step 210.

The processing steps described herein provide for the production of digital images which have enhanced resolution and which can be easily and effectively managed in applications involving the display of same, or the posting of same, to a host computer, a Web server, a Web site, a Web page, a computer display, a television, and/or a full screen projection display. Further, the method of the present invention provides for effective image compression after a requisite stitching operation, thereby preserving image quality. Low speed uses of high speed access data would typically dispense with the need for data compression. The apparatus and method of the present invention provides images which have enhanced resolution and quality while requiring less file management efforts.

The resulting images are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic internet applications, such as those involving displaying video images, while preserving resolution upon image magnification or reduction. The present invention also dispenses with the need for plug-in software during download and/or file transfer operations. Further, a zoom capacity of up to 1700 times or greater may be easily obtained with the present invention. The present invention also facilitates high speed file transfers of high resolution digital images thereby dispensing with the need to engage in long and slow conventional file downloads and/or file transfers.

The apparatus and method of the present invention can be utilized in conjunction with three-dimensional image technology in order to provide enhanced resolution three-dimensional digital images. The apparatus and method of the present invention can also provide three-

dimensional graphics which provides for enhanced mapping of the depth of two-dimensional images for use in three-dimensional image modeling applications.

The digital images obtained with the present invention can be utilized for any digital or projection application, including full screen display and/or projection applications.

While the present invention has been described and illustrated in various preferred embodiments, such descriptions are merely illustrative of the present invention and are not to be construed to be limitations thereof. In this regard, the present invention encompasses any and all modifications, variations, and/or alternate embodiments, with the scope of the present invention being limited only by the claims which follow.

CLAIMS

What Is Claimed Is:

1. An apparatus for producing a digital image, comprising:
 - a device for generating a digital signal file from one of an enlarged analog image and an enlarged digital image; and
 - a processor for processing said digital signal file and for generating an image file, wherein said processor generates a first signal file from said digital signal file, and further wherein said processor processes said first signal file and generates said image file.
2. The apparatus of claim 1, further comprising:
 - one of a camera and a recording device for obtaining an image.
3. The apparatus of claim 2, further comprising:
 - a developing device for developing said image.
4. The apparatus of claim 3, further comprising:
 - an enlarging device for enlarging an image.
5. The apparatus of claim 4, further comprising:

a scanning device for generating said digital signal file from said one of a print film image, an analog image and a digital image.

6. The apparatus of claim 1, wherein said first signal file is an image file.

7. The apparatus of claim 1, wherein said image file is an image file.

8. An apparatus for producing a digital image, comprising:

means for generating a digital signal file from an image file; and

means for processing said digital signal file and for generating an image file,

wherein said processing means generates a first signal file from said digital signal file, and further wherein said processing means processes said first signal file and generates said image file.

9. The apparatus of claim 8, further comprising:

means for obtaining a photographic representation of an image.

10. The apparatus of claim 9, further comprising:

means for one of developing and generating said image.

11. The apparatus of claim 10, further comprising:

means for enlarging said image.

12. The apparatus of claim 11, further comprising:
 - means for generating said digital signal file from said image.
13. The apparatus of claim 8, wherein said image file is a bitmap file.
14. The apparatus of claim 8, wherein said image file is a JPEG file.
15. A method for producing a digital image, comprising:
 - generating a digital signal file from an image;
 - processing said digital signal file; and
 - generating an image file, wherein said processing operation further comprises:
 - generating a first signal file from said digital signal file; and
 - processing said first signal file and generating said image file.
16. The method of claim 15, further comprising:
 - obtaining a photographic representation of an image.
17. The method of claim 16, further comprising:
 - developing said photographic representation; and
 - generating said image.
18. The method of claim 18, further comprising:

enlarging said image.

19. The method of claim 18, further comprising:

generating said digital signal file from said image.

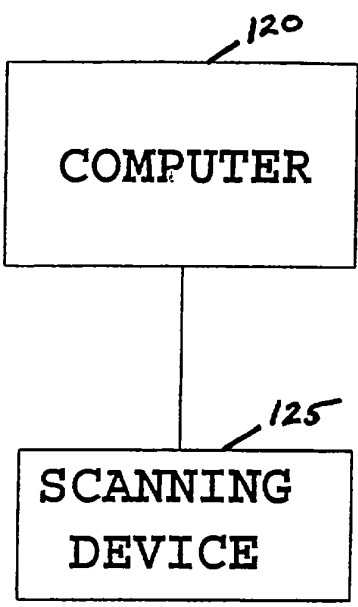
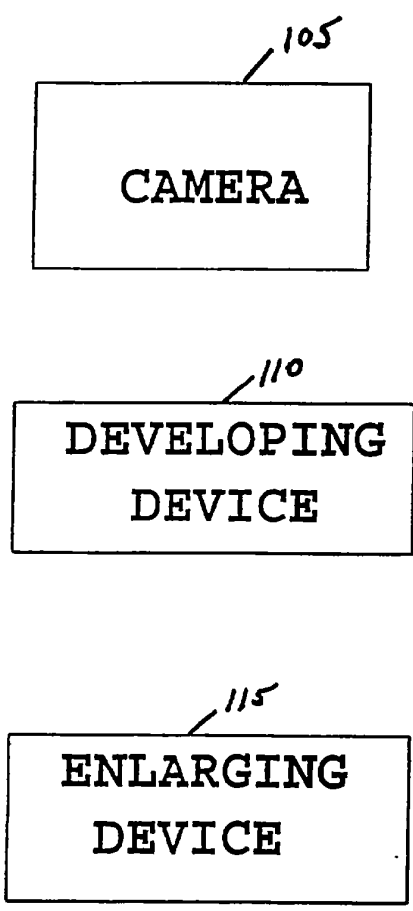
20. The apparatus of claim 15, wherein said first signal file is an image file.

21. The apparatus of claim 15, wherein said image file is one of a bitmap file and a JPEG file.

ABSTRACT OF THE DISCLOSURE

An apparatus and a method for producing a digital image, which includes a device for generating a digital signal file from an image, and a processor for processing the digital signal file and for generating an image file. The processor generates a first signal file from the digital signal file. The processor processes the first signal file and generates the image file.

2000 01 10 10:00 AM



100~

FIG. 1

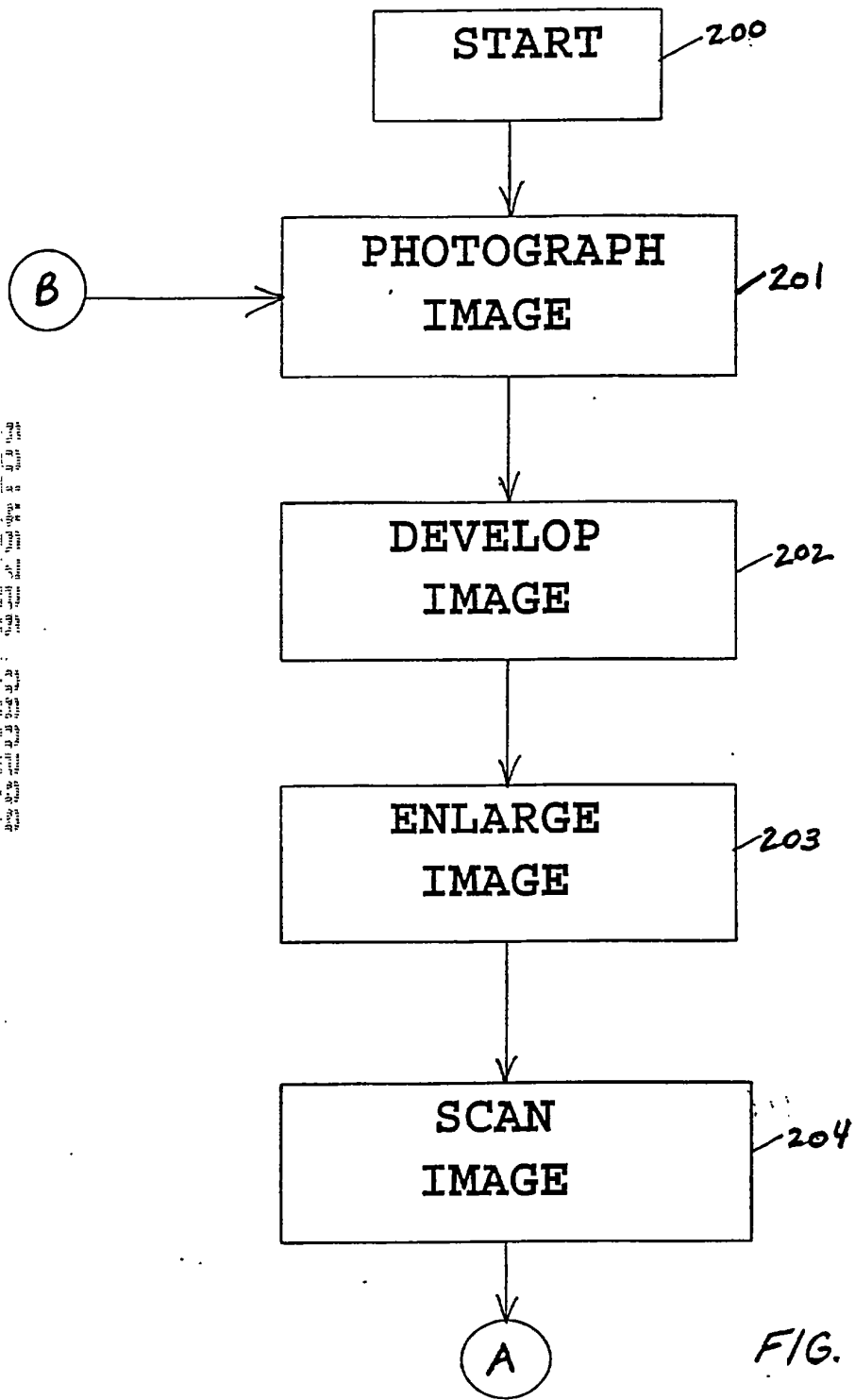


FIG. 2A

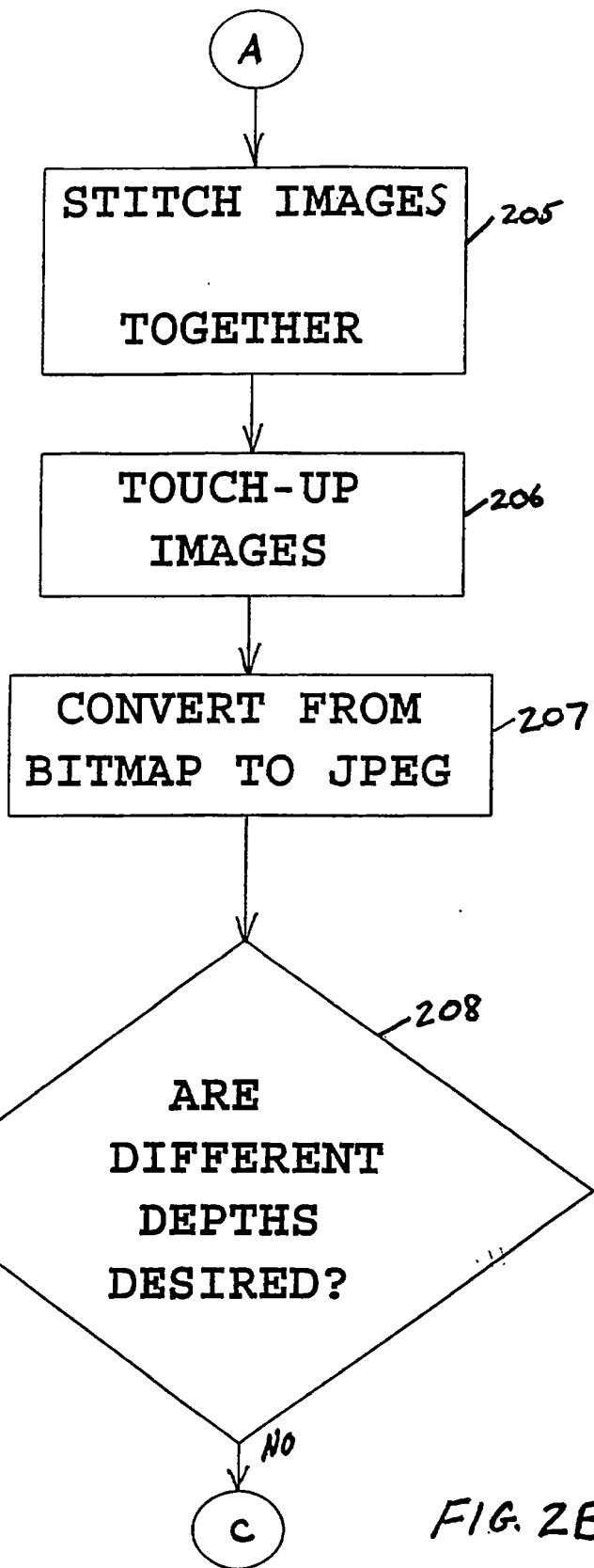


FIG. 2B

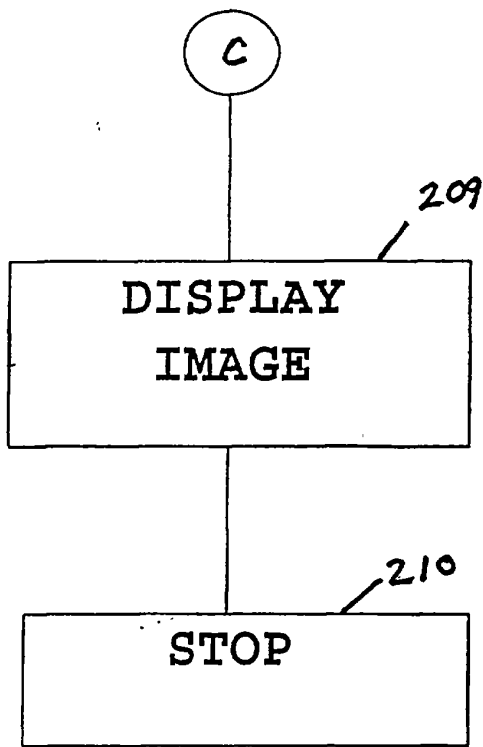


FIG. 2C

08/02/99 MON 10:55 FAX

002

Attorney Docket No.: 5865-6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

POWER OF ATTORNEY

Application of: Eliot I. Bernstein

Serial No.: Please assign

Filed on: Concurrently herewith

Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES

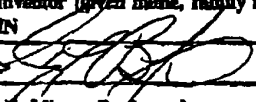
I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

