1. (Three Times Amended) A communication device including a processor having instructions that execute on the processor and that comprises:

a message manager program for accepting and dispatching messages;

at least one application program for handling and presenting messages; and

at least one message client program, each message client program corresponding to a particular application program, that receives messages from the message manager program and provides them to the corresponding application program,

wherein the message manager program accepts a registration from each message client program including at least one rule and at least one attribute to which the rule is to be applied for new messages, and

wherein the at least one attribute including a handled/not handled attribute of messages, the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message.

11 ~~12.~~ (Three Times Amended) A communication device including a processor having instructions that execute on the processor and that comprises:

a set of first instructions for message management;

at least one set of second instructions for interacting between message and a user; and

at least one set of third instructions, each set of third instructions corresponding to a particular set of second instructions, for accepting a message from the first instructions and providing the message to the corresponding set of second instructions, wherein

the first instructions accept a registration from each set of third instructions, the registration including at least one rule and at least one attribute to which the rule is to be applied for new messages, the at least one attribute including a handled/not handled attribute of messages, and the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message.

25

REMARKS

Claims 1, 2, and 4 through 12 are pending in this application. Claims 1 and 12 are hereby amended.

Claims 1, 2, and 4 through 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,742,905 to Pepe, et al. ("Pepe, et al. patent") in view of U.S. Patent No. 5,335,347 to Foss, et al. ("Foss, et al. patent"). Claims 1 and 12 are hereby amended to provide "the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message". Support for the above recitation is provided at page 6, line 9, through page 9, line 6, of the specification.

In contrast, col. 13, line 65, through col. 14, line 7, of the Foss, et al. patent states "[u]pon receipt of local selection results from the selecting means 14 of the receiving switch 10, indicating failure to select local handler processes 52 and joined switches (if applicable), the updating means 18 of the receiving switch 10 generates reply messages 67 to scoped request messages 64 and discards scoped notice messages 65. The updating means 18 of the receiving switch 10 generates the reply messages 67 by updating the scoped request messages 64. Updates comprise updating message state attributes to "Failed", and message failure reason attributes". Thus, the Foss, et al. patent does not describe or suggest a handled/not handled attribute of messages that is based on attempted delivery/refused deliver or processing/refused processing of

a particular message, as required by amended claims 1 and 12. Likewise, the Pepe, et al. patent does not describe or suggest a handled/not handled attribute of messages, as required by amended claims 1 and 12. Therefore, amended claims 1 and 12 distinguish patentably from the Pepe, et al. patent, the Foss, et al. patent, and the combination of these patents.

Claims 2 and 4 through 11 depend from and include all limitations of independent claim 1 as amended. Therefore, claims 2 and 4 through 1 distinguish patentably from the Pepe, et al. patent, the Foss, et al. patent, and the combination of these patents for the reasons stated above for amended claim 1.

In view of the above, reconsideration and withdrawal of the rejection of claims 1, 2, and 4 through 12 are respectfully requested.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. Also, no amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The first page of the attached page(s) is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

It is submitted that the claims clearly define the invention, are supported by the specification and drawings, and are in a condition for allowance. A Notice of Allowance is

respectfully solicited. Should the Examiner have any questions or concerns that may expedite prosecution of the present application, the Examiner is encouraged to telephone the undersigned.

Respectfully submitted,
Zurcher, Rodd, et al.

Hisashi D. Watanabe 01/23/02

Hisashi D. Watanabe Date
Attorney for Applicant(s)
Registration No. 37,465
Telephone: (847) 523-2322
Facsimile: (847) 523-2350

Please forward all correspondence to:
Motorola, Inc.
Intellectual Property Dept.
600 North US Highway 45, AN475
Libertyville, IL 60048

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Claims:

Claims 1 and 12 are amended as follows:

1. (Three Times Amended) A communication device including a processor having instructions that execute on the processor and that comprises:

a message manager program for accepting and dispatching messages;

at least one application program for handling and presenting messages; and

at least one message client program, each message client program corresponding to a particular application program, that receives messages from the message manager program and provides them to the corresponding application program,

wherein the message manager program accepts a registration from each message client program including at least one rule and at least one attribute to which the rule is to be applied for new messages, and

wherein the at least one attribute including a handled/not handled attribute of messages, the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message.

12. (Three Times Amended) A communication device including a processor having instructions that execute on the processor and that comprises:

a set of first instructions for message management;

at least one set of second instructions for interacting between message and a user; and

at least one set of third instructions, each set of third instructions corresponding to a particular set of second instructions, for accepting a message from the first instructions and providing the message to the corresponding set of second instructions, wherein

the first instructions accept a registration from each set of third instructions, the registration including at least one rule and at least one attribute to which the rule is to be applied for new messages, the at least one attribute including a handled/not handled attribute of messages, and the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message.

#13

JHG

Notice of Allowability	Application No. 09/198,095	Applicant(s) Rodd B. Zurcher et al.	
	Examiner Bharat Barot	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment field on 02/13/2002*.
2. ☒ The allowed claim(s) is/are *1-2 and 4-12 renumbered as 1-11*.
3. ☐ The drawings filed on _____ are acceptable as formal drawings.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. ____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.
5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

7. ☒ Applicant MUST submit NEW FORMAL DRAWINGS
   (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
      1) ☐ hereto or 2) ☒ to Paper No. *04*.
   (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
   (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

1☒ Notice of References Cited (PTO-892)
2☐ Notice of Informal Patent Application (PTO-152)
3☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
4☐ Interview Summary (PTO-413), Paper No.____ .
5☐ Information Disclosure Statements (PTO-1449), Paper No. __.
6☐ Examiner's Amendment/Comment
7☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
8☐ Examiner's Statement of Reasons for Allowance
9☐ Other _____.

Bharat Barot.

Examiner : Bharat Barot
(703)305-4092

Notice of References Cited	Applicant/Patent: Rodd B. Zurcher et al.	Application/Control No.: 09/198,095	
	Examiner: Bharat Barot	Art Unit: 2154	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY[1]	Name	Classification[2]	
x	A	6,226,666	05/01/01	Chang et al.	709	202
x	B	6,073,142	06/06/00	Geiger et al.	709	204
x	C	5,832,221	11/03/98	Jones	709	206
x	D	5,517,662	05/14/96	Coleman	709	201
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY[1]	Country	Name	Classification[2]	
	N						
	O						
	P						
	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

*		Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages
	U	
	V	
	W	
	X	

* A copy of this reference is not being furnished with this Office action. See MPEP § 707.05(a). [1] Dates in MM-YYYY format are publication dates. [2] Classifications may be U.S. or foreign.

OIPE JC164
APR 1 8 2002
PATENT & TRADEMARK OFFICE

LM B #14 LB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Zurcher, Rodd et al.	EXAMINER:	Barot, Bharat
SERIAL NO.:	09/198,095	GROUP:	2154
FILED:	November 23, 1998	CASE NO.:	PD05929AP
ENTITLED:	Communications Device and Method with Message Manager Program and Registration of Message Client Program		

Motorola, Inc.
Intellectual Property Department
600 N. U.S. Highway 45
Libertyville, IL 60048

CERTIFICATE OF FIRST CLASS MAIL

Assistant Commissioner for Patents
Washington D.C. 20231

Sir:

I certify that the above-referenced Letter to Official Draftsperson, Formal Drawings (4 sheets) and postcard were deposited as First Class Mail with the United States Postal Service addressed to:

Assistant Commissioner for Patents
Washington D.C. 20231

on Wednesday, April 10, 2002

By: Jennifer Magness

Date: April 10, 2002

03-02

OIPE JC164
APR 18 2002
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Zurcher, Rodd et al.	EXAMINER:	Barot, Bharat
SERIAL NO.:	09/198,095	GROUP:	2154
FILED:	November 23, 1998	CASE NO.:	PD05929AP
ENTITLED:	Communications Device and Method with Message Manager Program and Registration of Message Client Program		

Motorola, Inc
Intellectual Property
600 N. U.S. Highway 45
Libertyville, IL 60048

LETTER TO OFFICIAL DRAFTSPERSON

Assistant Commissioner For Patents
Washington, D.C. 20231

Dear Sir:

4 (four) sheets of formal drawings including changes required by the Notice of Allowability, PTO-37, for the above-identified patent application are enclosed for review and approval.

Respectfully submitted,

Zurcher, Rodd et al.

By: Hisashi D. Watanabe 04/10/02
Hisashi D. Watanabe Date
Attorney for Applicants
Registration No. 37,465
MOTOROLA, INC.
Phone: (847) 523-2322
Fax: (847) 523-2350

OIPE
SEP 0 3 2002
PATENT & TRADEMARK OFFICE

Certificate
SEP 13 2002
of Correction

C. of C. $

PATENT

#15
S-S

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Zurcher, Rodd et al.	SERIAL NO.:	09/198,095
PATENT NO.:	6,425,002 B1	FILED:	November 23, 1998
ISSUED:	July 23, 2002	CASE NO.:	PD05929AP

ENTITLED: Communications Device and Method with Message Manager Program and Registration of Message Client Program

---

Motorola, Inc.
Intellectual Property Dept.
600 North U.S. Highway 45
Libertyville, IL 60048

REQUEST FOR A CERTIFICATE OF CORRECTION OF PATENT

FOR APPLICANT'S MISTAKE (37 CFR 1.323)

Certificate
SEP 13 2002
of Correction

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the provisions of 37 CFR 1.323 of the Rules of Practice, the Patent and Trademark Office is respectfully requested to issue a Certificate of Correction in the above-identified patent.

It is certified that errors appear in the above-identified patent as shown in the attached Certificate of Correction. Applicant certifies that the errors are of a minor character. Since the changes necessary to correct these errors in the patent would not constitute new matter, and would not require re-examination, a certificate of correction is requested.

Please pay the fee required by 37 C.F.R. § 1.20(a) $100.00 to Deposit Account 13-4768. Charge any additional fees required by this paper or credit any overpayment in the manner authorized above.

A duplicate of this paper is attached.

09/03/2002 BBENEGAS 00000129 134768 6425002
01 FC:1145 100.00 CH

Respectfully submitted,

By Hisashi D. Watanabe 08/28/02
Hisashi D. Watanabe Date
Attorney for Applicants
Registration No. 37,465
MOTOROLA, INC.
Phone: (847) 523-2322
Fax: (847) 523-2350

Please forward all correspondence to:

Motorola, Inc.
Intellectual Property Dept. (HDW)
600 N. US Highway 45
Libertyville, IL 60048

SEP 16 2002

Rev. 9/30/92

PRINTER'S TRIM LINE

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 6,425,002 B1
DATED : July 23, 2002
INVENTOR(S) : Zurcher et al.