RAYMOND A. JOAO, Reg. No. 35,907

Address all telephone calls to Raymond A. Joao at telephone number: (516) 747-0380

Address all correspondence to Meltzer, Lippe, Goldstein, Wolf and Schlissel, P.C.
190 Willis Avenue
Mineola, New York 11501

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

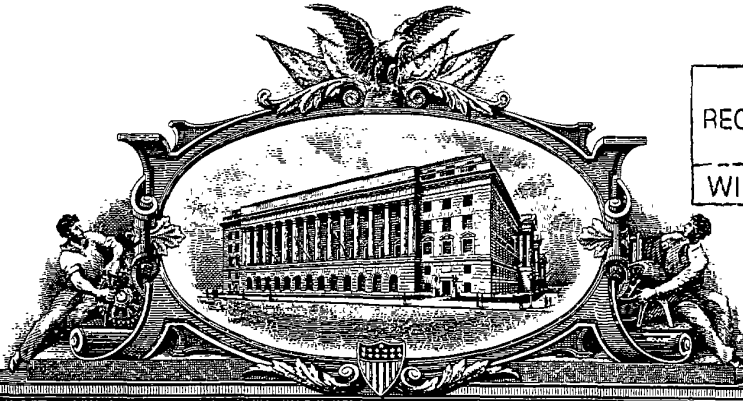
Full name of the sole inventor (given name, family name): ELIOT I. BERNSTEIN	
Inventor's signature: 	Date: 8/2/99
Residence: 580 S.E. Mizner Boulevard Suite 102 Boca Raton, FL 33432-6088	Citizenship: U.S.A.
Post Office Address: SAME AS ABOVE	

REC'D 25 OCT 2000

WIPO

PCT

PI 301182



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

October 18, 2000

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 60/149,737
FILING DATE: August 19, 1999
PCT APPLICATION NUMBER: PCT/US00/21211

E J K

By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS



W. Montgomery
W. MONTGOMERY
Certifying Officer

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17 1(a) OR (b)

10594 U.S. PTO

APPROV

Please type a plus sign (+) inside this box →

PTO/SB/16 (2-98)
Approved for use through 01/31/2001. OMB 0651-0037
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)					
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)			
Eliot I.	Bernstein	500 S.E. Mizner Blvd. Suite 102 Boca Raton, FL 33432-6080			
<input type="checkbox"/> Additional inventors are being named on the ___ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES AND/OR DIGITAL VIDEO FILES					
Direct all correspondence to:		CORRESPONDENCE ADDRESS			
<input type="checkbox"/> Customer Number	<input type="text"/>	Place Customer Number Bar Code Label here			
OR Type Customer Number here					
<input checked="" type="checkbox"/> Firm or Individual Name	Raymond A. Joao, Esq.				
Address	MELTZER, LIPPE, GOLDSTEIN & SCHLISSEL, P.C.				
Address	190 Willis Ave.				
City	Mineola	State	NY	ZIP	11501
Country	USA	Telephone	516-747-0300	Fax	516-747-9363
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages	<input type="text" value="21"/>	<input checked="" type="checkbox"/> Small Entity Statement			
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	<input type="text" value="4"/>	<input checked="" type="checkbox"/> Other (specify)	Power of Attorney		
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees					FILING FEE AMOUNT (\$)
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: <input type="text"/>					75.00
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

10594 U.S. PTO
60/149737

50144277.081444

Respectfully submitted,

SIGNATURE Raymond A. Joao
TYPED or PRINTED NAME Raymond A. Joao, Esq.
TELEPHONE 516-747-0300, XTN 240

Date 8/19/99

REGISTRATION NO. 35,907
(if appropriate)
Docket Number: 5865-5

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C., 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C., 20231.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Eliot I. Bernstein
Serial No.	:	Please assign
Filed	:	Concurrently herewith
Title	:	APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES AND/OR DIGITAL VIDEO FILES

0 1 2 3 4 5 6 7 8 9

Box Provisional Application
Assistant Commissioner for Patents
Washington, D.C. 20231

"Express Mail" mailing label number EL355808501US

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated below and is addressed to: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231

Date of Deposit: August 19, 1999

(Signature) Nicole Eliseo Pina
Nicole Eliseo-Pina

PROVISIONAL PATENT APPLICATION TRANSMITTAL LETTER

Sir:


Please find transmitted herewith for filing the following:

- (1) Provisional Application for Patent Cover Sheet;
- (2) Provisional Patent Application including Specification, Claims and Abstract - 21 pages, and Drawings - 4 sheets.
- (3) Verified Statement Claiming Small Entity Status;
- (4) Check in the amount of \$75.00 for the filing fee;

- (5) Power of Attorney form; and
- (6) Return Receipt Postcard.

It is respectfully requested that the above papers be filed as a Provisional Patent Application.

Respectfully submitted,
MELTZER, LIPPE, GOLDSTEIN,
WOLF & SCHLISSEL, P.C.

By: 
Raymond A. Jiao
Reg. No. 35,907

August 19, 1999

MELTZER, LIPPE, GOLDSTEIN,
WOLF & SCHLISSEL, P.C.
190 Willis Avenue
Mineola, New York 11501

Tel. No.: (516) 747-0300
Fax No.: (516) 747-9363

RECEIVED 8/25/99

From: Eliot Bernstein To: Fax#4174472

Date: 8/17/99 Time: 9:59:36 AM

Page 4 of 29

08/17 MON 12:57 FAX

003

VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR

Attorney Docket No.: 5865-5

Applicant or Patentee: Eliot I. Bernstein

Serial or Patent No.: Please assign

Filed or Issued: Concurrently herewith

Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES AND/OR DIGITAL VIDEO FILES

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- the specification filed herewith with title as listed above.
- the application identified above.
- the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention as listed below:

- No such person, concern, or organization exists.
- Each such person, concern, or organization is listed below.


Separate verified statements are required from each named person, concern or organization having the rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

ELIOT I. BERNSTEIN
NAME OF PERSON SIGNING

500 S.E. Mizner Boulevard
Suite 102
Boca Raton, FL 33432-6080
ADDRESS OF PERSON SIGNING


SIGNATURE

8.18.99
DATE

**APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES
AND/OR DIGITAL VIDEO FILES**

FIELD OF THE INVENTION

The present invention is directed to an apparatus and a method for producing enhanced digital images and/or digital video files and, in particular, to an apparatus and a method for producing enhanced resolution digital images and/or digital video files obtained via a digital camera and/or a digital recording device.

BACKGROUND OF THE INVENTION

The fields of telecommunications, multimedia, and related areas, are growing at increasing rates. With this continued growth, the need for high resolution digital imagery and video files for utilization in conjunction with the corresponding technologies, is becoming greater. Current technologies can utilize digital panoramic cameras and video recording equipment, as opposed to film or print film cameras or film video recording devices.

Conventional digital technologies typically have very low zoom quality and low image size restrictions or limitations associated therewith. Generally speaking, enlarged images produce a higher resolution image, and an associated higher resolution scanning quality, which further facilitates an improved enlargement or reduction of the image for different sizes and different depths, without pixel distortion. Photographs, videos, and associated images, utilize

5865-5

pixels which typically have a certain size. When enlarged or reduced, these pixels of the image or video become distorted, a feature which typically results in the image or video being fixed to an original size, or being available at very low magnifications, such as, for example, magnifications of from 200 times to 300 times. These images or video are also difficult to enlarge to a full screen size without a tremendous amount of distortion present in the end product.

Currently, panoramic imaging and video recording and/or production techniques utilize non-enlarged images as their starting point. With such associated limitations, the ability to provide enhanced resolution digital images and video and, especially, an enhanced resolution digital panoramic image or video, such as those utilized on, or over, the Internet and/or the World Wide Web, has been greatly compromised.

Another major drawback in the current technology lies in the fact that conventional processes often utilize panoramic lenses in order to capture an image or video. This practice has been criticized as creating distortions in the image or video immediately upon the enlargement or reduction of same. The conventional techniques associated with the use of panoramic lenses are known to result in image or video "bending", which further curtails one's ability to obtain realistic views, especially upon performing any associated cropping and/or editing processes. In such instances, the upper end and the lower end of the image or video must be either erased, or covered, in order to prevent the flaw from being exposed. This typically results in the resulting image or video having a "fishbowl-type" distortion. In some

SECRET

nces, 32 mm lenses have been utilized in order to obtain enhanced floor to ceiling images without experiencing image bending. In these applications, however, the ability of the lens to capture optimal images varies depending upon the scene, image, or video being photographed or recorded.

SUMMARY OF THE INVENTION

The present invention provides an apparatus and a method for providing enhanced digital images and/or digital video files which can be utilized and which can be easily managed, when displayed, projected, or posted, on any viewing device and/or entity such as, but not limited to, an Internet Web server, a Web site, a Web page, a television, etc.

The present invention can be utilized to produce enhanced images and/or video files for posting and/or for downloading, to a digital display medium. The present invention can be utilized to produce enhanced digital images and/or digital video files from digital images and/or digital video files obtained via a digital camera and/or a digital recording device. The resolution which is achieved can be unaffected by the typical resolution limiting parameters and phenomena which are associated with conventional digital image processing equipment, techniques and methods.

The apparatus includes a camera which can be a digital camera and/or a digital recording device or digital camcorder. The camera can be utilized to obtain the image which is

photographed or the video which is recorded, respectively. The apparatus can also include an enlarging device for enlarging the digital image or digital video file which is obtained via the respective camera or recorder. The images may or may not be digitally enlarged.

The apparatus also includes a computer for performing the various processing routines during the operation of the apparatus and method of the present invention. The computer includes a central processing (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The computer may also include any other hardware device or peripheral device and/or software which is, or which may be needed and/or desired, in order to perform any of the functions and/or operation described herein.

The computer may also include a receiver for receiving data and/or information over a communication network, and a transmitter for transmitting data and/or information over the communication network. The apparatus can also include a scanning device for scanning images or photographs.

The image can be photographed by using the digital camera or recorded by using the video recorder. Thereafter, if needed, the image can be enlarged by using the enlarger, and scanned, in order to generate a digital data file of the desired image or digital video file.

The image file or video file can then be converted to a suitable high resolution image or video compression or other suitable file. The above processes may be modified, altered, and/or varied, depending upon the data formats which are utilized in the various data processing steps. The image files or video files may or may not be compressed depending upon the application.

The above process can also be repeated using different depth images or digital photographs in order to attain higher magnification levels. The resulting image data and/or video file data can then be displayed via any appropriate and/or suitable means and/or be transmitted over a communication network.

The apparatus and method of the present invention can also be utilized in conjunction with three-dimensional images and video files in order to produce high resolution, three-dimensional digital images and/or digital video files.

The digital images and/or digital video files which are obtained with the present invention can be utilized for any digital or projection applications, including full screen display and/or projection applications.

Accordingly, it is an object of the present invention to provide an apparatus and a method for producing enhanced digital images and/or digital video files.

It is another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files obtained via a digital camera and/or a digital recording device.

It is still another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files obtained via a digital camera and/or a digital recording device which images and/or files can be displayed from any suitable display device and/or posted and/or transmitted on and/or from, respectively, any suitable medium.

It is yet another object of the present invention to provide an apparatus and a method for producing digital images and/or video files which dispenses with the need for file compression.

It is another object of the present invention to provide an apparatus and a method for producing digital images and/or video files which can utilize any suitable data file formatting.

It is still another object of the present invention to provide an apparatus and a method for producing digital images and/or video files which can be utilized to obtain enhanced resolution digital images and/or digital video files obtained via a digital camera and/or a digital recording device which can be utilized in conjunction with three-dimensional image or video production techniques in order to produce enhanced three-dimensional digital images and video files.

It is yet another object of the present invention to provide an apparatus and a method for producing enhanced resolution digital images and/or digital video files obtained via a digital camera and/or a digital recording device which can be utilized in display and projection applications.

Other objects and advantages of the present invention will be apparent to those skilled in the art upon a review of the Description of the Preferred Embodiment taken in conjunction with the Drawings which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

Figure 1 illustrates the apparatus of the present invention, in block diagram form; and Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides an apparatus and a method for providing enhanced digital images and/or digital video files which can be utilized and which can be easily managed, when displayed, projected, or posted on any viewing device and/or entity such as, but not limited to, an Internet Web server, Web site or Web page, television, etc. In particular, the present

1515730-2E-14709

ention provides an apparatus and a method for producing an enhanced digital image from a print or digital film image, or from a photographic image, which is taken with any camera. The digital images which are produced by the apparatus and method of the present invention have improved and enhanced resolution and require far less effort in the associated maintenance and management of same. The digital images, after enlargement which are produced by the apparatus and method of the present invention, can be utilized and displayed on computers, projection devices, and, as noted above, can be posted to an Internet Web server, a Web site, and/or a Web page.

Patent Office

The present invention, in a preferred embodiment, is utilized to produce enhanced images for posting and/or for downloading or streaming, to a digital display medium, which in the preferred embodiment, is an Internet and/or a World Wide Web server, a Web site, and/or Web page. In this manner, enhanced digital images and/or digital video files can be produced from digital images and/or digital video files which are obtained via a digital camera and/or a digital recording device, with the resulting digital images and/or digital video files having enhanced resolution. This resolution is unaffected by the typical resolution limiting parameters and phenomena which are associated with conventional digital image processing equipment, techniques and methods.

Figure 1 illustrates the apparatus of the present invention which is denoted generally by the reference numeral 100, in block diagram form. With reference to Figure 1, the apparatus 100 includes a camera 105 which, in the preferred embodiment, is a digital camera and/or a

digital recording device or digital camcorder. In the preferred embodiment, the camera 105 may be a hand-held camera, a fixed camera, and/or a camera which is mountable, such as on a tripod or on a stand or camcorder or film recorder, etc. The camera 105 is utilized to obtain the image of the image or scene which is being photographed.

The apparatus 100 also includes an enlarging device 115 for enlarging the digital image which is obtained via the camera or recorder 105. In the preferred embodiment, the images are digitally enlarged. However, in other preferred embodiments image enlargement may not be required or be rendered necessary.

The apparatus 100 also includes a computer 120, for performing the various processing routines during operation of the apparatus and method of the present invention. The computer 120 may be a personal computer, a laptop computer, a mini-computer, a microcomputer, a mainframe computer, a network computer, a server computer, and/or any other suitable computer or computer system. The computer 120 includes a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device, an input device and an output device. The computer 120 may also include any other hardware device or peripheral device and/or software which is, or which may be needed and/or desired in order to perform any of the functions and/or operation described herein. The input device may include a keyboard, a mouse, or other pointing device, and/or any other data and/or command input device, for allowing for data and/or command input by a user. The output device may include a printer and, in the preferred embodiment, the printer may be a color laser printer or a color

et printer. The computer 120 also includes a receiver for receiving data and/or information over a communication network and a transmitter for transmitting data and/or information over the communication network.

The apparatus 100 also includes a scanning device 125, for scanning images or photographs, whether they be digital or of a print film type, in order to obtain a digital image representation of same. Any suitable computer or scanner and any suitable scanning software may be utilized in conjunction with the present invention. In a preferred embodiment, a UMAX® Astra scanner is utilized in conjunction with Microsoft® Photo Editor software.

Figures 2A, 2B and 2C illustrate the method of the present invention, in flow diagram form. With reference to Figures 2A, 2B and 2C, the method of the present invention commences at step 200. At step 201, a scene, image, or video (hereafter "image") is photographed or recorded by using the digital camera or digital video recorder 105.

At step 202, the image is enlarged by the enlarger 115, if needed. The enlargement step at Step 202 is optional and may be dispensed with if it is not necessary to enlarge the image or video file. In the preferred embodiment, the images can be enlarged to sizes of between 8"x6" to 8"x12" for photographs or to any other appropriate size for video. Although enlargement to any size may be obtained and utilized, the aforementioned sizes represent the respective lower end and upper end limits for the print sizes of photographs which provide optimal magnification capability in the preferred embodiment. In the preferred embodiment, a magnification capability

up to 1700 times may be attained for most views or scenes. It is, however, recommended that larger enlargement sizes be obtained for smaller object images.

At step 203, the image obtained at step 202 is scanned by the scanner 125 in order to generate a bitmap image file or other image extension file, whether of a high quality resolution or low quality resolution. At step 204, a plurality of bit map files, which are obtained for the photographic images, can be stitched together after scanning, thereby creating a panoramic scene or image, or simply a scene requiring a plurality of photographs. This stitching operation can be performed by utilizing photo stitching software such as, for example, Photo Vista software by Live Picture, Live Picture Reality Studio, and/or Live Picture Object Modeler and/or Photo Vista software. The stitching operation, at step 204, may be dispensed with in the case of recorded video.

At step 205, the computer 120 performs a touch-up operation on the scanned image or stitched image collection in order to make refinements and/or enhancements thereto. This touch-up operation is accomplished by utilizing imaging software. In the preferred embodiment, Adobe Photoshop software can be used as the imaging software for touching up the images. At step 206, the image is then converted from a bitmap file, or any other suitable high resolution image compression extension file, to a JPEG file or other suitable low resolution graphic or video image extension file. In the preferred embodiment, Adobe Image Ready software is utilized to perform the bitmap to JPEG file conversion. In embodiments wherein the image is not captured in JPEG format, the above described step can be dispensed with. The bitmap to

JPG file conversion, which is performed at step 206, serves to preserve video image quality and resolution, thereby providing an optimum digital image or video image. At step 206, the JPEG file of the image or video can also be compressed, if speed is a consideration, by utilizing image compression software, such as Adobe Image Ready software. In high speed applications, no compression would typically be required. The compressed image is, thereafter, ready for display, posting, and/or for playback, to and/or from a host computer, a Web server, a Web site, or a Web page.

206730 "2E2B4F03

The above process can be repeated using different depth images or digital photographs or video segments, for any of the images or video obtained, in order to create areas of higher resolution or "hot spots", for detailed close-up inspection or viewing. These depth images, digital photographs, or videos, can also be stitched into the respective image, image segment, video, or video segment, by using the stitching techniques described above, which are hereby incorporated by reference herein. The above process can be utilized in order to create higher zoom capabilities with each new depth layer of an image or video.

At step 207, a determination is made as to whether different depth photographs or video segments are desired. If different depth photographs or video segments are desired, steps 201 through 207 can be repeated in order to obtain the desired image. If no additional depth images, digital photographs or video segments are desired, the method proceeds to step 208.

At step 208, the resulting digital image can be displayed, or played back, on a digital display device, projected from a projection device, or posted to a host computer, a Web server, a Web site, or a Web page. In the instance where the image is posted to an Internet Web server, Web site, or Web page, the upload from the computer 120, to the respective server, site, or page, can be performed by utilizing file uploading software, such as WFTP Pro software. The uploading can be facilitated by transmitting the pertinent data and/or information via the transmitter (not shown) of the central processing computer 120. The image can then be viewed at reasonable speeds. Upon completion of the file upload at Step 208, the operation of the apparatus and method of the present invention ceases operation at Step 209.

If the digital image is obtained via a digital camera, an enhanced resolution digital image can be obtained. If the digital image or video file is obtained via a digital recorder or digital camcorder and recorded as a video file, the above described process can also be utilized to produce an enhanced digital video file or collection of digital images and/or digital video files which can be played back as a video file and/or be used for applications including single images, single panoramic images, stitched images, non-stitched images and/or any other suitable image type or video type.

The processing steps described herein provide for the production of digital images and/or digital video files which have enhanced resolution and which can be easily and effectively managed in applications involving the display or playback of same, and/or the posting of same, to a host computer, a Web server, a Web site, a Web page, a computer display, a full screen

projection display and/or a video presentation and/or playback of same, respectively. Further, the method of the present invention provides for image processing, including various digital image processing techniques, which may or may not include image compression operations and/or techniques, subsequent to a stitching operation, thereby preserving image quality.

The apparatus and method of the present invention provides images which have enhanced resolution and quality while requiring less file management efforts.

The resulting images which are obtained via the apparatus and method of the present invention are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, full screen, panoramic or object models Internet applications, including video playback and/or video transmission, which preserving resolution upon image and/or video file magnification or reduction. The present invention also dispenses with the need for plug-in software during download and/or file transfer operations. Further, a zoom capacity of up to 1700 times or greater may be easily obtained with the present invention. The present invention also facilitates high speed file transfers of high resolution digital images and/or digital video files, thereby dispensing with the need to engage in long and slow conventional file downloads and/or file transfers.

The apparatus and method of the present invention can also be utilized in conjunction with three-dimensional images and video files in order to produce high resolution, three-dimensional digital images and/or digital video files and 30D texturings.

The digital images and/or digital video files which are obtained with the present invention can be utilized for any digital or projection application, including full screen display and/or projection applications.

While the present invention has been described and illustrated in various preferred embodiments, such descriptions are merely illustrative of the present invention and are not to be construed to be limitations thereof. In this regard, the present invention encompasses any and all modifications, variations, and/or alternate embodiments, with the scope of the present invention being limited only by the claims which follow.

66780-2264709

5. The apparatus of claim 1, wherein said processor digitally merges a plurality of one of images and video segments together.

6. The apparatus of claim 1, wherein said processor performs an enhancement operation on said image extension file.

7. The apparatus of claim 1, further comprising:
a display device for one of displaying, posting, and playing, one of the image and the video represented in said one of graphic and video image extension file.

8. The apparatus of claim 1, wherein said processor performs a subsequent enhancement operation on said one of graphic and video image extension file.

9. An apparatus for producing enhanced digital images and/or digital video files, comprising:
means for processing a first data file containing one of image data and video data, wherein said processing means generates an image extension file corresponding to said first data file, and further wherein said processing means converts said image extension file to a low resolution one of graphic and video image extension file.

10. The apparatus of claim 9, further comprising:

666780" 4E264E09

means for recording one of an image and a video, wherein said digital recording means generates said first data file corresponding to said one of an image and a video.

11. The apparatus of claim 9, further comprising:

means for enlarging said one of the image and the video represented in said first data file.

12. The apparatus of claim 9, further comprising:

means for scanning one of an image and a video represented in said first data file.

13. The apparatus of claim 9, wherein said processing means merges a plurality of one of images and video segments together.

14. The apparatus of claim 9, wherein said processing means performs an enhancement operation on said image extension file.

15. The apparatus of claim 9, further comprising:

means for one of displaying, posting, and playing, one of the image and the video represented in said one of graphic and video image extension file.

16. The apparatus of claim 9, wherein said processor performs a subsequent enhancement operation on said one of graphic and video image extension file.

17. A method for producing enhanced digital images and/or digital video files, comprising:

processing a first data file containing one of image data and video data;
generating an image extension file corresponding to said first data file; and
converting said image extension file to a low resolution one of graphic and video

image extension file.

18. The method of claim 17, further comprising:

recording one of an image and a video, wherein said recording means generates said first data file corresponding to said one of an image and a video.

19. The method of claim 17, further comprising:

enlarging said one of the image and the video represented in said first data file.

20. The method of claim 17, further comprising:

scanning one of an image and a video represented in said first data file.

21. The method of claim 17, further comprising:
merging a plurality of one of images and video segments together.

22. The method of claim 17, further comprising:
means for performing an enhancement operation on said image extension
file.

23. The method of claim 17, further comprising:
one of displaying, posting, and playing, one of the image and the video
represented in said one of graphic and video image extension file.

24. The method of claim 17, further comprising:
performing a subsequent enhancement operation on said one of graphic and
video image extension file.

661730" 2E261D9

ABSTRACT OF THE DISCLOSURE

An apparatus for producing enhanced digital images and/or digital video files, including a processor for processing a first data file containing one of image data and video data. The processor generates an image extension file corresponding to the first data file. The processor converts the image extension file to a low resolution one of graphic and video image extension file. A method for producing enhanced digital images and/or digital video files including processing a first data file containing one of image data and video data, generating an image extension file corresponding to the first data file and converting the image extension file to a low resolution one of graphic and video image extension file.