It is certified that error appears in the above-indentified patent and that said Letters Patent is hereby corrected as shown below:

Col 9.
~~Claim 1~~, line 22: Please change "deliver" to delivery

Col 9.
~~Claim 1~~, line 23: Please change "massage" to message

Col 10
~~Claim 11~~, line 37: Please change "massage" to message

note do not underline

MAILING ADDRESS OF SENDER:

Motorola, Inc.
600 North U.S. Hwy. 45, Room AN475
Libertyville, IL 60048

PATENT NO. 6,425,002 B1

No. of add'l copies @ 50¢ per page
1

FORM PTO 1050 (Rev. 2-93)

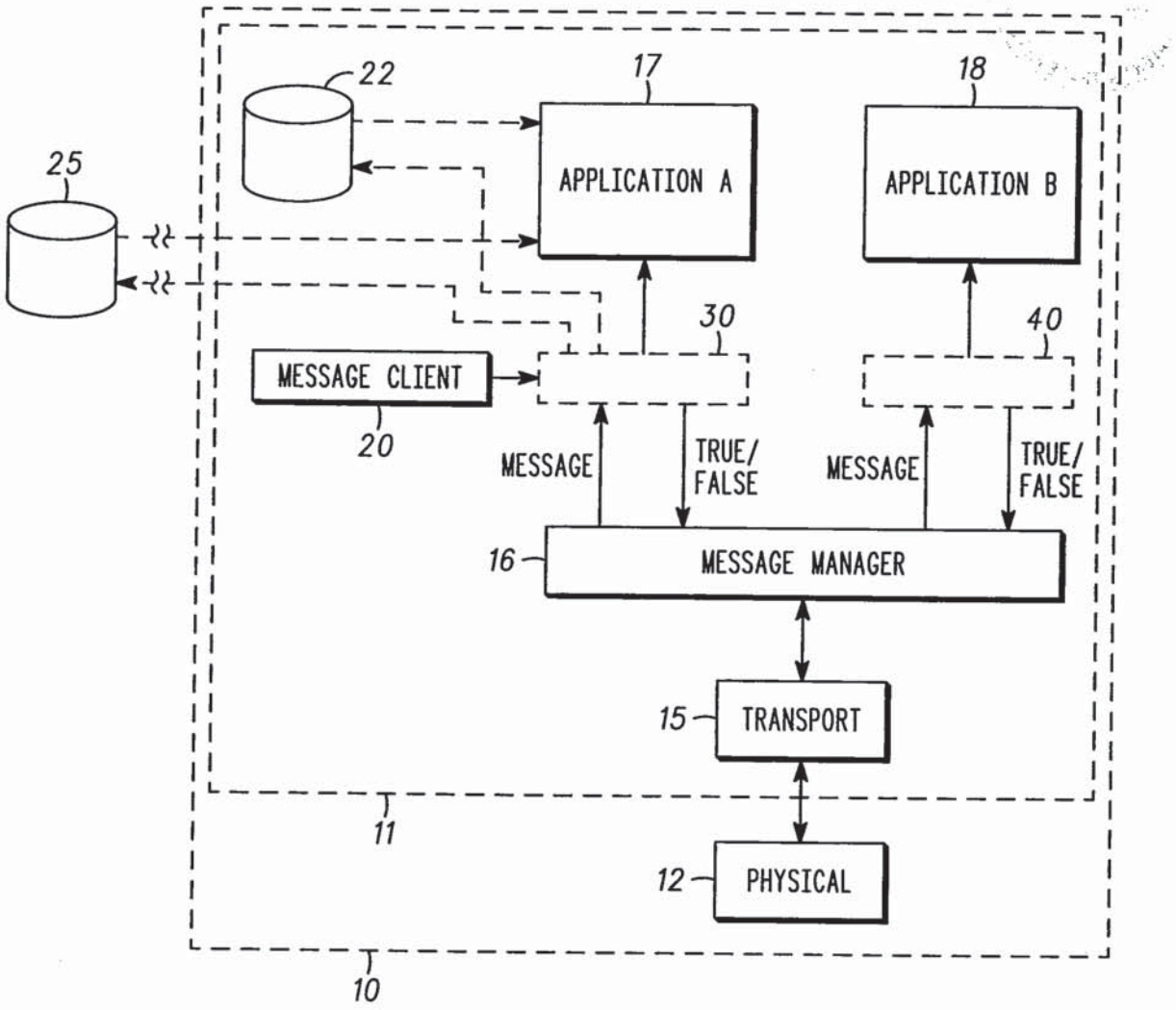
22
17
18
25
APPLICATION A
APPLICATION B
30
40
MESSAGE CLIENT
20
MESSAGE
TRUE/
FALSE
MESSAGE
TRUE/
FALSE
16
MESSAGE MANAGER
15
TRANSPORT
11
12
PHYSICAL
10

FIG.1

OIPE JC184
APR 18 2002
PATENT & TRADEMARK OFFICE

1D09-198095

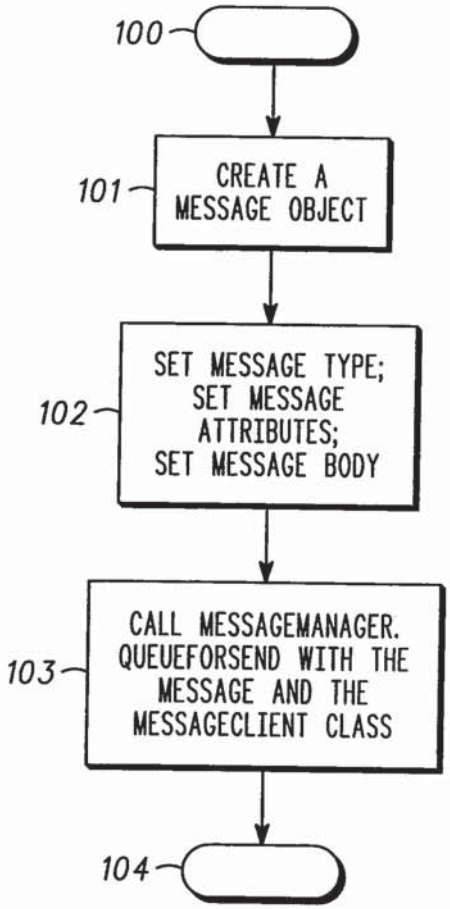
100
101
CREATE A MESSAGE OBJECT
102
SET MESSAGE TYPE; SET MESSAGE ATTRIBUTES; SET MESSAGE BODY
103
CALL MESSAGEMANAGER. QUEUEFORSEND WITH THE MESSAGE AND THE MESSAGECLIENT CLASS
104

FIG.2

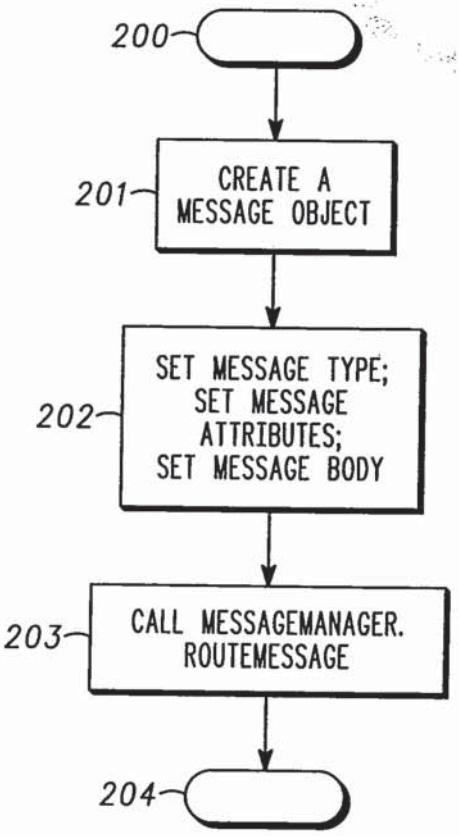
200
201
CREATE A MESSAGE OBJECT
202
SET MESSAGE TYPE; SET MESSAGE ATTRIBUTES; SET MESSAGE BODY
203
CALL MESSAGEMANAGER. ROUTEMESSAGE
204

FIG.3

OIPE JC184
APR 18 2002
PATENT & TRADEMARK OFFICE

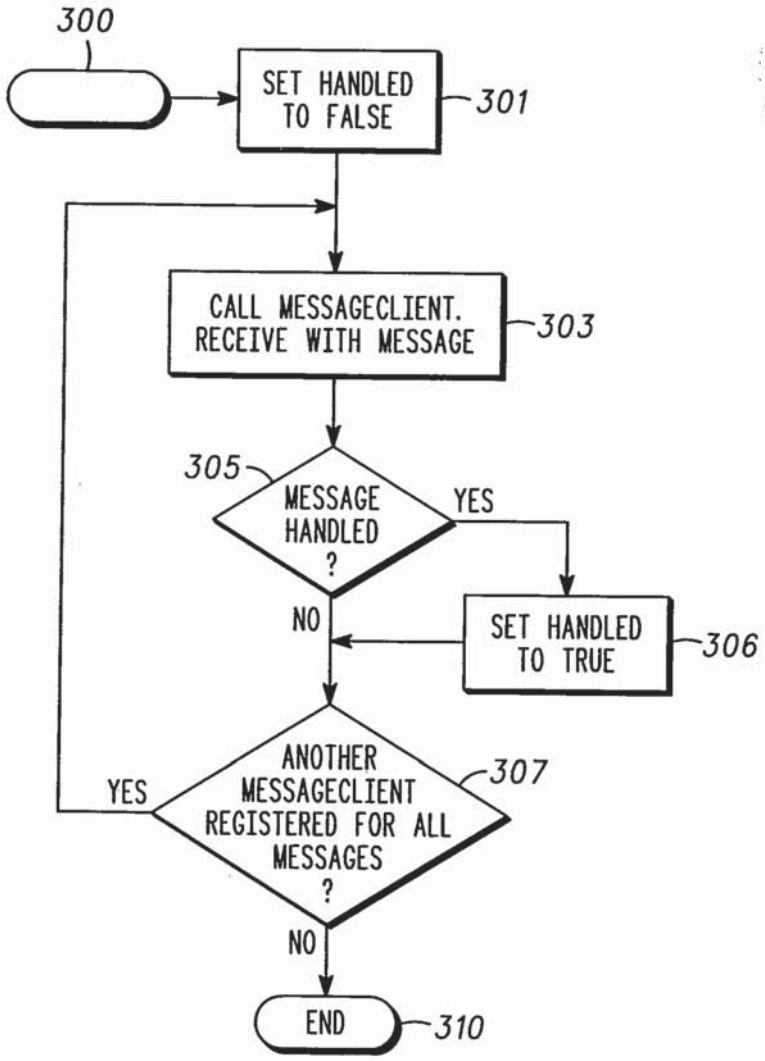
300
SET HANDLED TO FALSE
301
CALL MESSAGECLIENT. RECEIVE WITH MESSAGE
303
305
MESSAGE HANDLED ?
YES
NO
SET HANDLED TO TRUE
306
ANOTHER MESSAGECLIENT REGISTERED FOR ALL MESSAGES ?
307
YES
NO
END
310

FIG.4

OIPE JC184
APR 18 2002
PATENT & TRADEMARK OFFICE

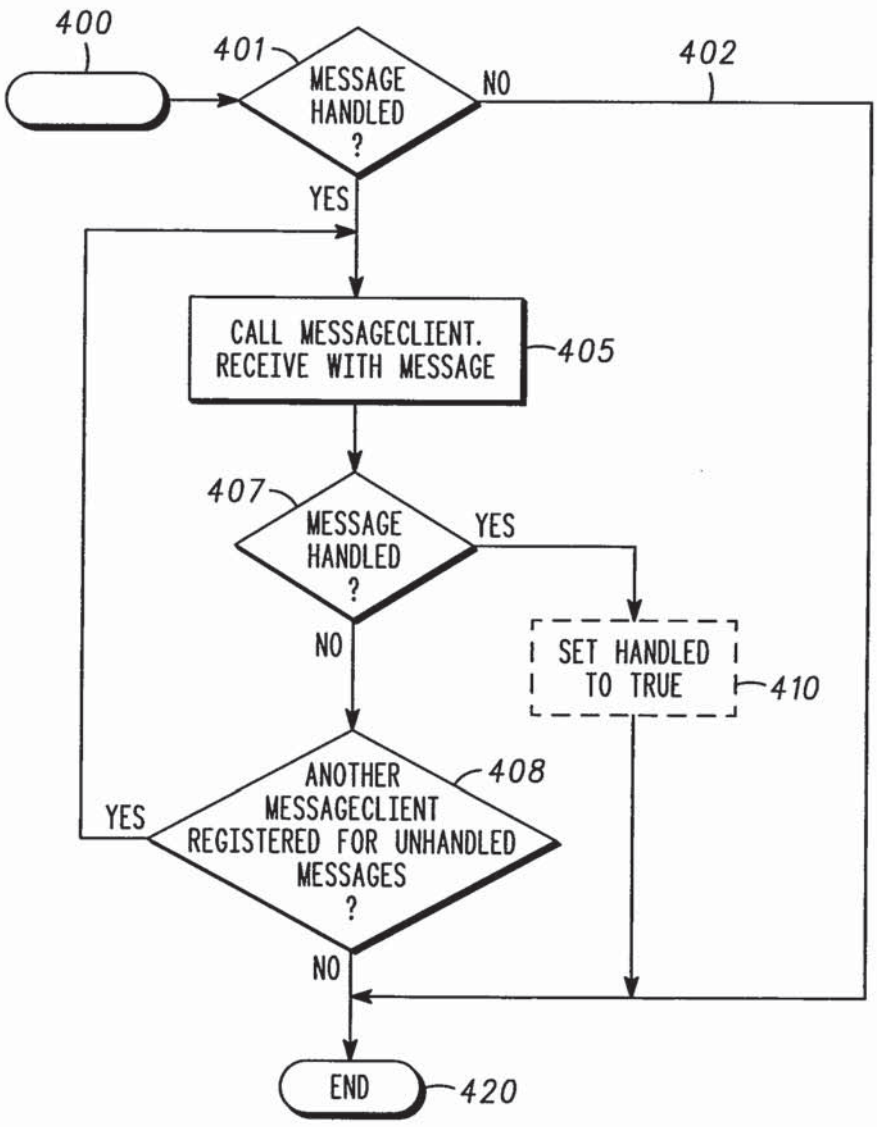
400
401
MESSAGE HANDLED ?
NO
402
YES
CALL MESSAGECLIENT. RECEIVE WITH MESSAGE
405
407
MESSAGE HANDLED ?
YES
NO
SET HANDLED TO TRUE
410
ANOTHER MESSAGECLIENT REGISTERED FOR UNHANDLED MESSAGES ?
408
YES
NO
END
420

FIG.5

OIPE JC174
MAR 2 2 2001
PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ADMENDMENT TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Barot, B.
Attorney Docket Number	PD05929AP

ENCLOSURES *(Check all that apply)*

- ☒ Fee Transmittal Form
  - ☐ Fee Attached
- ☒ Amendment/Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☒ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition
- ☒ Change of Correspondence Address
- ☒ Fee Address Indication Form
- ☐ Terminal Disclaimer
- ☐ Small Entity Statement
- ☐ Request for Refund
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Additional Enclosure(s) *(please identify below)*

RECEIVED
MAR 2 7 2001
Technology Center 2100

Remarks:

CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label 20280 (Insert Customer No. or Attach bar code label here) or ☐ Correspondence address below

Name:	Motorola, Inc.		
Address:	Intellectual Property Department		
	600 North U.S. Highway 45, AN475		
City: Libertyville	**State:** Illinois	**Zip Code:**	60048
Country: USA	**Telephone:** 847-523-2322	**Fax:**	847-523-2350

Name (Print/Type) Hisashi D. Watanabe	**Registration No. (Attorney)** 37,465
Signature Hisashi D Watanabe	**Date** March 20, 2001

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name	Jennifer Magness	Signature Jennifer Magness	Date 3/20/01

OIPE JC174
MAR 2 2 2001
PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

FEE TRANSMITTAL For FY 2001

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT ($) 110.00

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Barrot, Bharat
Attorney Docket Number	PD05929AP

METHOD OF PAYMENT

1. X The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account: 13-4768
Deposit Account Name: Motorola, Inc.

X Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

☐ Applicant claims small entity status See 37 CFR 1.27

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Fee ($)	Fee Description	Fee Paid
101	710	Utility filing fee	
106	320	Design filing fee	
107	490	Plant filing fee	
108	710	Reissue filing fee	
114	150	Provisional filing fee	
		SUBTOTAL (1)	($) 0.00

2. EXTRA CLAIM FEES

	Extra Claims	Fee from below	Fee Paid
Total Claims	12 -20** =	0	=
Independent Claims	2 -3 =	0	=

Multiple Dependent

Large Entity Fee Code	Fee ($)	Fee Description
103	18	Claims in excess of 20
102	80	Independent claims in excess of 3
104	270	Multiple dependent claim, if not paid
109	80	** Reissue independent claims over original patent
110	18	** Reissue claims in excess of 20 and over original patent
		SUBTOTAL (2) ($) 0.00

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Fee ($)	Fee Description	Fee Paid
105	130	Surcharge - late filing fee or oath	
127	50	Surcharge - late provisional filing fee or cover sheet	
139	130	Non-English specification	
147	2,520	For filing a request for ex parte reexamination	
112	920*	Requesting publication of Sir prior to Examination action	
113	1,840*	Requesting publication of SIR after Examination action	
115	110	Extension for reply within first month	$110
116	390	Extension for reply within second month	
117	890	Extension for reply within third month	
118	1,390	Extension for reply within fourth month	
128	1,890	Extension for reply within fifth month	
119	310	Notice of Appeal	
120	310	Filing a brief in support of an appeal	
121	270	Request for oral hearing	
138	1,510	Petition to institute a public use proceeding	
140	110	Petition to revive - unavoidable	
141	1,240	Petition to revive - unintentional	
142	1,240	Utility issue fee (or reissue)	
143	440	Design issue fee	
144	600	Plant issue fee	
122	130	Petitions to the Commissioner	
123	50	Petitions related to provisional applications	
126	240	Submission of Information Disclosure Stmt	
581	40	Recording each patent assignment per property (times number of properties)	
146	710	Filing a submission after final rejection (27 CFR § 1.129(a))	
149	710	For each additional invention to be examined (37 CFR § 1.129(b))	
179	710	Request for Continued Examination (RCE)	
169	900	Request for expedited examination of a design application	

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($) 110.00

RECEIVED
MAR 27 2001
Technology Center 2100

SUBMITTED BY

Name (Print/Type)	Hisashi D. Watanabe	Reg. No. (Atty/Agent)	37,465
Signature	Hisashi D. Watanabe	Date	Mar. 20, 2001

MAR 2 2 2001
PATENT & TRADEMARK OFFICE

PTO/SB/47 (10-00)
Approved for use through 12/31/2002. OMB 0651-0016
U.S. 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.

"FEE ADDRESS" INDICATION FORM

Address to:
Assistant Commissioner for Patents
Box M. Fee
Washington, D.C. 20231

Please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the following address:

☒ Customer Number 20280
Type Customer Number here

→ *Place Customer Number Bar Code Label here*

OR

☐ Request for Customer Number (PTO/SB/125) attached hereto

OR

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☐ Firm or Individual Name					
Address					
Address					
City		State		Zip	
Country					
Telephone		Fax			

in the following listed application(s) for which the Issue Fee has been paid or patent(s).

PATENT NUMBER (if known)	APPLICATION NUMBER

(check one)

☐ Applicant/Inventor

Hisashi D. Watanabe
Signature

☒ Attorney 37,465 (Reg. No.)

Hisashi D. Watanabe
Typed or printed name

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

847-523-2322
Customer's telephone number

☐ Assignment recorded at Reel ____ Frame ____

March 20, 2001
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more that one signature is required, see below *.

☐ *Total of 1 forms are submitted.

Burden Hour Statement: This collection of information is required by 37 CFR 1.363. This information is used by the public to submit (and by the USPTO to process) payment of patent maintenance fees. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 0.08 minutes to complete, including gathering, preparing, and submitting the complete payment of maintenance fees. Time will vary depending on 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, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

FEB 13 2002 JC24
PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

COPY OF PAPERS ORIGINALLY FILED

ADMENDMENT TRANSMITTAL FORM

COPY OF PAPERS ORIGINALLY FILED

(to be used for all correspondence after initial filing)

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Bharat, Barot
Attorney Docket Number	PD05929AP

RECEIVED
FEB 22 2002
Technology Center 2100

ENCLOSURES *(Check all that apply)*

- ☒ Fee Transmittal Form
  - ☐ Fee Attached
- ☒ Amendment/Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers *(for an Application)*
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition
- ☐ Change of Correspondence Address
- ☐ Fee Address Indication Form
- ☐ Terminal Disclaimer
- ☐ Small Entity Statement
- ☐ Request for Refund
- ☐ After Allowance Communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Additional Enclosure(s) *(please identify below)*

Remarks:

CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label 20280 (Insert Customer No. or Attach bar code label here) or ☐ Correspondence address below

Name:	Motorola, Inc.		
Address:	Intellectual Property Department		
	600 North U.S. Highway 45, AN475		
City: Libertyville	**State:** Illinois	**Zip Code:**	60048
Country: USA	**Telephone:** 847-523-2322	**Fax:**	847-523-2350

Name (Print/Type) Hisashi D. Watanabe — **Registration No.** 37,465

Signature Hisashi D. Watanabe — **Date** 01/23/02

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name: Jennifer Magness

Signature Jennifer Magness — Date 1/23/02

FEB 13 2002 JC24 PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

FEE TRANSMITTAL For FY 2001

1 3 2002 JC24 PATENT & TRADEMARK OFFICE

Patent fees are subject to annual revision.

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Bharat, Barot
Attorney Docket Number	PD05929AP

RECEIVED FEB 22 2002 Technology Center 2100

TOTAL AMOUNT OF PAYMENT	($) 0.00

METHOD OF PAYMENT

1. [X] The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account: 13-4768

Deposit Account Name: Motorola, Inc.