66130" 2264719

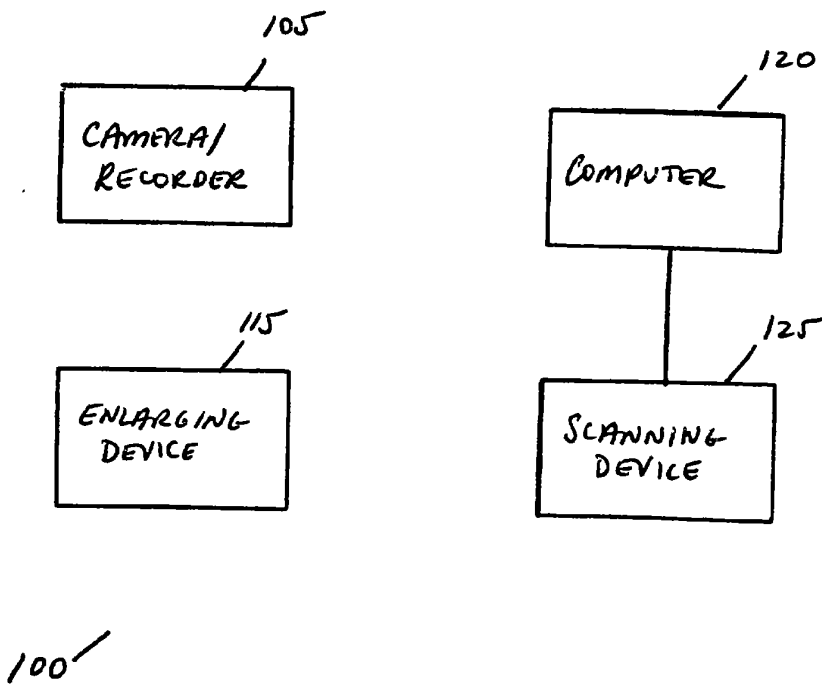


FIG. 1

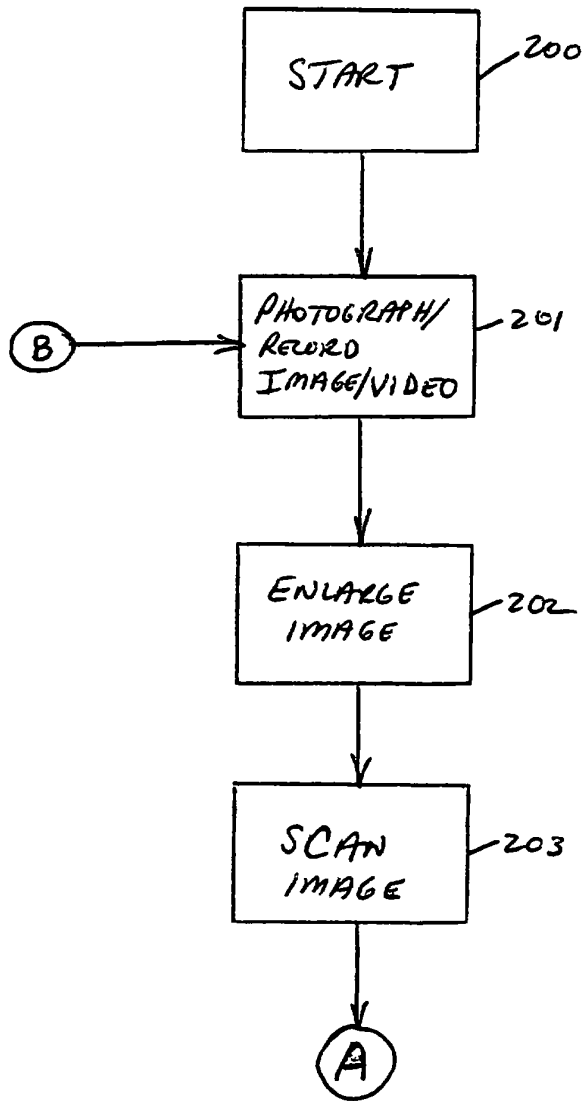


FIG. 2A

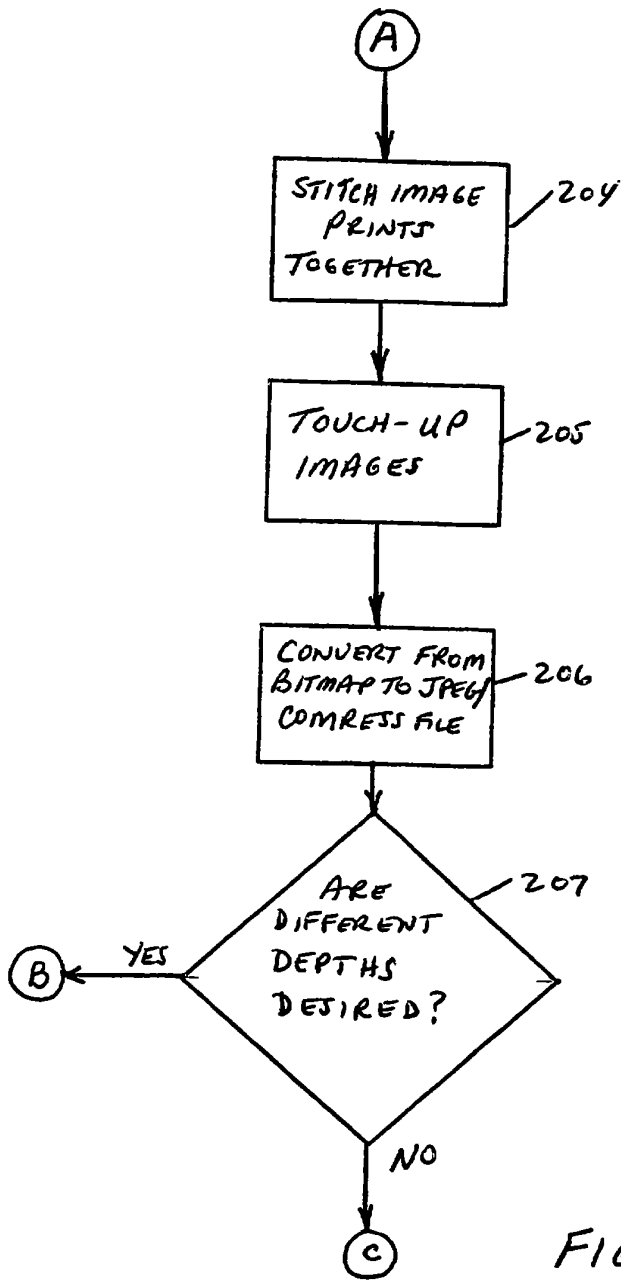


FIG. 2B

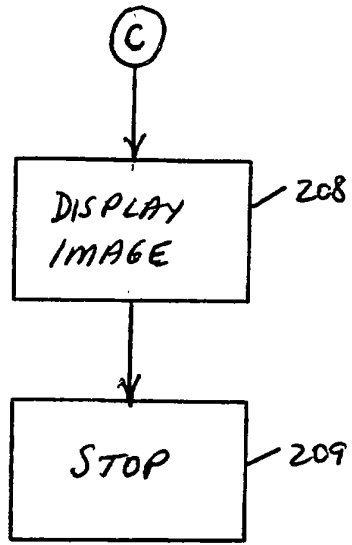


FIG. 2C

From: Eliot Bernstein To: Fax#4174472

Date: 8/17/99 Time: 9:59:36 AM

Page 3 of 29

08/18/99 MON 12:57 FAX

002

Attorney Docket No.: 5865-5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

POWER OF ATTORNEY

Application of: Eliot I. Bernstein

Serial No.: Please assign

Filed on: Concurrently herewith

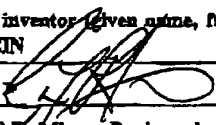
Title: APPARATUS AND METHOD FOR PRODUCING ENHANCED DIGITAL IMAGES AND/OR DIGITAL VIDEO FILES

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

RAYMOND A. JOAO, Reg. No. 35,907

Address all telephone calls to Raymond A. Joao at telephone number: (516) 747-0300
 Address all correspondence to Meltzer, Lippe, Goldstein, Wolf and Schilf, P.C.
 190 Willis Avenue
 Mineola, New York 11501

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of the sole inventor (Given name, family name): ELIOT I. BERNSTEIN	
Inventor's signature: 	Date: > 8.19.99
Residence: 500 S.E. Mizner Boulevard Suite 102 Boca Raton, FL 33432-6080	Citizenship: U.S.A.
Post Office Address: SAME AS ABOVE	

08/18/99 MON 12:57 FAX





P. B. 5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ +31 70 340 2040
TX 31651 epo nl
FAX +31 70 340 3016

**Europäisches
Patentamt**

Eingangs-
stelle

**European
Patent Office**

Receiving
Section

**Office européen
des brevets**

Section de
Dépôt

FOLEY & LARDNER
Boehm, Douglas A.
777 East Wisconsin Avenue
33rd Floor
Milwaukee, WI 53202-5367

ETATS-UNIS D'AMERIQUE

Datum/Date

16/02/01

Zeichen/Ref./Réf.	Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°. 00955352.0-1247-PCT/US0021211
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire IVIEWIT HOLDINGS, INC.	

ENTRY INTO THE EUROPEAN PHASE BEFORE THE EUROPEAN PATENT OFFICE

NOTE: These notes describes the procedural steps required for entry into the European phase before the European Patent Office (EPO). You are advised to read them carefully; failure to take the necessary action in time can lead to your application being deemed withdrawn.

1. European patent application no. 00955352.0 has been allotted to the above-mentioned international patent application.
2. Applicants WITHOUT a residence or their principal place of of business within the territory of an EPC Contracting State may themselves initiate European processing of their international application, provided they do so before expiry of the 21st or 31st month from the the priority date (see also point 7 below).

During the European phase before the EPO as designated or elected Office, however, such applicants must be represented by a professional representative (Articles 133(2) and 134(7) EPC).

Procedural acts performed after expiry of the 21st or 31st month by a professional representative who acted during the international phase but is not authorised to act before the EPO have no legal effect and therefore lead to loss of rights.

Please note that a professional representative authorised to act before the EPO and who acted for the applicant during the international phase does not automatically become the representative for the European phase. Applicants therefore strongly advised to appoint in good time any representative they wish to initiate the European phase for them; otherwise, the EPO has to send all communications direct to the applicant.



3. Applicants WITH a residence or their principal place of business within the territory of an EPC Contractin State are not obliged to appoint a professional representative authorised to act before the EPO for the European phase before the EPO as a designated or elected Office.

However, in view of the complexity of the procedure it is recommended that they do so.

4. Applicants and professional representatives are strongly advised to initiate the European phase using EPO Form 1200 (available free of charge from the EPO). This however is not compulsory.

5. TO ENTER THE EUROPEAN PHASE BEFORE THE EPO, the following acts must be performed. (NB: Failure validly to do so will entail loss of rights or other adverse legal consequences).

5.1 If the EPO acting as DESIGNATED OFFICE under Article 22(1) PCT, applicants must, within 21 months from the date of filing or (where applicable) the earliest priority date:

a) Supply a translation of the international application into an EPO official language, if the International Bureau did not publish the application in such a language (Article 22(1) PCT and Rule 107(1)a) EPC).

If the translation is not filed in due time, the international application is deemed to be withdrawn before the EPO (Article 24(1)(iii) PCT).

b) Pay the national basic fee and, where a supplementary European search report has to be drawn up, the search fee (Rule 107(1)c) and e) EPC).

c) Within six months from publication of the international search report, pay a designation fee for each designated Contracting State (Rule 107(1)d) EPC), and file a written request for examination and pay the examination fee (Rule 107(1)f) EPC).

Anmeldung Nr./Application No./Demande n°//Patent Nr./Patent No./Brevet n°	Blatt/Page/Feuille
00955352.0	2



5.2 If the EPO is acting as ELECTED OFFICE under Article 39(1)a) PCT, applicants must, within 31 months from the date of filing or (where applicable) the earliest priority date:

- a) File a translation as per 5.1 a) above.
- b) Pay the fees as per 5.1 b) above.
- c) If the time limit under Article 79(2) EPC expires before the 31-month time limit, pay the designation fee for each designated Contracting State (Rule 107(1)d) EPC).
- d) If the time limit under Article 94(2) EPC expires before the 31-month time limit, file the written request for examination A N D pay the examination fee (Rule 107(1)f) EPC).
- e) Pay the renewal fee for the third year, if it falls due before the expiry of the 21-month time limit (Rule 107(1)g) EPC)

5.3 If the application documents on which the European grant procedure is to be based comprise more than ten claims, a claims fee is payable within the time limit under Rule 107(1) EPC for the eleventh and each subsequent claim (Rule 110(1) EPC). The fee can however still be paid within a period of grace of one month from notification of an EPO communication (Rule 110(2) EPC).

6. If the necessary fees are not paid in time, they may still be validly paid within a period of grace of one month from notification of an EPO communication, subject to payment at the same time of a surcharge for each late-paid fee (Rule 85a(1), 85b EPC). For the renewal fee, the period of grace is six months from the fee's due date (Article 86(2) EPC).

7. If the applicant had a representative during the application's international phase, the present notes will be sent to the representative, asking him to inform the applicant accordingly.

All subsequent communications will be sent to the applicant, or - if the EPO is informed of his appointment in time - to the applicants's European representative.

Anmeldung Nr./Application No./Demande n°//Patent Nr./Patent No./Brevet n°	Blatt/Page/Feuille
00955352.0	3



8. For more details about time limits and procedural acts before the EPO as designated and elected Office, see the EPO brochure

How to get a European patent
Guide for applicants - Part 2
PCT procedure before the EPO - "EURO-PCT"

This brochure, the list of professional representatives before the EPO, Form 1200 and the latest fees are all on the internet under

<http://www.european-patent-office.org>.

RECEIVING SECTION



Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°. 00955352.0	Blatt/Page/Feuille 4
--	-------------------------

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 February 2001 (08.02.2001)

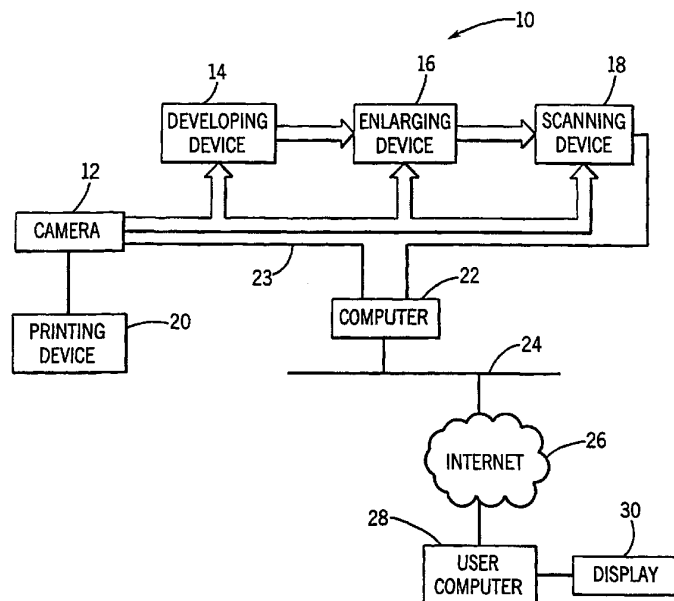
PCT

(10) International Publication Number
WO 01/09836 A1

- (51) International Patent Classification⁷: G06T 3/00, 33432-6080 (US). UTLEY, Brian, G. [US/US]; 1930 SW 8th Street, Boca Raton, FL 33486 (US).
H04N 1/00
- (21) International Application Number: PCT/US00/21211 (74) Agent: FOLEY & LARDNER; Boehm, Douglas A., 777 East Wisconsin Avenue, 33rd Floor, Milwaukee, WI 53202-5367 (US).
- (22) International Filing Date: 2 August 2000 (02.08.2000)
- (25) Filing Language: English (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (26) Publication Language: English (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (30) Priority Data:
60/146,726 2 August 1999 (02.08.1999) US
60/149,737 19 August 1999 (19.08.1999) US
60/155,404 22 September 1999 (22.09.1999) US
60/169,559 8 December 1999 (08.12.1999) US
09/522,721 10 March 2000 (10.03.2000) US
- (71) Applicant (for all designated States except US): IVIEWIT HOLDINGS, INC. [US/US]; One Boca Place, 2255 Glades Road, Suite 337 West, Boca Raton, FL 33431 (US).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): BERNSTEIN, Eliot, I. [US/US]; 500 S.E. Mizner Boulevard, Boca Raton, FL
- Published:
— With international search report.

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR PROVIDING AN ENHANCED DIGITAL IMAGE FILE



(57) Abstract: A method of providing a digital image file for viewing in a viewing window of a user display, the viewing window having a predetermined size. The method includes providing a digital image having an image size comprising a fixed number of pixels representative of an image, the image size being greater than the predetermined viewing window size. The digital image file is associated with a user interface that is configured to display the digital image in the viewing window and to allow a user to zoom into and pan around in the image displayed in the viewing window while maintaining high image quality.



WO 01/09836 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**SYSTEM AND METHOD FOR PROVIDING AN
ENHANCED DIGITAL IMAGE FILE**

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation-in-part of U.S. Patent Application No. 09/522,721, filed March 10, 2000, which claims the benefit of priority from U.S. Provisional Application No. 60/125,824, filed
5 March 24, 1999. The present application also claims the benefit of priority from U.S. Provisional Application Nos. 60/146,726, filed August 2, 1999, 60/149,737, filed August 19, 1999, 60/155,404, filed September 22, 1999, and 60/169,559, filed December 8, 1999.

FIELD OF THE INVENTION

10 The present invention is directed to a system and a method for producing enhanced digital images and, in particular, to a system and a method for producing enhanced digital images having improved resolution for zooming and/or panning within a single file.