[X] Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

[ ] Applicant claims small entity status See 37 CFR 1.27

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Fee Description	Fee Paid
101	710	Utility filing fee	
106	320	Design filing fee	
107	490	Plant filing fee	
108	710	Reissue filing fee	
114	150	Provisional filing fee	
		SUBTOTAL (1)	($) 0.00

2. EXTRA CLAIM FEES

	Extra Claims			Fee Paid
Total Claims	12 - 20 =		X 18 =	0
Independent Claims	2 - 3 =		X80 =	0

Multiple Dependent89

Large Entity Fee Code	Large Entity Fee ($)	Fee Description
103	18	Claims in excess of 20
102	80	Independent claims in excess of 3
104	270	Multiple dependent claim, if not paid
109	80	** Reissue independent claims over original patent
110	18	** Reissue claims in excess of 20 and over original patent
		SUBTOTAL (2) ($) 0.00

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Fee Description	Fee Paid
105	130	Surcharge - late filing fee or oath	
127	50	Surcharge - late provisional filing fee or cover sheet	
139	130	Non-English specification	
147	2,520	For filing a request for ex parte reexamination	
112	920*	Requesting publication of Sir prior to Examination action	
113	1,840*	Requesting publication of SIR after Examination action	
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116	390	Extension for reply within second month	
117	890	Extension for reply within third month	
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141	1,240	Petition to revive - unintentional	
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143	440	Design issue fee	
144	600	Plant issue fee	
122	130	Petitions to the Commissioner	
123	50	Petitions related to provisional applications	
126	240	Submission of Information Disclosure Stmt	
581	40	Recording each patent assignment per property (times number of properties)	
146	710	Filing a submission after final rejection (27 CFR § 1.129(a))	
149	710	For each additional invention to be examined (37 CFR § 1.129(b))	
179	710	Request for Continued Examination (RCE)	
169	900	Request for expedited examination of a design application	

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($) 0.00

SUBMITTED BY

Name (Print/Type)	Hisashi D. Watanabe	Reg. No. (Atty/Agent)	37,465
Signature	Hisashi D. Watanabe	Date	1/23/02

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ADMENDMENT TRANSMITTAL FORM

FEB 13 2002

(to be used for all correspondence after initial filing)

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Bharat, Barot
Attorney Docket Number	PD05929AP

ENCLOSURES *(Check all that apply)*

- ☒ Fee Transmittal Form
  - ☐ Fee Attached
- ☒ Amendment/Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
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- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Additional Enclosure(s) *(please identify below)*

RECEIVED
FEB 22 2002
Technology Center 2100

Remarks:

CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label **20280** (Insert Customer No. or Attach bar code label here) or ☐ Correspondence address below

Name:	Motorola, Inc.		
Address:	Intellectual Property Department		
	600 North U.S. Highway 45, AN475		
City: Libertyville	**State:** Illinois	**Zip Code:**	60048
Country: USA	**Telephone:** 847-523-2322	**Fax:**	847-523-2350

Name (Print/Type) Hisashi D. Watanabe — **Registration No.** 37,465

Signature Hisashi D. Watanabe — **Date** 01/23/02

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name: Jennifer Magness

Signature Jennifer Magness — Date 1/23/02

OIPE JC174 MAR 22 2001 PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

FEE TRANSMITTAL For FY 2001

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT	**($) 110.00**

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Barrot, Bharat
Attorney Docket Number	PD05929AP

METHOD OF PAYMENT

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Deposit Account Name	Motorola, Inc.

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☐ Applicant claims small entity status See 37 CFR 1.27

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114	150	Provisional filing fee	
		SUBTOTAL (1)	($) 0.00

2. EXTRA CLAIM FEES

	Extra Claims		Fee from below		Fee Paid
Total Claims	12	-20** =	0	=	
Independent Claims	2	-3 =	0	=	

Multiple Dependent

Large Entity Fee Code	Fee ($)	Fee Description
103	18	Claims in excess of 20
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110	18	** Reissue claims in excess of 20 and over original patent
		SUBTOTAL (2)

($) 0.00

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Fee ($)	Fee Description	Fee Paid
105	130	Surcharge - late filing fee or oath	
127	50	Surcharge - late provisional filing fee or cover sheet	
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147	2,520	For filing a request for ex parte reexamination	
112	920*	Requesting publication of Sir prior to Examination action	
113	1,840*	Requesting publication of SIR after Examination action	
115	110	Extension for reply within first month	$110
116	390	Extension for reply within second month	
117	890	Extension for reply within third month	
118	1,390	Extension for reply within fourth month	
128	1,890	Extension for reply within fifth month	
119	310	Notice of Appeal	
120	310	Filing a brief in support of an appeal	
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179	710	Request for Continued Examination (RCE)	
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*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($) 110.00

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SUBMITTED BY

Name (Print/Type)	Hisashi D. Watanabe	Reg. No. (Atty/Agent)	37,465
Signature	Hisashi D. Watanabe	Date	Mar. 20, 2001

OIPE JC174
MAR 2 2 2001
PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ADMENDMENT TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Barot, B.
Attorney Docket Number	PD05929AP

ENCLOSURES *(Check all that apply)*

- ☒ Fee Transmittal Form
  - ☐ Fee Attached
- ☒ Amendment/Response
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☒ Extension of Time Request
- ☐ Express Abandonment Request
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- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Additional Enclosure(s) *(please identify below)*

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MAR 2 7 2001
Technology Center 2100

Remarks:

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Name:	Motorola, Inc.		
Address:	Intellectual Property Department		
	600 North U.S. Highway 45, AN475		
City: Libertyville	**State:** Illinois	**Zip Code:**	60048
Country: USA	**Telephone:** 847-523-2322	**Fax:**	847-523-2350

Name (Print/Type) Hisashi D. Watanabe	**Registration No. (Attorney)** 37,465
Signature Hisashi D Watanabe	**Date** March 20, 2001

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name	Jennifer Magness	Signature Jennifer Magness	Date 3/20/01

OIPE JC24
FEB 13 2002
PATENT & TRADEMARK OFFICE

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

FEE TRANSMITTAL For FY 2001

Patent fees are subject to annual revision.

Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Bharat, Barot
Attorney Docket Number	PD05929AP

RECEIVED
FEB 22 2002
Technology Center 2100

TOTAL AMOUNT OF PAYMENT ($) 0.00

METHOD OF PAYMENT

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Deposit Account Name: Motorola, Inc.

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☐ Applicant claims small entity status See 37 CFR 1.27

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		SUBTOTAL (1)	($) 0.00

2. EXTRA CLAIM FEES

	Extra Claims			Fee Paid
Total Claims	12 - 20 =		X 18 =	0
Independent Claims	2 - 3 =		X80 =	0

Multiple Dependent89

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		SUBTOTAL (2) ($) 0.00

FEE CALCULATION (continued)

3. ADDITIONAL FEES

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139	130	Non-English specification	
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179	710	Request for Continued Examination (RCE)	
169	900	Request for expedited examination of a design application	

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($) 0.00

SUBMITTED BY

Name (Print/Type)	Hisashi D. Watanabe	Reg. No. (Atty/Agent)	37,465
Signature	Hisashi D. Watanabe	Date	1/23/02

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20280 7590 03/11/2002

MOTOROLA INC
600 NORTH US HIGHWAY 45
LIBERTYVILLE, IL 60048-5343

EXAMINER	
BAROT, BHARAT	
ART UNIT	CLASS-SUBCLASS
2154	709-223000

DATE MAILED: 03/11/2002

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/198,095	11/23/1998	RODD B. ZURCHER	PD05929AP	2090

TITLE OF INVENTION: APPARATUS AND METHOD FOR HANDLING DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
11	nonprovisional	NO	$1280	$0	$1280	06/11/2002

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above. If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

B. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (REV. 07-01) Approved for use through 01/31/2004.

AG

PART B - FEE(S) TRANSMITTAL

Complete and mail this form, together with applicable fee(s), to:

Box ISSUE FEE
Assistant Commissioner for Patents
Washington, D.C. 20231

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

20280 7590 03/11/2002

MOTOROLA INC
600 NORTH US HIGHWAY 45
LIBERTYVILLE, IL 60048-5343

Note: The certificate of mailing below can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/198,095	11/23/1998	RODD B. ZURCHER	PD05929AP	2090

TITLE OF INVENTION: APPARATUS AND METHOD FOR HANDLING DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
11	nonprovisional	NO	$1280	$0	$1280	06/11/2002

EXAMINER	ART UNIT	CLASS-SUBCLASS
BAROT, BHARAT	2154	709-223000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Use of PTO form(s) and Customer Number are recommended, but not required.

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47) attached.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) ❑ individual ❑ corporation or other private group entity ❑ government

4a. The following fee(s) are enclosed:

❑ Issue Fee

❑ Publication Fee

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s):

❑ A check in the amount of the fee(s) is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____(enclose an extra copy of this form).

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature) (Date)

NOTE; The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/198,095	11/23/1998	RODD B. ZURCHER	PD05929AP	2090

20280 7590 03/11/2002

MOTOROLA INC
600 NORTH US HIGHWAY 45
LIBERTYVILLE, IL 60048-5343
UNITED STATES

EXAMINER	
BAROT, BHARAT	
ART UNIT	**PAPER NUMBER**
2154	

DATE MAILED: 03/11/2002

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The patent term extension is 0 days. Any patent to issue from the above identified application will include an indication of the 0 day extension on the front page.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (http://pair.uspto.gov)

PTOL-85 (REV. 07-01) Approved for use through 01/31/2004.

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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/198,095	11/23/1998	2154	890	PD05929AP	4	12	2

CONFIRMATION NO. 2090

CORRECTED FILING RECEIPT

OC000000007624532

20280
MOTOROLA INC
600 NORTH US HIGHWAY 45
LIBERTYVILLE, IL 60048-5343

Date Mailed: 03/12/2002

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

RODD B. ZURCHER, LAKE ZURICH, IL;
DAVID F. BAUM, LAKE ZURICH, IL;
JAMES V. PEURSEM, HANOVER PARK, IL;

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted 12/15/1998

Projected Publication Date: Not Applicable, filed prior to November 29,2000

Non-Publication Request: No

Early Publication Request: No

Title

APPARATUS AND METHOD FOR HANDLING AND DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE

Preliminary Class

709

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Expires: September 17, 1999

Karen L. Bovard, Director
Office of Enrollment and Discipline

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=ADJ		
L12	L11 and l10	18	L12
L11	((709/$$$)!.CCLS.)	12599	L11
L10	L1 with l7	37	L10
L9	L1 same l7	37	L9
L8	L1 and l7	111	L8
L7	handl$ with attribute	746	L7
L6	L2 same application program	4	L6
L5	attempt$ deliver$ and refus$ deliver$	1	L5
L4	L1 with attribute	37	L4
L3	L2 same program	21	L3
L2	L1 same attribute	105	L2
L1	handl$ with message	5554	L1

END OF SEARCH HISTORY

WEST

Freeform Search For 09/198,095

Database: US Patents Full-Text Database
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EPO Abstracts Database
Derwent World Patents Index
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Term:

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DB Name	Query	Hit Count	Set Name
USPT	l8 same attribut$	14	L10
USPT	l7 and l8	4	L9
USPT	message near10 dispatch$	1123	L8
USPT	((709/223)!.CCLS.)	462	L7
USPT	l2 and l5	6	L6
USPT	l1 and rule	11	L5
USPT	l1 same rule	2	L4
USPT	l1 same attribut$	2	L3
USPT	l1 and attribut$	23	L2
USPT	message same dispatch$ same application program	60	L1

Atty./Agent Docket No.: PD05906AM

Instructions:

_____ Incorporation by Reference (for Continuation/Division application) The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

_____ Since the present application is based on a prior US application, please amend the specification by adding the following sentence before the first sentence of the specification: "The present application is based on prior US application No. _____/_____, filed on_____, which is hereby incorporated by reference, and priority thereto for common subject matter is hereby claimed."