BACKGROUND OF THE INVENTION

15 In the field of digital imaging, the primary design challenge is that the viewer desires ideal image quality delivered to the viewer's display system. In a limited-bandwidth network, such as the Internet, it is important to transfer the image data in a reasonable amount of time. However, ideal image quality requires an enormous amount of digital data.
20 Today's networks are not capable of transferring an ideal digital image in a reasonable time.

It is known that one can view a digital image on a display screen and "zoom" (i.e., magnify a portion of an image and appearing to move into the image) and "pan" (i.e., move across or around within the
25 plane of that image). However, prior attempts have failed to produce high-quality, high-resolution digital images having the ability to zoom within the

image and pan around the image without pixelation. "Pixelation" generally refers to the effect a digital image has when magnified, in which the pixels (i.e., picture elements) comprising the image become readily apparent to the human eye. More specifically, pixelation occurs when more than one pixel
5 of the display monitor is used to represent one pixel of information of the digitized source image. In prior digital image systems, when the image is magnified, pixelation occurs almost immediately and is very noticeable to the user as a substantial degradation in the quality of the image.

As used herein, the term "pixel" refers to the smallest
10 resolvable element of an image, either on a screen or stored in memory. Each pixel in a monochrome image has its own brightness, from 0 for black to the maximum value (e.g., 255 for an eight-bit pixel) for white. In a color image, each pixel has its own brightness and color, usually represented as a triplet of red, green, and blue intensities.

15 The teaching in the art is to generate a digital image file having the same number of pixels, or less, as the number that can be shown in a target viewing window. This results in a small source image file size, thereby speeding the transmission of the image file across a network. The target viewing window is typically maintained very small, e.g., 160 x 120
20 pixels, to further limit the number of pixels needed in the digital image file. Thus, the teaching in the art is to reduce the number of pixels in the digital image file to decrease the size of the image file before compression, so that the compressed image file can be more quickly transmitted over a limited-bandwidth network. However, this teaching has been unsatisfactory in
25 providing high-resolution digital images. It has also been unsatisfactory in providing digital images in large viewing screens, such as, for example, full-sized VGA display monitor screens of 640 x 480 pixels.

Another example of prior systems is mapping or travel web sites. A user selects a desired location and the mapping web site responds
30 by downloading map data from a map database. When the user wishes to zoom into or pan around the selected location, the web site retrieves

additional source data, e.g., additional new map images, and sends it to the user computer. One drawback of this type of system is that each zoom or pan operation requires the downloading of additional data over the network connection. This method is slow, and does not allow the user to zoom and pan around a set of data unless the network connection is maintained.

Accordingly, there is a need for a system and a method for providing enhanced digital images. Further, there is a need for a system and a method for providing enhanced digital images within which a user can zoom or pan without loss of resolution and without pixelation. Further still, there is a need for a system and method for providing enhanced digital images that can be transmitted over a network in a reasonable amount of time. Further yet, there is a need for a system and a method for producing enhanced digital images suitable for uploading and for downloading to a display. Also, there is a need for a system and method for providing a digital image file suitable for efficient file transfers of high resolution digital images, thereby dispensing with the need to engage in long and slow, conventional file downloads in order to maintain viewing quality.

SUMMARY OF THE INVENTION

According to an exemplary embodiment, a method of providing a digital image file for viewing in a viewing window of a user display, the viewing window having a predetermined size, includes providing a digital image file having an image size comprising a fixed number of pixels representative of an image. The image size to be displayed is greater than that of the predetermined viewing window size. The method further includes the step of associating a user interface with the digital image file. The user interface is configured to display the digital image file in the viewing window and to allow a user to zoom into the image displayed in the viewing window.

According to another exemplary embodiment, a method of providing an enhanced digitized image file to a user includes predefining a

viewing window size in which the digitized image file is to be displayed to a user; providing a digitized image file having an image size greater than of the predefined viewing window size; compressing the digitized image file; and providing the compressed image file to a network server.

5 According to yet another exemplary embodiment, an enhanced digital image file is disclosed. The enhanced digital image file is displayed on a client computer display system having a viewing window, the viewing window having a predetermined frame size. The enhanced digital image file includes digitized image data representative of an image, wherein the
10 digitized image data has a number of pixels sufficient to allow a user to magnify the digitized image in the viewing window by a magnification factor of greater than one without appreciable pixelation. The enhanced digital image file further includes control data associated therewith for permitting the user to control the magnification factor.

15 BRIEF DESCRIPTION OF THE DRAWINGS

The invention will become more fully understood from the following detailed description, taken in conjunction with the accompanying drawings, wherein like reference numerals refer to like parts, in which:

FIG. 1 is a block diagram of a system for providing an
20 enhanced digital image file according to an exemplary embodiment;

FIG. 2 is a flowchart of a method for providing an enhanced digital image file from a print film image according to an exemplary embodiment;

FIG. 3 is a screen print of a display screen on a user display
25 illustrating an enhanced digital image file according to an exemplary embodiment;

FIG. 4 is a screen print of a display screen on a user display illustrating a zoomed view of the enhanced digital image of FIG. 3;

FIG. 5 is a screen print of a display screen on a user display illustrating a panned and zoomed view of the enhanced digital image of FIG. 3;

FIG. 6 is a flowchart of a method for providing an enhanced digital image file from a digital image according to an exemplary embodiment; and

FIG. 7 is an illustration relating a source image, a viewing image, and a viewing window to one another.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 illustrates a system 10 for providing an enhanced digital image file according to an exemplary embodiment. System 10 includes a camera 12 which may be a conventional print film camera, such as, print film cameras manufactured by Nikon, Canon, Hasselblad, Kodak, or other manufacturers, or may alternatively be a digital camera, a digital video recording device (e.g., including 3CCD technology), an analog recording device such as a reel-to-reel recording device, a live video recording system, etc. In the case where camera 12 is a digital camera, camera 12 may further include a solid state storage medium or memory. Camera 12 may be mountable, such as on a tripod or on a stand, hand-held or fixed, and may include a 24-32 mm lens. Camera 12 is utilized to obtain an image of a scene that is being photographed or video recorded. The image may be a print film image (e.g., a high gloss, photographic print), analog image, digital image, negative, transparency, etc.

As a further alternative, system 10 may be utilized in conjunction with any imaging or video recording system, such as, medical imaging equipment. In this case, camera 12 may be an imaging device, such as a magnetic resonance imaging (MRI) device, an X-ray device, a microscope with a camera attached thereto, etc.

In the case where camera 12 is a print film camera, system 10 also includes a developing device 14, which can be any device or collection

of devices, for developing the print film image taken by camera 12. In some cases, such as a POLAROID brand camera, developing device 14 is combined with and integral to camera 12. Developing device 14 is not required in an embodiment in which the image is a digital image.

5 System 10 also includes an enlarging device 16 for enlarging the image which is developed by developing device 14. The image may be photographically enlarged from a print film image, a negative, or other transparency.

 The system of FIG. 1 further includes a scanning device 18,
10 for scanning images or photographs in order to obtain a digitized representation of the source image in the form of a digital image file. Any suitable scanning software may be utilized. In an exemplary embodiment, a UMAX Astra scanner is utilized in conjunction with Microsoft Photo Editor software. Scanning device 18 outputs the digital image file in a bitmapped
15 format (e.g., BMP, TIF, GIF, etc.) The device may include compression software to compress the digital image file into a compressed format (e.g., JPEG). Note that, depending upon the specific type of camera 12 and desired processing steps, a print film image from camera 12 may be provided directly to enlarging device 16 or directly to scanning device 18.

20 If the source image is obtained with a digital camera of sufficient resolution, the digitized image file from camera 12 may be used directly without first creating a print image. On the other hand, a print image may first be obtained from the camera's digitized source image by sending it to a suitable printing device 20. In this manner, the printed
25 image can then be optically enlarged and scanned to provide the enhanced digitized image.

 System 10 also includes a computer 22 configured to process the digital image file created by the above-mentioned devices. Computer 22 may be a personal computer, a laptop computer, a mini computer, a
30 microprocessor, a mainframe computer, a network computer, a server computer, or any other suitable computer or computer system. Computer

22 typically includes a central processing unit (CPU), a read only memory (ROM), a random access memory (RAM), a display device such as an SVGA display monitor, an input device and/or an output device. Computer 22 may also include any other hardware device, peripheral device, or software necessary to perform the functions described herein. The input device may include a keyboard, a mouse, or other pointing device, or other devices for allowing user input. The output device may include a printer (e.g., a black-and-white or color laser or inkjet printer). Computer 22 also includes an interface circuit for transmitting and/or receiving data over a network or link 24, such as, a local area network (LAN), a wide area network (WAN), an internet protocol network (e.g., the Internet, an intranet), a broadcast network, a satellite or cable television network, a digital video transmission path, etc. Computer 22 may further act as a network server or may be in communication with such a network server. Furthermore, as will be seen below, the function of network 24 may be, in a simple case, performed by other components of the system. In this exemplary embodiment, computer 22 is accessible by the Internet 26 via network 24 (e.g., a local area network).

A user computer 28 is used to access the enhanced digital image file stored in or provided by computer 22 (acting as a network server). Computer 28 may also load the image file to a storage device (e.g., a hard disk drive) to be used for display on a display 30. User computer 28 may operate an Internet browser, such as Netscape Navigator configured to communicate with the Internet 26 or an intranet or other network.

Display 30 may be any type of user display, such as a cathode ray tube (CRT), liquid crystal display (LCD), hand-held personal digital assistant (PDA) display, mobile phone display, etc. Display 30 normally has a predetermined display resolution (e.g., 1,280 x 1,024 pixels, 640 x 480 pixels, 320 x 240 pixels, etc.). Note that user computer 28 may be combined with display 30 in a single, integrated system, such as would be

the case for a WebTV brand system, a high-definition television (HDTV), a PDA, etc. The combined user computer and display system may be referred to herein as the display system.

As will be described in more detail below, the computer display
5 system typically has a viewing window on the display for viewing the image in a particular frame. The viewing window may be all or a portion of the total viewing area of display 30. The viewing window parameters, such as the viewing window area size and aspect ratio (i.e., viewing window width divided by viewing window height) may be under the control
10 of user computer 28. In one embodiment, the viewing window area may be no more than 160 x 120 pixels in size, which is just a portion of the display area of an SVGA display monitor at 800 x 600 pixels.

References herein to frame sizes in pixels (such as, 320 x 240 pixels, 640 x 480 pixels, etc.) are intended to include equivalent frame
15 sizes thereto. As an example, when rectangular pixels are used, the exact pixel count differs from the stated frame size. Thus, one equivalent to a 320 x 240 pixel frame size is 352 x 240. Accordingly, references to frame sizes in pixels are intended to included these and other equivalent frame sizes, and the teachings herein include any and all such insubstantial
20 variations.

Referring now to FIGS. 2 and 6, exemplary methods 50 and 100 of providing an enhanced digital image file will be described. The enhanced digital image file can be generated from a print film image or a digital image. The enhanced digital image file is a digitized image acquired
25 with a digital camera, scanner, or other device suitable for digitizing an image into pixels. The method of FIG. 2 is suitable for processing a print film image; the method of FIG. 6 is suitable for processing a digital image.

At step 52 of FIG. 2, an image is photographed or recorded by using camera 12. If camera 12 is a video camera, the video data is
30 captured using a suitable capture device (e.g., an internal or external capture card, a Dazzle LAV-1000S capture device manufactured by Dazzle,

Inc. of Fremont, California, etc.). A single captured frame from the video camera may be further processed as a digital image.

At step 54, the image is developed by developing device 14 in order to produce a photographic print, such as a high gloss photographic print. As mentioned, the step of developing may not be necessary in all cases (e.g., where the print film image of camera 12 is in a suitable format for subsequent enlarging or scanning).

At step 56, the developed image is enlarged by enlarging device 16, if needed. In this exemplary embodiment, the developed image can be enlarged to sizes of between 8"x6" and 8"x12", or to any other appropriate size. The developed image is enlarged to provide additional photo information to scanning device 18. The developed image can be enlarged many times before the granularity of the image is visible to the human eye. A photographic enlargement magnification capability of up to 1700 times or more may be attained for most views or scenes. It is, however, recommended that larger enlargement sizes be obtained for smaller developed images. As mentioned, the step of enlarging may not be necessary in all cases (e.g., where the size of the print film image or developed image is large enough to provide sufficient data to scanning device 18).

At step 58, the enlarged image is scanned by scanning device 18 in order to generate a bitmap image file or other digital image file, such as, JPEG, GIF, or other files. Scanning should be performed at a scan density that will provide the requisite number of pixels in the resulting digital image file (e.g., 100 dpi, 200 dpi, 600 dpi, 1400 dpi, etc.) Contrary to the teachings of the prior art, a large number of pixels are provided in the digital image file such as would be within the particular file size and loading time constraints. According to one example, a sufficient number of pixels are provided in the enhanced digital image file to allow a user to magnify the digitized image in the viewing window of display 30 by a magnification factor of greater than one without pixelation. Alternatively, a sufficient

number of pixels are provided to allow the user to magnify the digitized image by a magnification factor of 1.5, 5, 10, 20, 100, or more.

According to one exemplary embodiment, the number of pixels provided in the enhanced digital image file is based on a viewing window size and the desired magnification ratio. By providing more pixels in the enhanced digital image file than is required for a full-window view in the viewing window, the user is able to zoom and pan within the digital image during viewing without pixelation.

FIG. 7 illustrates the parametric details and relationships between the different images and viewing window sizes. These parameters and description are for the purpose of creating large, clear, zoomable and pannable images from a variety of photographic, source images. First, a "source image" (si) provides the original source of the graphical image information before it is digitally processed, as opposed to a "target image" (ti) that is the destination image to be transferred to the computer display system. In the analog case, the source image is not yet digitized. In other words, it has not been converted to a bitmapped format. A source image could be a photograph, a handwritten sketch, a computer-generated graphic, etc. In this case, source image is what is fed to the scanning device 18. In the digital case, the source image has already been digitized, such as the digital output of a CCD camera taking a photograph.

The source image (si) has a source image height (sih) and a source image width (siw). The source image aspect ratio (sir) is the width of the image divided by the height of the image, generally in inches:

$$\text{sir} = \text{siw}/\text{sih}$$

The viewing window (vw) is the window, defined in pixels, within which the target image, when scaled to fit, is to be displayed as the viewing image (vi). The viewing window (vw) has a viewing window width (vww) and a viewing window height (vwh), both defined in pixels. Thus, the viewing window aspect ratio (vwr) can be determined as:

$$\text{vwr} = \text{vww}/\text{vwh}$$

Note that the source image (si) may have a different aspect ratio than the viewing window (vw). To place the viewing image (vi) in the viewing window (vw), a subset of pixels from the source image (si) must be selected and scaled. The viewing image height (vih) and viewing image width (viw) within the viewing window (vw) can be determined by comparing the source image aspect ratio (sir) to the viewing window aspect ratio (vwr), as shown:

if $sir < vwr$ then:

$$vih = vwh$$

$$viw = vih * sir$$

but if $sir \geq vwr$ then:

$$viw = vww$$

$$vih = viw / sir$$

This relationship is illustrated in FIG. 7.

Note that the target image (ti) is created from the source image (si), by scaling the image (si) down to fit within the viewing window (vw). When the target image (ti) is scaled down by the desired maximum magnification factor (mmf) to fit within the viewing window (vw), the scaled target image is called the viewing image (vi).

The maximum magnification factor (mmf) is defined as the ratio of the target image area (tia) to the viewing image area (via). This ratio will determine the amount of zoom available without causing the image to distort due to pixelation, i.e., when fewer pixels are in the viewing image being displayed than available in the viewing window. So:

$$\text{target image area (tia)} = tiw \times tih$$

and since

$$via = viw \times vih$$

then

$$tia = via \times mmf$$

To obtain the target image width and height:

$$tiw = \text{squareroot} (tia * sir)$$

$$tih = tiw / sir$$

The relationship between the target image and the viewing image is shown in FIG. 7. The relationship between the target image and the viewing window is also shown. A zoom to the maximum level will be shown in the viewing window as illustrated at representation 120 of FIG. 7.

5 By panning the viewing window, every portion of the target image may be viewed from each level of zooming.

To determine the minimum scan density (msd) to avoid pixelation at the desired maximum magnification factor (mmf):

$$\text{msd} = \text{tih}/\text{sih}.$$

10 EXAMPLE 1

Determine the Target Image Area and dimensions, and minimum scan density for the following case:

Source Image = 5" wide x 4" high

Desired Magnification Factor = 20

15 Source Image Aspect Ratio = $5 / 4 = 1.25$

Define the Viewing Window: assume 480w x 320h pixels

Viewing Window Aspect Ratio = $480 / 320 = 1.5$

The Source Image Aspect Ratio is < the Viewing Window Aspect Ratio:

$1.25 < 1.5$ therefore:

20 $\text{vih} = \text{vwh} = 320$ pixels

$\text{viw} = \text{vwh} * 1.25 = 320 * 1.25 = 400$ pixels

The Viewing Image Area = $\text{vis} = 320 \times 400 = 128,000$ pixels

The Target Image Area = $\text{vis} \times 20 = 128,000 \times 20 = 2,560,000$ pixels

The Target Image width = $2,560,000 / 0.8 = 1789$ pixels

25 The Target Image height = $1789 \times 0.8 = 1431$ pixels

The Minimum Scan Density = $1789 / 5 = 358$ pixels per inch The

photo scan can be any scan density > 357 pixels per inch

Thus, a 5 x 4" print film image should be scanned at greater than 357 pixels per inch to allow magnification/zoom up to 20 times in a
30 viewing window of 320 x 240 pixels. An enhanced digital image file

having 2,560,000 pixels provides a sufficient number of pixels for this example.

EXAMPLE 2

Determine the Target Image Area and dimensions, and minimum scan density
5 for the following case:

Source Image = 5" x 4"

Desired Maximum Magnification Factor = 20

Source Image Aspect Ratio = $5 / 4 = 1.25$

Define the Viewing Window: assume 400w x 360h pixels

10 Viewing Window Aspect Ratio = $400 / 360 = 1.11$

The Source Image Aspect Ratio is > the Viewing Window Aspect Ratio:

$1.25 > 1.11$ therefore:

$viw = vww = 400$ pixels

$vih = viw / 1.25 = 400 / 1.25 = 320$ pixels

15 The Viewing Image Area = $via = 400 \times 320 = 128,000$ pixels

The Target Image Area = $via \times 20 = 128,000 \times 20 = 2,560,000$ pixels

The Target Image width = $2,560,000 \times 1.25 = 1789$ pixels

The Target Image height = $1789 / 1.25 = 1431$ pixels

The Minimum Scan Density = $1431 / 4 = 358$ pixels per inch

20 The photo scan can be any scan density > 357 pixels per inch

EXAMPLE 3

Determine the Target Image Area and dimensions, and minimum scan density
for the following case:

Source Image = 4" wide x 5" high (portrait orientation)

25 Desired Magnification Factor = 20

Source Image Aspect Ratio = $4 / 5 = 0.8$

Define the Viewing Window: assume 400w x 360w pixels

Viewing Window Aspect Ratio = $400 / 360 = 1.11$

The Source Image Aspect Ratio is < the Viewing Window Aspect Ratio:

30 $0.8 < 1.11$ therefore:

$vih = vwh = 360$ pixels

$$v_{iw} = v_{ih} * 0.8 = 360 * 0.8 = 288 \text{ pixels}$$

The Viewing Image area = $v_{ia} = 360 \times 288 = 103,680$ pixels

The Target Image area = $v_{ia} \times 20 = 103,680 \times 20 = 2,073,600$ pixels

The Target Image width = $2,073,600 * 0.8 = 1288$ pixels

5 The Target Image height = $1288 / 0.8 = 1610$ pixels

The Minimum Scan Density = $1610 / 5 = 322$ pixels per inch

The photo scan can be any scan density > 321 pixels per inch

Returning now to FIG. 2, at step 60, the enhanced digital image file is provided to computer 22 in a digitized format, i.e., pixel-based, bitmapped, etc. (as opposed to vector graphics based format), such as in either in a bitmap BMP format or a compressed JPEG format. Computer 22 performs a touch-up operation on the scanned image in order to make refinements or enhancements thereto. This touch-up operation is accomplished by utilizing imaging software. Touch-up steps may include cleaning the edges of the image, adjusting lighting, adjusting colors, etc. Adobe PhotoShop software, manufactured by Adobe Systems Inc., San Jose, California, can be used as the imaging software for touching up the images.

According to one example, multiple images can be stitched together after scanning, and before or after compression, thereby creating a panoramic scene or image, or simply a scene requiring a plurality of photographs. This stitching operation can be performed by utilizing photo stitching software such as, for example, Photo Vista software by Live Picture, Live Picture Reality Studio or Live Picture Object Modeler. Stitching may comprise sufficient photos for a 360 degree panoramic image of a scene. If images are stitched, they may be touched-up at step 60.

At step 62, if desired, and if the enhanced digital image file has not yet been compressed (e.g., by scanning device 18 or the touch-up software), the image is then converted from a bitmap file format (e.g., BMP) to a compressed file format (e.g., JPEG). Other compression algorithms are contemplated. Adobe Image Ready software is utilized to perform the BMP-to-JPEG file conversion in this exemplary embodiment.

The compression is set to a very high compression factor, such as, 70% to 90%, but may alternatively be set to other compression factors. The target image area be set as one of the parameters for compression, thus ensuring an optimum compressed file size.

5 At step 64, user interface or control data is associated with the enhanced digital image file. The user interface data is a program or code segment (e.g., a Java applet) that provides a graphic user interface on display 30 upon loading of the image. The user interface program is associated with the enhanced digital image file such that the combined file
10 or files can automatically launch the graphic user interface, decompress the digital image data, and display at least a portion of the digital image data within a viewing window having a predetermined viewing size on display 30.

 The user interface data may alternatively be a plug-in, applet,
15 or other software program, such as, Photo Vista, Reality Studio, or Object Modeler manufactured by Live Picture Inc., San Francisco, California, or an IPIX plug-in manufactured by Internet Pictures Corporation of Oak Ridge, Tennessee. The user interface data may be either associated with the enhanced digital image file such that it is downloaded with the enhanced
20 digital image data, or it may be launched independently from the enhanced digital image data as, for example, an applet or plug-in on user computer 28. If the user interface data is launched independently of the image data, it may either be first opened by the user before downloading the enhanced digital image file, or it may be automatically opened by the enhanced digital
25 image file, such as, via a script or other code segment within the enhanced digital image file.

 Referring to FIG. 3, an exemplary screen print 80 from display 30 is shown illustrating the graphical user interface 82 generated by the user interface program. User interface 82 includes a viewing window or
30 frame 84 for displaying the digital image data 86. User interface 82 further includes zoom buttons 88 for allowing the user to zoom into and out of

digital image data 86. By actuating one of zoom buttons 88, user interface program resizes digital image data 86 within viewing frame 84. User interface 82 further includes panning buttons 90 to allow the user to pan up, down, left, and right within image data 86.

5 Once the user interface program is associated with the enhanced digital image data, the resulting image is ready for providing to a network server, projection from a projector, display system, posting, or playback, to or from a host computer, a Web server, a Web site, or a Web page. At step 66, the enhanced digital image is uploaded to a network
10 server. In the instance where the enhanced digital image is posted to an Internet Web server, the upload from computer 22 to the respective server can be performed by utilizing file uploading software, such as, Web FTP (file transfer protocol) Pro software, manufactured by Ipswitch, Inc.,
Lexington, Massachusetts.

15 Referring now to FIGS. 3, 4, and 5, exemplary print screens are shown illustrating the result of an upload or download of the enhanced digital image file to user computer 28 for display on display 30. In FIG. 3, digital image data 86 of a collectible stamp image is shown within a viewing window 84. Although viewing window 84 is slightly smaller than
20 the full-screen size of display 30 (e.g., 640 x 480 pixels in this example), viewing window 84 can alternatively be configured for full-screen display, or display in other sizes or resolutions. As shown, digital image data 86 shows no sign of pixelation.

 In FIG. 4, a user has actuated zoom buttons 88 to zoom-in to
25 the digital image. In response, the user interface program provides additional digital image data from the enhanced digital image file stored in a memory (e.g., a hard drive) of user computer 28, to provide a zoomed view of the digital image. Thus, the view of FIG. 4 also shows little sign of pixelation even though the image has been magnified many times.

30 In FIG. 5, a user has actuated pan buttons 90 to display the lower left-hand corner of the digital image data within viewing window 84.

The user has also actuated zoom buttons 88 to zoom-in to the digital image data. Again, little pixelation is visible.

As mentioned, the principles described herein are also operable with a digital image taken by a digital camera. Referring now to FIG. 6, a method 100 of providing an enhanced digital image file utilizing a digital camera is shown. At step 102, the digital camera is configured to acquire a digital image. In this step, the camera is set with a high resolution to acquire at least enough pixels for a magnification of two times the size of the viewing window provided on display 30, though higher numbers of pixel data may also be acquired.

Again referring to FIG. 7 and the corresponding description hereinabove, with a digital source image, the maximum magnification factor (mmf) should not produce a target image larger than the source image in pixels because of the pixel distortion or pixelation effect, i.e., distortion due to fewer pixels in the image being displayed than available in the viewing window. Since:

$$\text{target image area (tia)} = \text{tiw} \times \text{tih} = \text{via} \times \text{mmf}$$

then to obtain the target image width and height:

$$\text{tiw} = \text{tia} \times \text{sir}$$

$$\text{tih} = \text{tiw} / \text{sir}$$

If $\text{tih} > \text{sih}$ then set $\text{tih} = \text{sih}$ and $\text{tiw} = \text{siw}$

EXAMPLE 4

Determine the Target Image size and dimensions, and minimum scan density for the following case:

Source Image = 1600 x 1200 pixels

Desired Magnification Factor = 20

Source Image Aspect Ratio = 1600 / 1200 = 1.33

Define the Viewing Window: assume 480w x 360h pixels

Viewing Window Aspect Ratio = 480 / 360 = 1.33

The Source Image Aspect Ratio is = the Viewing Window Aspect Ratio:

0.75 = 0.75 therefore:

$$vih = vwh = 360 \text{ pixels}$$

$$viw = vih * 1.33 = 360 * 1.33 = 480 \text{ pixels}$$

The Viewing Image area = $via = 480 \times 360 = 172,800$ pixels

The Target Image area = $via \times 20 = 172,800 \times 20 = 3,456,000$ pixels

5 The Target Image width = $3,456,000 * 1.33 = 2147$ pixels

The Target Image height = $2147 / 1.33 = 1610$ pixels

But tih of 1610 pixels is > 1200 pixels therefore:

$$tih = 1200 \text{ pixels}$$

$$tiw = 1600 \text{ pixels}$$

10 $tia = 1200 \times 1600 = 1,920,000$ pixels

Effective Maximum Magnification Factor = tia / via

$$= 1,920,000 / 172,800 = 11.1$$

The Minimum Scan Density = N/A

Steps 104 (touch-up image), 106 (compress file), 108

15 (associate user interface data), and 110 (upload file) may proceed as described with reference to FIG. 2 in the print film image exemplary method.

The above method can be repeated using different depth images or digital photographs for the images in order to create areas of
20 higher resolution or "hot spots" within an image for detailed close-up inspection or viewing. These depth images can be linked to the respective image or image segment. The above method can be utilized in order to create higher zoom capabilities with each new depth layer of an image.

The above method can be utilized for applications including
25 single images, single panoramic images, stitched images, non-stitched images or any other suitable image type.

The system and method of the present invention can also be utilized in conjunction with three-dimensional images in order to produce high resolution, three-dimensional digital images and 3-D texturings.

30 The resulting images which are obtained via the exemplary system and method are characterized by a high definition resolution and are suitable for high definition television, Web television, and large, panoramic

or object models, Internet applications, which preserve resolution upon image magnification or reduction. The exemplary embodiment also dispenses with the need for plug-in software during download or file transfer operations.