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CLAIMS AS FILED, LESS ANY CANCELED BY AMENDMENT

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INDEPENDENT CLAIMS	2-3 =	0	X $82	= $.00
MULTIPLE DEPENDENT CLAIMS			$270	= $ 0.00
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Printed Name: Hugh C. Dunlop

~~Attorney~~/Agent for Applicant(s)
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Phone: (847) 576-5214
Fax: (847) 576-3750

Please forward all correspondence to:
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Motorola, Inc.
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5/13/02	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/198,095	11/23/1998	RODD B. ZURCHER	PD05929AP	2090

TITLE OF INVENTION: APPARATUS AND METHOD FOR HANDLING DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE

TOTAL CLAIMS	APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
11	nonprovisional	NO	$1280	$0	$1280	06/11/2002

EXAMINER	ART UNIT	CLASS-SUBCLASS
BAROT, BHARAT	2154	709-223000

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2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Hugh C. Dunlop
2 Rami N. Bose
3 Hisashi D. Watanabe

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

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(B) RESIDENCE: (CITY and STATE OR COUNTRY): Schaumburg, IL

Please check the appropriate assignee category or categories (will not be printed on the patent) ☐ individual ☐ corporation or other private group entity ☐ government

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(Authorized Signature) Hisashi D. Watanabe (Date)
Hisashi D. Watanabe Reg. No. 37,465 05/13/02

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Bib Data Sheet

CONFIRMATION NO. 2090

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/198,095	11/23/1998 RULE	709	2154	PD05929AP

APPLICANTS

RODD B. ZURCHER, LAKE ZURICH, IL;
DAVID F. BAUM, LAKE ZURICH, IL;
JAMES V. PEURSEM, HANOVER PARK, IL;

** CONTINUING DATA ********** No BB

** FOREIGN APPLICATIONS ********** No BB

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** 12/15/1998

		STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
Foreign Priority claimed	☐ yes ☑ no	IL	4	~~12~~ 11	2
35 USC 119 (a-d) conditions met	☐ yes ☑ no ☐ Met after Allowance				
Verified and Acknowledged	Bharat Barot BB Examiner's Signature Initials				

ADDRESS
20280

TITLE
APPARATUS AND METHOD FOR HANDLING DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE

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CERTIFICATE OF CORRECTION

PATENT NO. : 6,425,002 B1
DATED : July 23, 2002
INVENTOR(S) : Zurcher et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 9,
Line 22, please change "deliver" to -- delivery --
Line 23, please change "massage" to -- message --

Column 10,
Line 37, please change "massage" to -- message --

Signed and Sealed this

Thirty-first Day of December, 2002

JAMES E. ROGAN
Director of the United States Patent and Trademark Office

MAR 2 2 2001
PATENT & TRADEMARK OFFICE

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PTO/SB/122 (10-00)
Approved for use through 10/31/2002. OMB 0651-0035
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Application

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Assistant Commissioner for Patents
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Application Number	09/198,095
Filing Date	11/23/98
First Named Inventor	Zurcher, Rodd et al.
Group Art Unit	2154
Examiner Name	Barrot, Bharat
Attorney Docket Number	PD05929AP

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☐ Applicant/Inventor.

☐ Assignee of record of the entire interest.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

☒ Attorney

☐ Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____

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Technology Center 2100

Typed or Printed Name: Hisashi D. Watanabe

Signature: Hisashi D. Watanabe

Date: 3/20/01

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☒ *Total of 1 forms are submitted.

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US006425002B1

(12) **United States Patent**
Zurcher et al.

(10) **Patent No.: US 6,425,002 B1**
(45) **Date of Patent: Jul. 23, 2002**

(54) **APPARATUS AND METHOD FOR HANDLING DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE**

(75) Inventors: **Rodd Bryan Zurcher**; **David Frank Baum**, both of Lake Zurich; **James Van Peursem**, Hanover Park, all of IL (US)

(73) Assignee: **Motorola, Inc.**, Schaumburg, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/198,095**

(22) Filed: **Nov. 23, 1998**

(51) **Int. Cl.**[7] **G06F 15/173**

(52) **U.S. Cl.** **709/223**; 709/202; 709/206; 709/224; 709/314

(58) **Field of Search** 709/200–203, 709/204, 205–206, 213, 223–224, 227, 313–315; 455/442, 418–420, 461–463

(56) **References Cited**

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6,073,142	A *	6/2000	Geiger et al.	709/204
6,226,666	B1 *	5/2001	Chang et al.	709/202

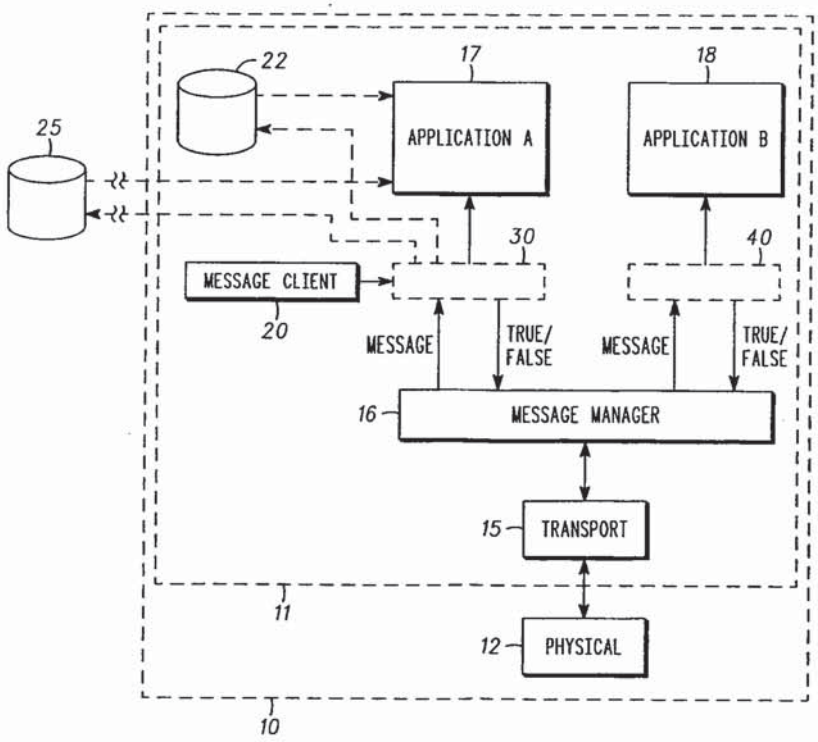
* cited by examiner

Primary Examiner—Bharat Barot
(74) *Attorney, Agent, or Firm*—Hugh C. Dunlop; Romi N. Bose; Hisashi D. Watanabe

(57) **ABSTRACT**

A communications device (**10**) with a processor having instructions that execute on the processor. The programmed instructions include a message manager program (**16**) for accepting and dispatching messages, one or more application programs (**17**, **18**) for handling and presenting messages; and one ore more message client programs (**30**, **40**) that receive messages from the message manager program (**16**) and provides them to the application program. The message manager program (**16**) accepts a registration from each message client program and sets rules, and message attributes to which the rules are to be applied for new messages.

11 Claims, 4 Drawing Sheets



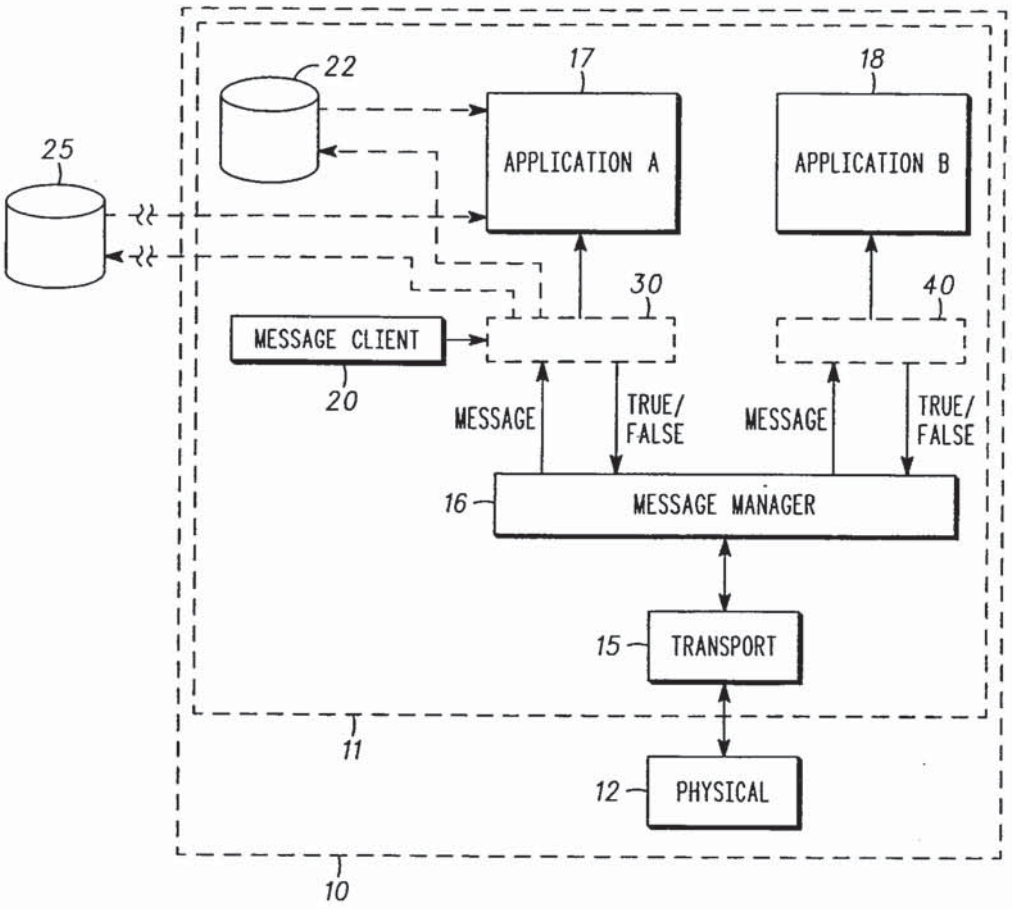

22
17
18
25
APPLICATION A
APPLICATION B
30
40
MESSAGE CLIENT
20
MESSAGE
TRUE/
FALSE
MESSAGE
TRUE/
FALSE
16
MESSAGE MANAGER
15
TRANSPORT
11
12
PHYSICAL
10