5 EXAMPLE 5

A variety of photographs were taken using several different types of cameras. A digital camera was used to take several digital images. A Hasselblad camera was used to take several print film images, some of which were 2 ¼" square and others of which were 4 x 5" square. The
10 print film images were taken to a film developing center to be enlarged to 8 x 12" pictures.

The enlarged pictures were scanned with UMAX Astra scanner using Adobe Photo Editor. Some bitmap files were created and some JPEG files were created. In spite of conventional teaching to the contrary, the
15 scanner was set for a high resolution: 600 dpi. For the JPEG files, compression was set to 30:1.

Some of the images were stitched together using Photo Vista. The stitched images were then compressed at a high ratio of compression to generate JPEG files. The compressed files were touched up using Adobe
20 Photo Editor and then uploaded to an Internet server. The uploaded files were then downloaded from the Internet server. The download took only a short time. The images were observed to have exceptionally high quality.

In review, a method is disclosed of providing a digital image file for viewing in a viewing window of a user display, the viewing window
25 having a predetermined size. The method includes providing a digital image having an image size comprising a fixed number of pixels representative of an image, the image size being greater than the predetermined viewing window size. The digital image file is associated with a user interface that is configured to display the digital image in the viewing window and to

allow a user to zoom into and pan around in the image displayed in the viewing window while maintaining high image quality.

While the exemplary embodiments illustrated in the FIGS. and described above are presently preferred, it should be understood that these
5 embodiments are offered by way of example only. For example, the specific pixel counts and display sizes disclosed herein are merely exemplary and are used to illustrate the pertinent principles. Also, not all of the steps of the exemplary embodiments need be performed in all
10 embodiments, nor need they be performed in the specific order recited. Accordingly, the present invention is not limited to a particular embodiment, but extends to various modifications that nevertheless fall within the scope of the appended claims.

WHAT IS CLAIMED IS:

- 1 1. A method of providing a digital image file for viewing on a user
2 display in a viewing window having a predetermined size, the method
3 comprising:
4 providing a digital image file having an image size comprising a
5 fixed number of pixels representative of an image, wherein the image size is
6 greater than that of the predetermined viewing window size.
- 1 2. The method of claim 1, further comprising providing a user
2 interface for the digital image file, the user interface configured to display
3 the digital image file in the viewing window and to allow a user to zoom
4 into the image displayed in the viewing window,
- 1 3. The method of claim 1, wherein the image size is at least ten
2 times that of the predetermined viewing window size.
- 1 4. The method of claim 1, wherein the user interface is
2 configured to allow the user to pan across the image.
- 1 5. The method of claim 1, wherein the user interface prevents the
2 user from zooming into the image to the point of pixelation.
- 1 6. The method of claim 1, wherein the digital image file includes
2 the user interface in a single data file.
- 1 7. The method of claim 1, wherein the user interface is an
2 application program applet.
- 1 8. The method of claim 1, wherein the user interface is an
2 application program controlled by the user's computer.
- 1 9. The method of claim 1, further comprising compressing the
2 digital image file.

1 10. The method of claim 1, further comprising uploading the digital
2 image file to a network server.

1 11. The method of claim 1, wherein the digital image file is
2 generated from a print film image.

1 12. The method of claim 1, wherein the digital image file is
2 acquired with a digital camera.

1 13. The method of claim 1, wherein the predetermined size
2 represents a full-screen size of the user display.

1 14. A method of providing an enhanced digitized image file to a
2 user, comprising:

3 providing a viewing window size in which the digitized image
4 file is to be displayed to a user;

5 providing a digitized image file having an image size greater
6 than that of the predefined viewing window size;

7 compressing the digitized image file; and

8 providing the compressed image file to a network server.

1 15. The method of claim 13, further comprising:

2 under user control, transmitting the compressed image file over
3 the network;

4 displaying the transmitted image file to the user in a viewing
5 window having the predefined viewing window size; and

6 under user control, magnifying the displayed image within the
7 viewing window.

1 16. The method of claim 14, further comprising, under user
2 control, moving the displayed image in the predefined viewing window size.

1 17. The method of claim 14, further comprising providing the user
2 with a plurality of selectable magnification levels to view the displayed
3 image within the viewing window.

1 18. The method of claim 14, wherein the resolution of the digitized
2 image is greater than that of the image displayed to the user in the
3 predefined viewing window size without image magnification.

1 19. The method of claim 16, wherein the selectable magnification
2 levels are limited such that no more than one pixel of the user display can
3 display one pixel of the digitized image.

1 20. The method of claim 13, wherein the digitized image file is
2 compressed to a JPEG format.

1 21. The method of claim 13, wherein the step of generating
2 includes enlarging and scanning a print film image to provide the digitized
3 image file.

1 22. The method of claim 19, wherein the print film image is
2 scanned with a density of at least 100 dots per inch.

1 23. The method of claim 13, wherein the step of generating
2 includes acquiring the digitized image file with a digital camera.

1 24. The method of claim 13, wherein the compressed image file is
2 accessible via the Internet.

1 25. The method of claim 14, wherein magnifying the displayed
2 image does not degrade the image quality.

1 26. An enhanced digital image file downloadable to a client
2 computer having a viewing window on a display, the viewing window
3 having a predetermined frame size, the digital image file comprising:
4 digitized image data representative of an image, wherein the
5 digitized image data has a number of pixels sufficient to allow a user to
6 magnify the digitized image in the viewing window by a magnification
7 factor of at least two without pixelation; and
8 control data to allow the user to control the magnification
9 factor.

1 27. The enhanced digital image file of claim 25, wherein the
2 digitized image data is compressed.

1 28. The enhanced digital image file of claim 25, wherein the
2 control data is configured to provide zoom buttons and pan buttons to a
3 user.

1 29. The enhanced digital image file of claim 27, wherein the
2 control data includes a Java applet.

1 30. The enhanced digital image file of claim 25, wherein the
2 digitized image data has a number of pixels sufficient to allow a user to
3 magnify the digitized image in the viewing window by a magnification
4 factor of at least ten without pixelation.

1 31. The enhanced digital image file of claim 25, wherein the
2 digitized image data has a number of pixels sufficient to allow a user to
3 magnify the digitized image in the viewing window by a magnification
4 factor of at least one hundred without pixelation.

1 32. The enhanced digital image file of claim 25, wherein the
2 control data is configured to prevent the user from magnifying the digitized
3 image to the point of pixelation.

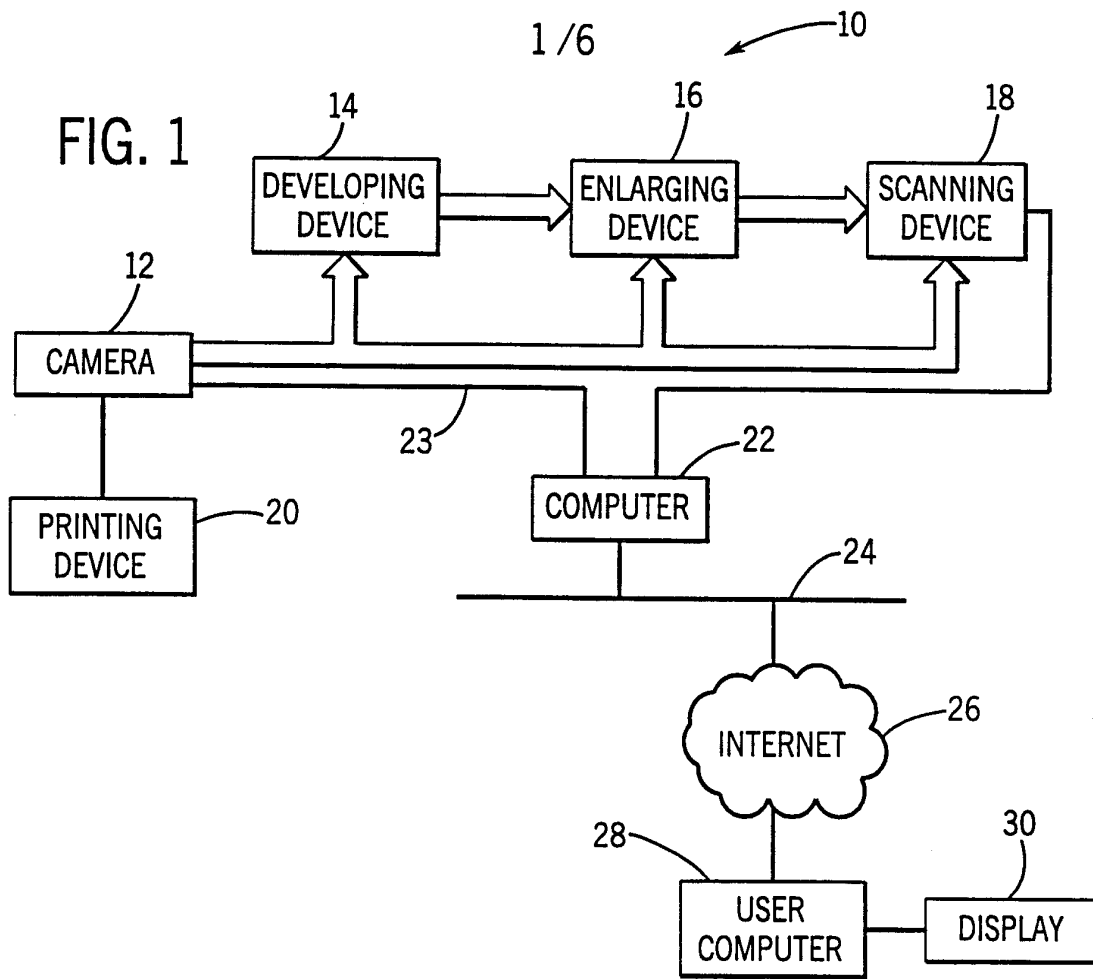


FIG. 6

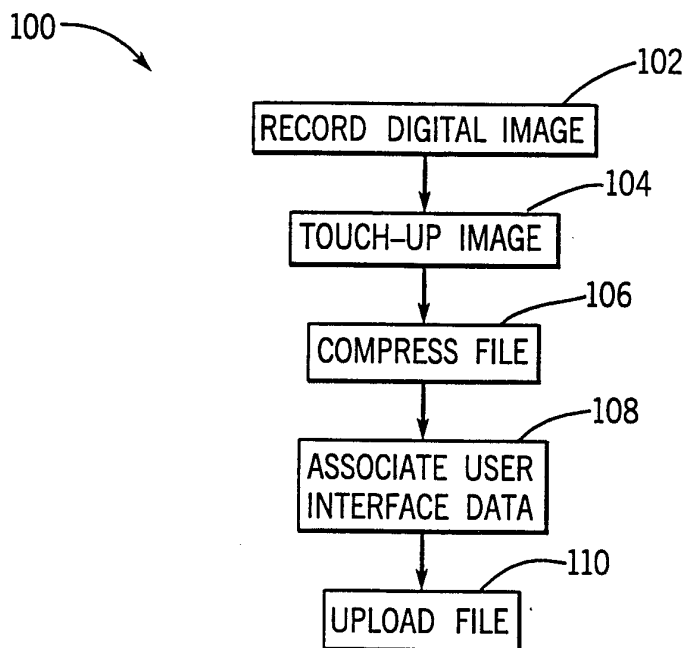
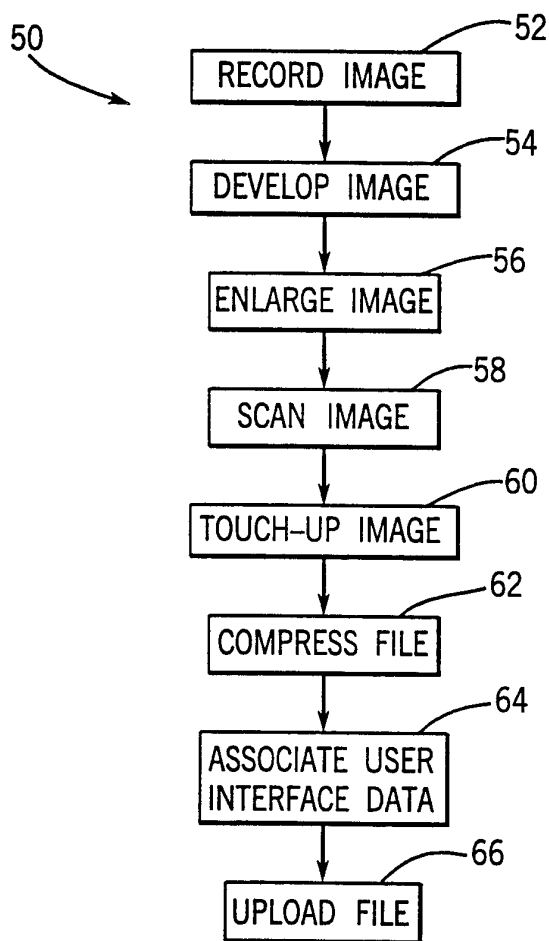


FIG. 2



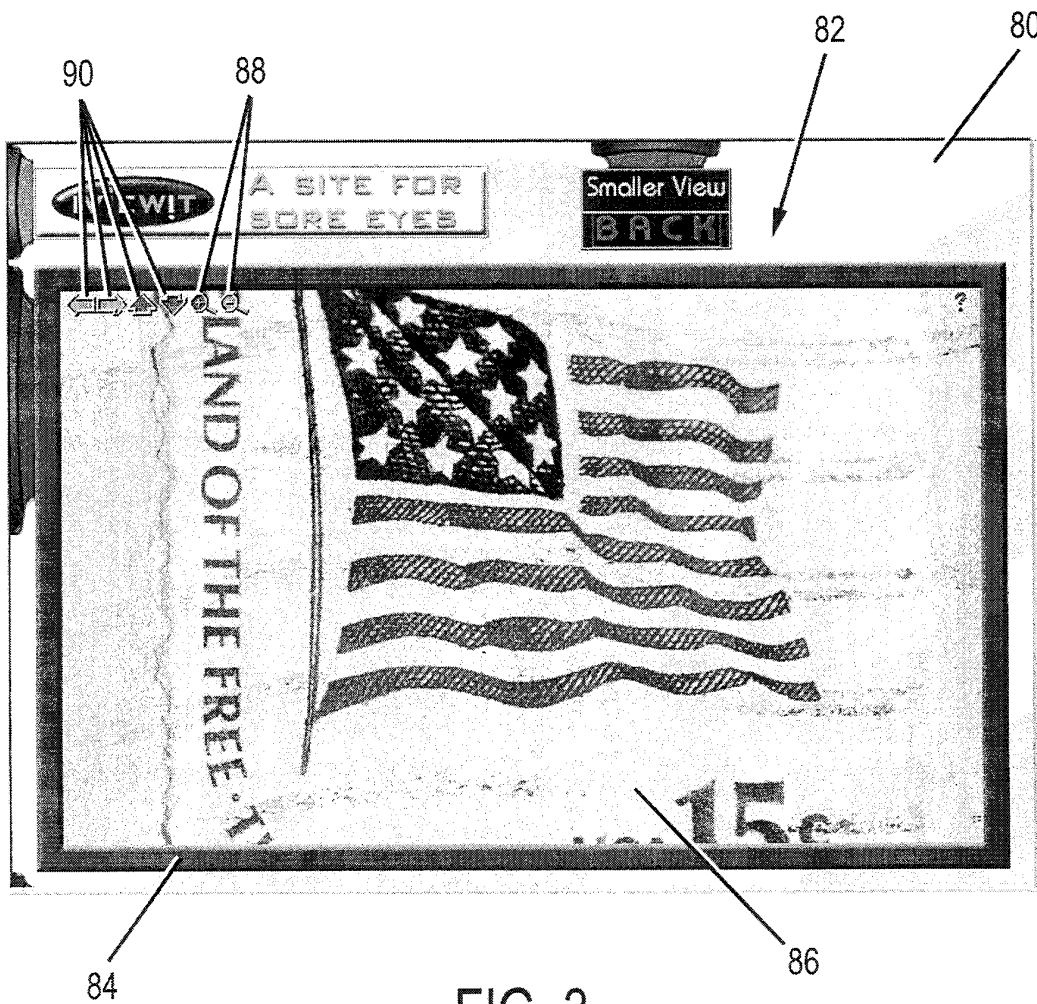


FIG. 3

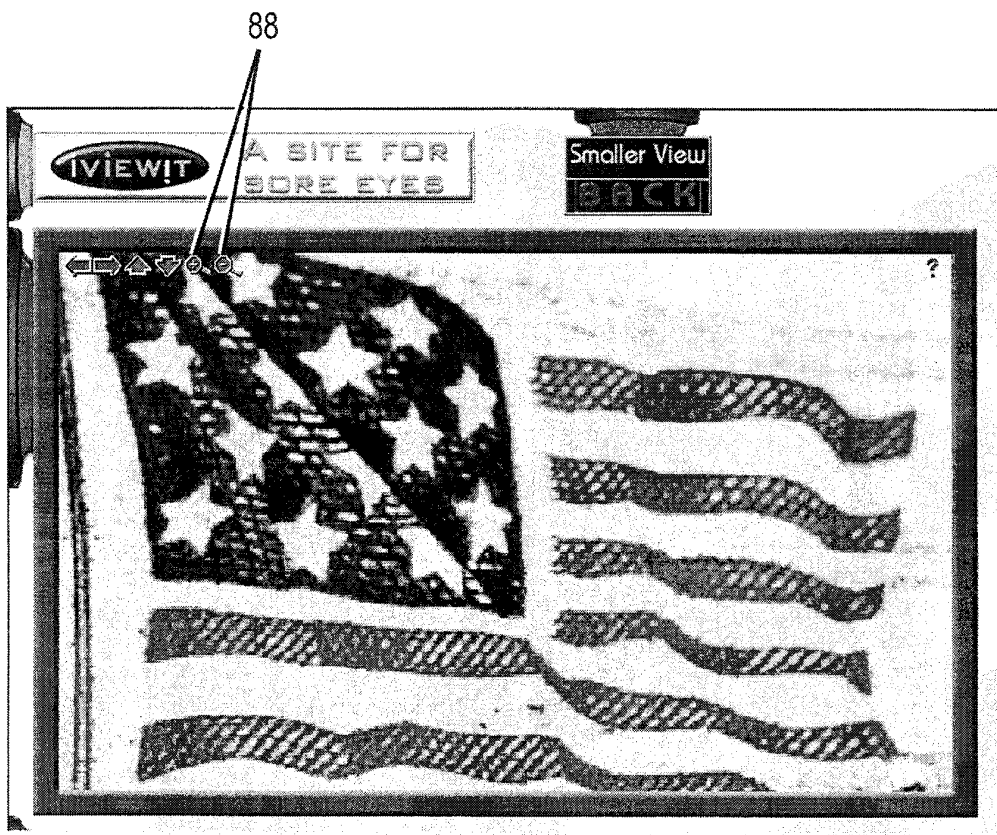


FIG. 4

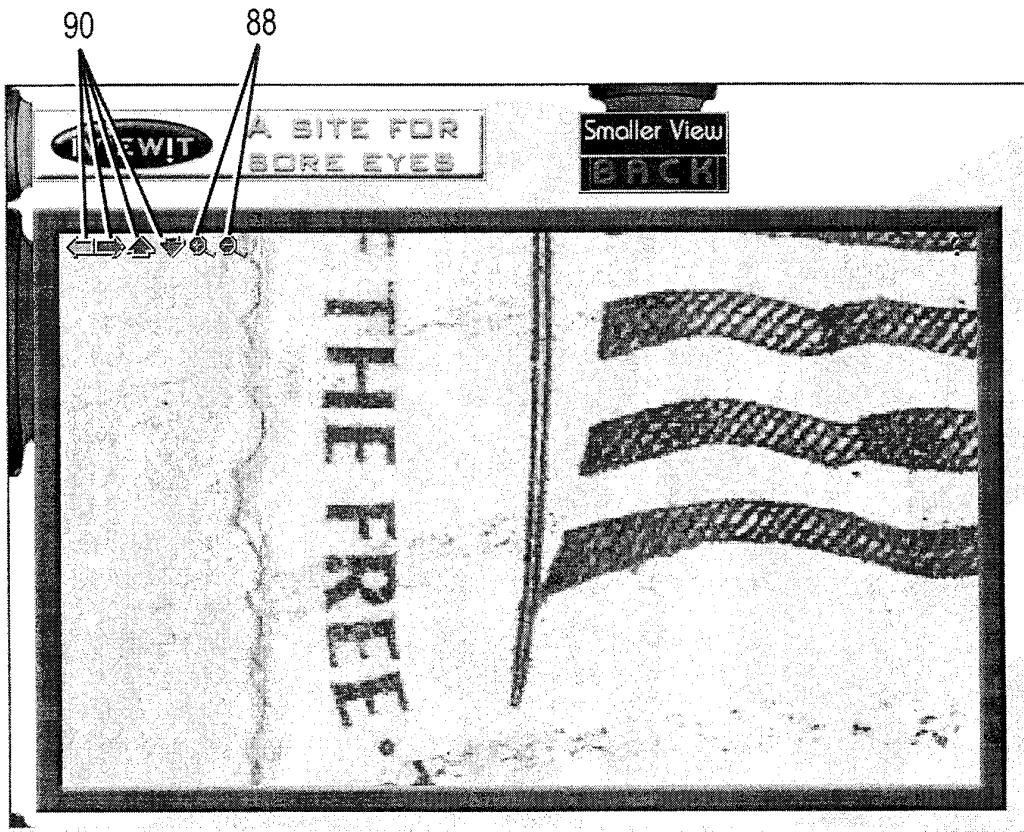


FIG. 5

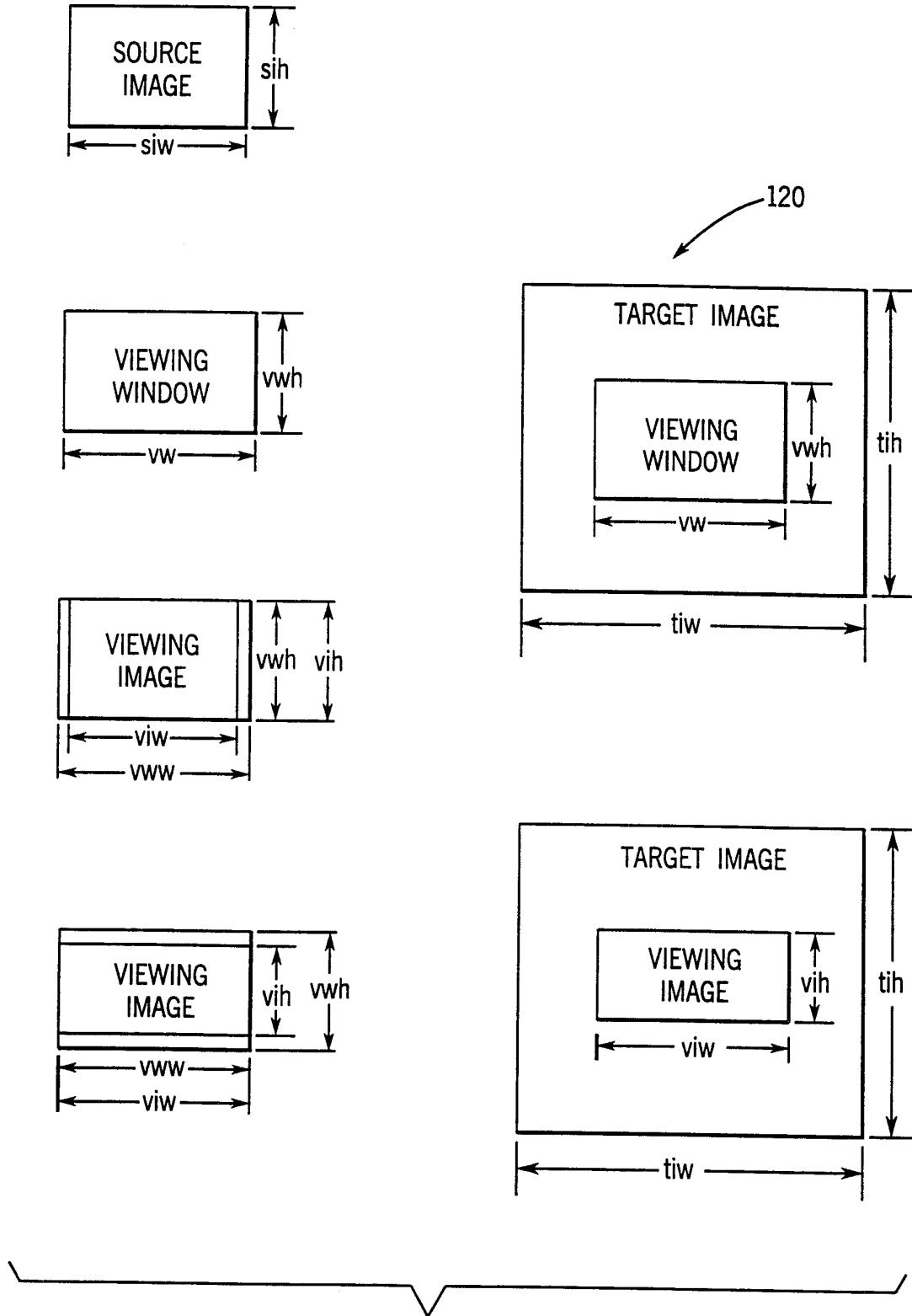


FIG. 7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/21211

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G06T3/00 H04N1/00

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 G06T H04N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	"Four Phographic VR technologies" INTERNET WORLD, vol. 4, no. 40, 7 December 1998 (1998-12-07), page 37 XP002150185 the whole document ---	1-32
X	"ImageZoom 1.0 (Applet)" WORLD WIDE WEB, 'Online! 11 June 1999 (1999-06-11), XP002150186 Resource Collection Retrieved from the Internet: <URL:http://www.digitalcats.com/US/search/ rid00004281.html http://www.vivaorange.com/ImageZoom/> 'retrieved on 2000-10-16! the whole document ---	1-32

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "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)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "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
- "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
- "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.
- "&" document member of the same patent family

Date of the actual completion of the international search

17 October 2000

Date of mailing of the international search report

30/10/2000

Name and mailing address of the ISA
 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer
 Giannotti, P

INTERNATIONAL SEARCH REPORT

Internat	Application No
PCT/US	00/21211

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 5 907 640 A (DELEAN BRUNO) 25 May 1999 (1999-05-25) the whole document ---	1-32
A	US 5 153 728 A (NAKAYAMA TADAYOSHI ET AL) 6 October 1992 (1992-10-06) figures 1A,1B ---	1-32
A	US 5 125 043 A (KARLSSON MAGNUS) 23 June 1992 (1992-06-23) abstract ---	1-32
A	US 4 532 605 A (WALLER WILLIAM G) 30 July 1985 (1985-07-30) abstract; figures 1A,1D -----	1-32

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/21211

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
US 5907640	A	25-05-1999	FR 2703170 A	30-09-1994
			AT 153460 T	15-06-1997
			AU 681641 B	04-09-1997
			AU 6403894 A	11-10-1994
			AU 690551 B	30-04-1998
			AU 6697894 A	11-10-1994
			CA 2158988 A	29-09-1994
			CN 1124530 A	12-06-1996
			DE 69403331 D	26-06-1997
			DE 69403331 T	08-01-1998
			EP 0691010 A	10-01-1996
			EP 0691011 A	10-01-1996
			WO 9422100 A	29-09-1994
			JP 8511883 T	10-12-1996
			JP 8510851 T	12-11-1996
			WO 9422101 A	29-09-1994
			US 5790708 A	04-08-1998
<hr style="border-top: 1px dashed black;"/>				
US 5153728	A	06-10-1992	JP 2226971 A	10-09-1990
<hr style="border-top: 1px dashed black;"/>				
US 5125043	A	23-06-1992	NONE	
<hr style="border-top: 1px dashed black;"/>				
US 4532605	A	30-07-1985	NONE	
<hr style="border-top: 1px dashed black;"/>				