FIG. 1

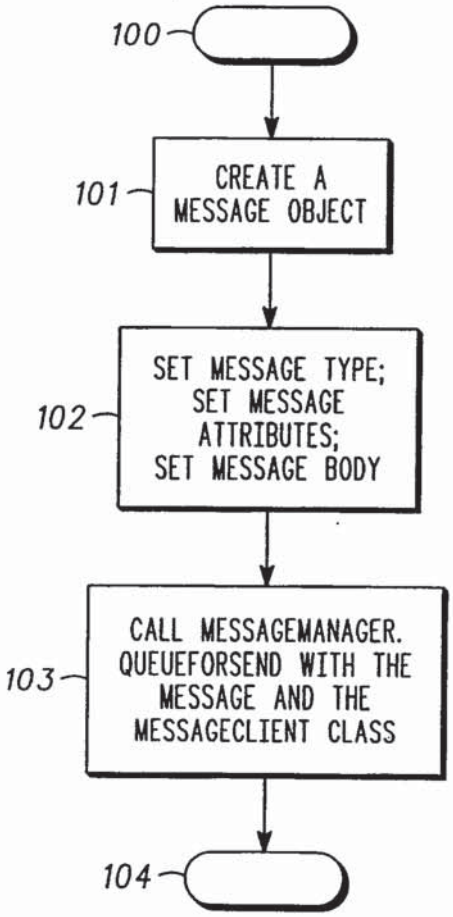

100
101
CREATE A MESSAGE OBJECT
102
SET MESSAGE TYPE; SET MESSAGE ATTRIBUTES; SET MESSAGE BODY
103
CALL MESSAGEMANAGER. QUEUEFORSEND WITH THE MESSAGE AND THE MESSAGECLIENT CLASS
104

FIG.2

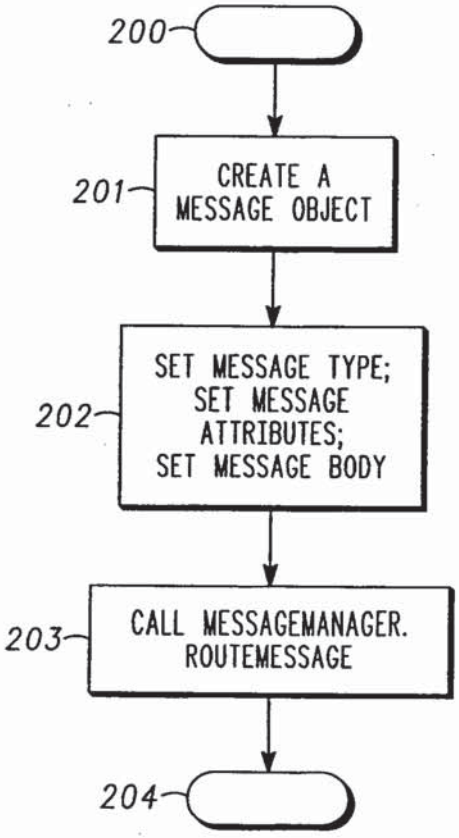

200
201
CREATE A MESSAGE OBJECT
202
SET MESSAGE TYPE; SET MESSAGE ATTRIBUTES; SET MESSAGE BODY
203
CALL MESSAGEMANAGER. ROUTEMESSAGE
204

FIG.3

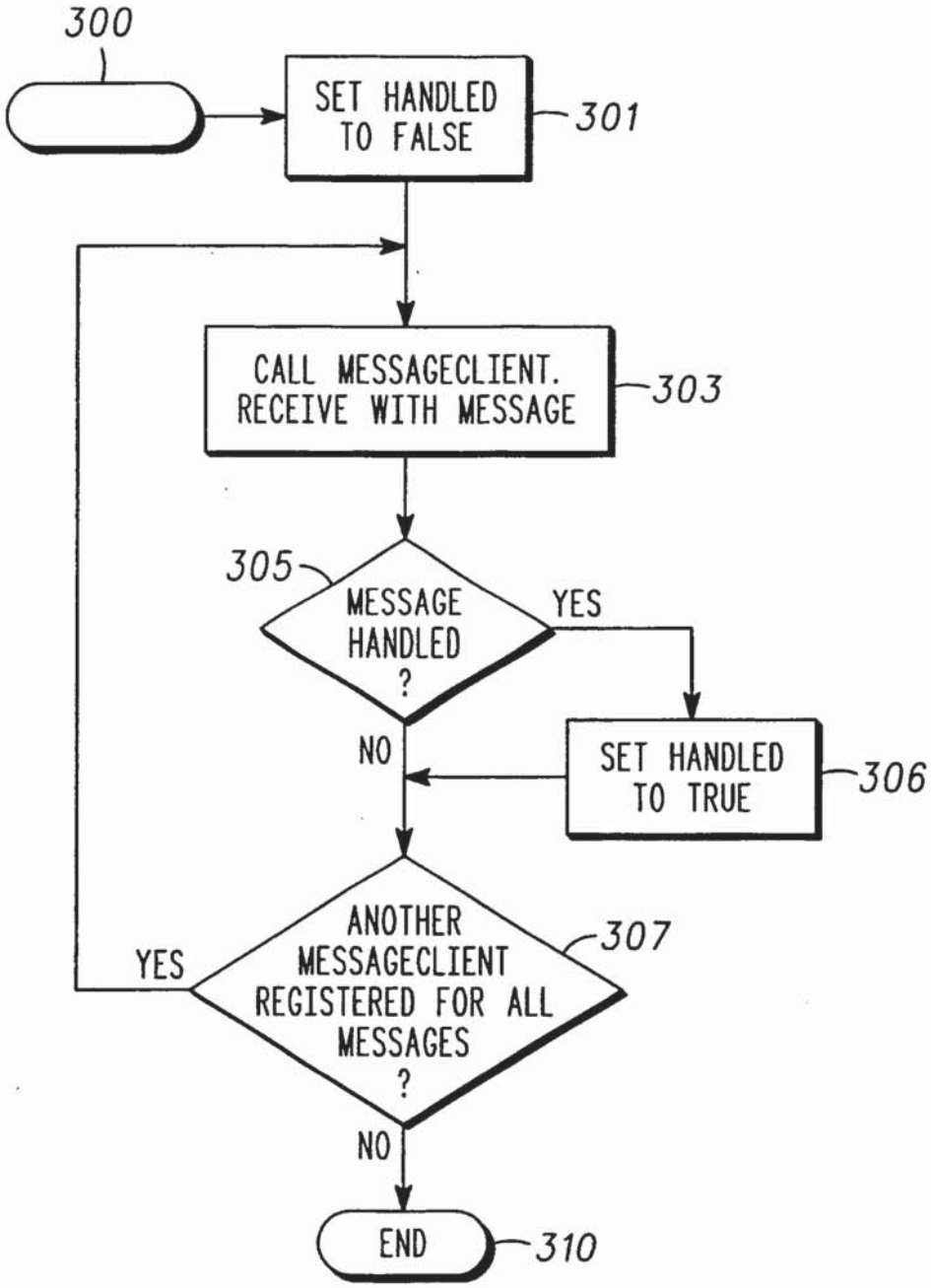

300
SET HANDLED TO FALSE
301
CALL MESSAGECLIENT. RECEIVE WITH MESSAGE
303
305
MESSAGE HANDLED ?
YES
NO
SET HANDLED TO TRUE
306
ANOTHER MESSAGECLIENT REGISTERED FOR ALL MESSAGES ?
307
YES
NO
END
310

FIG.4

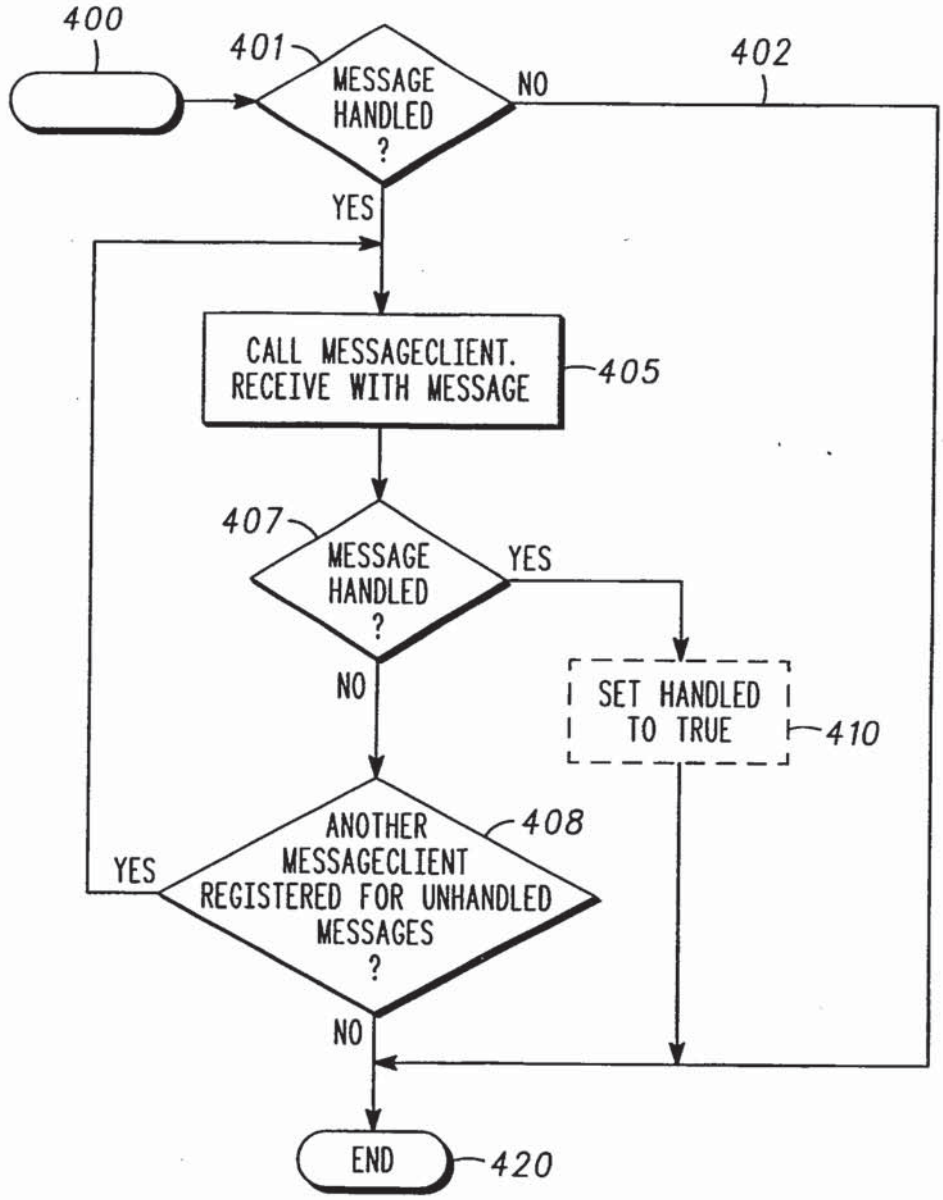

400
401
MESSAGE HANDLED ?
NO
402
YES
CALL MESSAGECLIENT. RECEIVE WITH MESSAGE
405
407
MESSAGE HANDLED ?
YES
NO
SET HANDLED TO TRUE
410
ANOTHER MESSAGECLIENT REGISTERED FOR UNHANDLED MESSAGES ?
408
YES
NO
END
420

FIG. 5

APPARATUS AND METHOD FOR HANDLING DISPATCHING MESSAGES FOR VARIOUS APPLICATIONS OF A COMMUNICATION DEVICE

FIELD OF THE INVENTION

This invention relates to a communications device comprising a processor having instructions that execute the processor in the form of interacting computer programs. The invention relates to such a device with a message manager program and a message client program.

BACKGROUND OF THE INVENTION

In the field of communication devices it has become desirable to make provision for more than one application program for enabling a user of the device to interact with incoming and outgoing messages. Such messages may be conveyed to and from the device over any of a number of bearer services or "transports", as described in U.S. Pat. No. 5,509,000 of Oberlander. Examples of such bearer services are: short messaging service in GSM "global system or mobile" digital cellular radio systems; universal datagram protocol "UDP" packets; and internet protocol "IP" packets.

When there are multiple bearers conveying messages to and from multiple user applications, at least two possible alternative architectures are available. In the first alternative, a universal mailbox is provided. All messages arrive at and are dispatched from the universal mailbox, regardless of the application that creates the message or accepts the message. This a complex arrangement from the point of view of facilitating application development, because careful consideration needs to be given to the interaction to the different applications and the competition of applications for handling of messages in the universal mailbox.

An alternative architecture provides that each application has its own mailbox. This is a more modular approach that is suitable for unlimited expansion by addition of new applications. A message manager is required between the applications and the various transports to manage the receipt and dispatch of messages between the various applications and the various transports.

It would be desirable to provide a message manager and an interface to one or more applications in an object-oriented programming language such as Java (TM), but currently such a language has no defined application programmer interface (API) adequate for such a function. It would be desirable to create an API that facilitates the handling and dispatching of messages between a message manager and various applications in a clear and a convenient manner to ensure the correct messages are delivered to the correct applications and to ensure that applications only receive messages that are of interest to those applications.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of a communications device and its software structure.

FIG. **2** is a flow diagram illustrating an outbound message queuing process.

FIG. **3** is a flow diagram illustrating an inbound message routing process.

FIGS. **4** and **5** are flow diagrams illustrating processes performed by the message manager software of FIG. **1**.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to FIG. **1**, a communications device **10**, such as a cellular telephone or a two-way mobile radio or a two-paging device e.g. a "Pagewriter"™ is shown, which comprises a microprocessor **11** coupled to a radio transceiver **12**. The radio transceiver **12** will be referred to as the "physical" layer of the device, as it encompasses all physical functionality (such as channel selection, power control and time slot allocation or spreading or de-spreading), depending on the particular radio bearer that is being used by the communication device **10**. The physical layer **12** communicates with the microprocessor **11** and with various software modules loaded into the microprocessor **11** and executing on that processor. It will be understood that the microprocessor **11** may also perform processes dedicated to the physical layer **12** but these need not be described in detail.

Within the microprocessor **11** there are various computer programs or software modules, including a transport program **15**, a message manager program **16**, and one or more applications. In the example shown, two applications are shown **17** and **18**, labeled application "A" and application "B". Also shown is a message client **20** and a memory **22**. FIG. **1** further illustrates a remote message store **25**, which is not located within the communications device **10** but is in communication with the communications device **10**. The remote message store **25** is shown as communicating with the message client **20**, but this is shown for simplification. In fact the remote message store **25** uses the transport module **15** and the physical layer **12** to communicate with the message client **20** and also requires its own transport layer and physical layer (for example as described in U.S. Pat. No. 5,771,353 of Eggleston et al.) to establish this communication.

The applications A and B are programs that interact between a user of the communications device **10** and messages being received by and being received from the communications device **10**.

In operation, the user interacts with these applications via any suitable user interface, typically a small screen and a keyboard or a screen and a pen and tablet interface. Examples of applications are an electronic mail application such as "Outlook" (™) by Microsoft Corporation or "Lotus Notes" (™), but there are many applications that may run on the processor **11** for handling and presenting messages and further examples are given below.

The operation will be described in broad outline and will again be described in greater detail. In broad outline, an outbound message is generated on one of the applications **17** and **18** and a message object is created and delivered to the message manager **16**. The message manager **16** queues the message in an outbound message queue. The message manager **16** maintains a single queue or separate queue for each message type. The message manager **16** delivers the messages in a prioritized order to the transport program **15** which attempts to deliver the messages through the physical layer **12** to a destination (typically a server that is reached via radio base station). If the transport successfully delivers the message, it informs the message manager **16** that is ready to accept and deliver the next message. The particular ordering of the delivery of the messages by the message manager **16** to the transport layer **15** is unimportant. The ordering of messages may depend on what transport layer and what physical layer are available to the message manager, and further details can be found in copending patent application Ser. No. 08/720,984 of Pearce et al., filed on Oct. 15, 1996, now U.S. Pat. No. 5,910,951 and assigned to the assignee of the present invention, the specification of which is hereby incorporated by reference.

For inbound messages, the message manager **16** and the applications **17** and **18** require an orderly procedure for

determining whether the inbound message is to be delivered to one application or the other application or both applications. The software language used for construction of the message manager **16** and the applications **17** and **18** is preferably an object oriented language such as Java (™). A class called MessageClient resides in the permanent instructions loaded in microprocessor **11**. Upon receipt of a message, an instance **30** of the class is created for application A (this may be referred to as Message Client A). The message is delivered to Message Client A. Depending on the function of Message Client A, the message may be delivered to the application A. Alternatively, it may be delivered to memory **22** for later delivery to application A or they may be routed to remote storage **25**. Similarly, the message is selectively delivered to Message Client B **40** and is delivered to application B. The selective delivery to Message Client A and Message Client B is described in greater detail below. The detailed description explains that the selective delivery of a message to one or both of the message clients **30** and **40** depends upon pre-registration of the respective message client with the message manager **16** and depends on attributes of messages for which the respective message client is registered with the message manager. It also depends on one or more rules in the message manager **16**. The rule or rules in the message manager **16** is or are applied to attributes of each new message that arrives. Depending on the result of those rules, the message is delivered to one of those applications A or B or to both applications (and indeed any further applications that may exist).

For a more detailed description of the preferred embodiment of the invention, the following terminology will be used:

Client:—A Java application that may both source and sink Messages.

Message:—Data, and the addressing information necessary to deliver the data to another client, and optionally additional attributes.

Transport:—A session layer protocol that may send messages, or receive messages. Examples include SMS, SMTP, POP3 and IMAP4.

Inbound message:—Messages entering the devices via a transport.

Outbound message:—Messages created by a client and leaving the device via a transport.

Handled message:—A message that has had delivery attempted by a transport (outbound case) or a message that has been accepted and processed by a client (inbound case).

Unhandled message:—A message that has been refused a delivery attempt by a transport (outbound case) or a message that has been refused processing by a client (inbound case).

Four scenarios in particular are now described, including a message client **30** or **40** registering with the message manager **16**, a message client queuing an outbound message for delivery, a message client participating in the routing of an inbound message and a transport creating an outbound message delivery session.

For a client to either queue an outbound message for delivery or be able to receive an inbound message, it must first register with the message manager **16**. The process of registering with the message manager does not actually register the client itself, rather a specific implementation **30** or **40** of a subclass of the Message Client object **20** is registered. Thus, an implementation of a subclass of the message client object **20** is registered as "Message Client A". Following registration, the message manager **16** is able to identify the name of the subclass implementation as "Message Client A" and for that subclass implementation, the message manager **16** maintains a record of the rules that are to be applied for that subclass and implementation upon receipt of a new message.

A message client provides two primary methods for the MessageManager:

SendComplete:—This method is called with a Message and a Status, and is used to inform a Client that a previously queued message has been sent.

Receive:—This method is used to give the Client an opportunity to accept a message. If after parsing the attributes or the body of the Message if the MessageClient decides it can process the Message it returns true, declaring the message handled. Otherwise the Client returns false declaring the Message not handled.

When a client registers a MessageClient with the MessageManager it also specifies what class of Messages it wants to be given a chance to accept. There are two classes: all, and unhandled only. MessageClients registered for all, will see every Message routed through the MessageManager, regardless whether another MessageClient has already handled the Message. MessageClients registered for unhandled will only be given an opportunity to accept messages that no other MessageClient has handled.

The message manager **16** maintains a table of messageClients identified by name (Message Client A, Message Client B etc.) and of attributes of messages for which that Message Client is registered (handled/unhandled, type).

The process of queuing a message for outbound delivery is now described, with reference to FIG. **2**. The process starts at step **100** and in step **101** a message object is created. A message object comprises a payload (for example text and/or graphics) and attributes such as subject, recipient, type and handled or unhandled). In step **102**, the message type is set, the message manager **16** is called, that class being "MessageManager.QueueForSend". This class is called with the message and the message client class. The outbound message being processed ends at step **104**.

The above simple process corresponds to the following psuedocode

```
Create a Message object
Set Message type
Set Message attributes
Set Message body
Call MessageManager.QueueForSend with the Message
    and the MessageClient class.
```

MessageManager.QueueForSend will return a unique message ID that may be used by the client to remove the message from the outbound queue.

The Client will be notified by the MessageManager, via the MessageClient class, when a transport has attempted delivery of a queued message.

The message manager **16** does not actually trigger an outbound transport to run. It is the responsibility of the Client to actually trigger or direct a transport to run.

The process followed by a transport **15** to route an inbound message is somewhat similar and is illustrated in FIG. **3**. Starting at step **200**, a message object is created at step **201**. In step **202** the message type is set the message attributes are set and the message body is set. In step **203** a class in the message manager is called, that class being "MessageManager.RouteMmessage". The process message performed by the transport is completed at step **204**. The above described process is described by the following pseudocode:

```
Create a Message object
Set Message type
Set Message attributes
Set Message body
Call MessageManager.RouteMessage
```

Referring now to FIG. **4**, a process or method performed by the message manager **16** following from step **204** is illustrated. This process starts at step **300**. In step **301**, the attribute or flag "handled" is set to "false", and this step simply indicates that this message has not yet been handled by any message client or any application. Then, a loop begins for each message client that is registered for all messages. This loop will be performed upon receipt of any message and it will be performed for any message client (on behalf of its associated application) that desires to receive all messages. In step **303**, the class "MessageClient.Receive" is called with the message.

When MessageClient.Receive is called, that subclass instance (e.g. message client A) delivers a result. The result delivered is a simple "true" or "false". "True" is delivered when the respective message client indicates that it has handled the message. "False" is delivered when the respective subclass indicates when it has not handled the message. As will be explained below, it is entirely within the choice of the programmer as to whether the message client subclass instance delivers "true" or "false". Thereafter, the process determines whether the message has been indicated as having been handled by the respective message client. If the respective message client has delivered "true," step **305** determines that the message has been handled, and in step **306**, the flag "handled" in the message manager **16** is set to "true" for that message. In either case, the process proceeds to step **307**, where the message manager **16** determines if there is another message client that is registered for all messages. If there is another message client that is registered for all messages, the process returns to the beginning of the loop and a message client is created for the next application (e.g. message client **40**). If following step **307**, there are no messaging clients that are registered for all messages, the process ends at step **310** and flow can proceed to the process illustrated in FIG. **5**.

The above RouteMessage method in the message manager **16** is detailed in the following psuedocode:

```
Set handled to False
For each MessageClient registered for all Messages
Begin
    Call MessageClient.Recieve with Message
    if Message handled then
        set handled to True
End
```

It may, incidentally, be noted that the process of FIG. **5** can be modified in the event that more than one type of message exists. Message types may include, SMS messages and internet messages. A message client may be registered for all SMS messages, or all internet messages, or all messages, whether SMS or internet. Thus, a message client may be registered for a first type of message or a second type of message or all messages. In such an example, step **307** can be modified to look for whether there is another message client that is registered for all messages for all message type. It may also be noted that a MessageClient can be created temporarily for the purpose of creating a call to that MessageClient and released immediately following the call.

Referring now to FIG. **5**, a process is described that follows from the process of FIG. **4** and that is executed by the message minder **16**. This process begins at step **400** and is bypassed at step **401** via a bypass path **402** in the event that the message flag for the current message is set at "true". Thus, step **401** determines whether the message has been handled, and if the message has been handled, the process immediately ends at step **420**. In other words, the process at FIG. **5** executes for unhandled messages only, and therefore only executes for message clients that are registered for unhandled messages only. In the event that there is an unhandled message, the processor proceeds to step **404**. In step **405**, the class MessageClient.Receive is called with the message. As before, the message client (e.g. message client B indicated by reference numeral **40** in FIG. **1**) delivers either "true" or "false" to the message manager **16**. Following step **405**, step **407** determines whether the message has been handled. If the message has not been handled, step **408** determines whether there are any other message clients that are registered with the message manager for unhandled messages only. If there are, the process returns to step **404**.

If, following step **407** the indicated as having been handled, the process proceeds to optional step **410**. In this optional step, the "handled" flag is set to "true" for that message. The program will then proceed to step **420**. Step **410** is indicated as optional, because the particular transport that called "route message" may not care whether the message is handled at all by any application or any message client. If the underlying transport needs to know that the message has been handled, then step **410** is necessary.

When there are no further message clients that are registered for unhandled messages or when the message has been handled by one of the message clients, the process ends at step **420**.

The above described process is illustrated by the following psuedocode:

```
if not handled then
Begin
    for each MessageClient registered for Unhandled
    Messages
    Begin
        Call MessageClient.Receive with Message
        if Message handled then
            end for loop
        End
    End
```

There may be many message clients **30**, **40**, etc., that may be registered with the message manager **16**. Message clients register in chronological order and the message manager **16** executes step **404** for the message clients in the chronological order in which they have registered. Thus, if applications A and B are both registered for unhandled messages only, message manager **16** will create subclass instance **30** first and if the instance of message client so created successfully handles a given message, message manager **16** will not create a message client instance **40** for application B, because flow will proceed from step **407** to step **420**. The chronological order of registering of message clients with the message manager can be overridden such that the user or the program writer can devise a specific sequence in which message clients are to be created for a new message.

As before, a MessageClient can be created temporarily for the purpose of creating a call to that MessageClient and released immediately following the call.

It has been explained that the applications A and B may be electronic mail applications. Many other applications large and small can be devised with the structure described.

At a very minimum, there may be a message client created that has no corresponding application. At a very minimum this message client may have no function other than to deliver "true" for all messages. Such a trivial message client would simply consume all messages that arrive with no purpose. Or such a message client could, for example, simply count the incoming messages. Alternatively, it could count messages of a given type. For example it could count all fax messages and give an indication to the user that there are faxes that have arrived, so the user can turn to a connected fax machine to receive those messages. Another example of a simple message client would be a message client that extracts a sender's address and adds it to address book and it turns "false" to the message manager **16**. Such a message client would build up an address book for all messages without interfering with operation of other applications interacting with the message manager **16**. By returning "false" the message client would not interfere with the ability of other message clients to have the opportunity to receive the message. These are all examples of functions that can take place with the message client without necessarily invoking an application.

The message client can deliver a message to memory **22** or to remote storage **25** for later review when application A or application B is launched. Message client can return "true" if it wishes to indicate that it has successfully received the message and it wishes to prevent any other application from receiving that message or it can return "false" if it wishes to receive the message and simultaneously permit another application to receive the message.

It has been described how a message can have two attributes: a message type and a message handled flag. The message manager **16** applies rules to these attributes for each new message. There may, of course, be further attributes to which further rules can be applied, but adding more attributes and more rules adds complexity to the message manager **16** and it is preferred that such complexities are added to the message client **30**. It is believed that the simple true/false delivery of the result by the message client and the provision of a few simple rules of the message manager provides sufficient flexibility for message clients to execute unlimited numbers of rules against a message and deliver true or false according to rules executed within the message client. As an example, a message client may only wish to handle messages during office hours and can return "false" at any time of day. This is an example of a rule that is executed in the message client. The possible rules and attributes executed by the message manager are illustrated in the following table. The table shows attributes as columns as rows.

	Handled	Unhandled	Don't Care
Type A		X	X
Type B		X	X
Don't Care		X	X

The table show six possibilities for rules that may be executed by the message manager. Conceivably a message manager could be devised to create a message client that is registered for handled messages only, but presently there is no apparent purpose for such a message client.

The computer programs illustrated in FIG. **4** and FIG. **5** in effect execute the rules illustrated in Table H, but will be appreciated by oneskilled in the art that there are many other ways of setting out the program that will create a message client in a selected manner depending on attributes of a message or attributes held in the message manager **16** and deliverable in a software call to the message manager.

For completeness, operation of an outbound delivery session is now described. An outbound transport must iterate over all the messages (of a given type) in the MessageManager's queue. Just as in the inbound case the transport can inform the MessageManager of which messages it actually handled and which ones it didn't. It's entirely up to the transport to determine if it can actually handle (deliver) a message.

There is a distinct difference between attempting to deliver a message and failing; and not handling the message at all. Typically a Client will set a special attribute on all of the messages it queues. At a later time when the Client triggers the transport to run, it passes the special attribute to the transport. The transport uses this information to determine which messages it should handle and which messages it should not, by intervention over message and sending messages that match the "special attribute", as set out in the following pseudocode.

```
Call MessageManager.OpenTransportSession with a message type
Save the MessageContext returned
Call MessageManager.GetMessage with the MessageContext
While GetMessage returns a message

Begin
    If the transport can handle this message then
    Begin
        Send the message over the transport
        Call MessageManager.SendComplete,
            with the MessageContext, Message, and the send status
    End
    else
        Call MessageManager.ReturnUnHandledMessage,
            with the MessageContext and Message,
        Call MessageManager.GetMessage with MessageContext
    End
    Call MessageManager.CloseTransportSession with
        the MessageContext
```

In summary, a communications device has been described comprising a processor having instructions that execute on the processor and it comprise: a message manager program **16** for accepting and dispatching messages; at least one application program **17**, **18** for handling and presenting messages; and at least one message client program **30**, **40**, that receives messages from the message manager program and provides them to the application program. The message manager program accepts a registration from at least one message client program comprising at least one rule and at least one message attribute to which the rule is to be applied for new messages.

Similarly, a communications device has been described comprising a processor having first instructions **16** for message management, second instructions **17** or **18** for interacting between a message and the user; and third instructions **30**, **40** for accepting a message from the first instructions and providing a message to the second instructions. The first instructions **16** accept a registration from at least one set of third instructions **30** or **40**. The registration comprises at least one rule and at least on message attribute to which the rule is to be applied to new messages.

The above description has been given by way of example only, and modifications of detail can be made by one of

ordinary skill in the art without departing from the spirit and skill of the invention.

We claim:

1. A communication device including a processor having instructions that execute on the processor and that comprises:

a message manager program for accepting and dispatching messages;

at least one application program for handling and presenting messages; and

at least one message client program, each message client program corresponding to a particular application program, that receives messages from the message manager program and provides them to the corresponding application program,

wherein the message manager program accepts a registration from each message client program including at least one rule and at least one attribute to which the rule is to be applied for new messages, and

wherein the at least one attribute including a handled/not handled attribute of messages, the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message.

2. The device according to claim 1, wherein the at least one message client program is created upon receipt of a new message and released following selective delivery of the message.

3. The device according to claim 1, wherein the message manager selectively delivers the new message to a message client program dependent on the handled/not handled attribute of the message.

4. The device according to claim 3, wherein the message manager creates the message client program dependent on the handled/not handled attribute of the message.

5. The device according to claim 1, wherein the message attribute includes a message type attribute.

6. The device according to claim 5, wherein the message manager selectively delivers the new message to a message client program dependent on the message type attribute of the message.

7. The device according to claim 6, wherein the message manager creates the message client program dependent on the message type attribute of the message.

8. The device according to claim 1, wherein the registration comprises at least first and second attributes including a handled/not handled attribute and a message type attribute.

9. The device according to claim 8, wherein the message manager program, upon receipt of a new message, executes first and second rules applied against the first and second attributes respectively.

10. The device according to claim 9, wherein the message manager selectively delivers the new message to a message client program dependent on a result of executing the first and second rules against the first and second attributes.

11. A communication device including a processor having instructions that execute on the processor and that comprises:

a set of first instructions for message management;

at least one set of second instructions for interacting between message and a user; and

at least one set of third instructions, each set of third instructions corresponding to a particular set of second instructions, for accepting a message from the first instructions and providing the message to the corresponding set of second instructions, wherein

the first instructions accept a registration from each set of third instructions, the registration including at least one rule and at least one attribute to which the rule is to be applied for new messages, the at least one attribute including a handled/not handled attribute of messages, and the handled attribute indicates that a transport has attempted deliver of a particular massage or a client has processed the particular message whereas the not handled attribute indicates that the transport has refused delivery of the message or a client has refused processing of the message.

* * * * *

PATENT APPLICATION FEE DETERMINATION RECORD

Effective November 10, 1998

Application or Docket Number 09/198,095

CLAIMS AS FILED - PART I

	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA
FOR		
BASIC FEE		
TOTAL CLAIMS	12 minus 20=	*
INDEPENDENT CLAIMS	2 minus 3 =	*
MULTIPLE DEPENDENT CLAIM PRESENT		

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
	380.00	OR		760.00
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL		OR	TOTAL	760

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RCE & B - Filed 9-24-01

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 11	Minus	** 20	=
Independent	* 2	Minus	*** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

[redacted]

SEARCHED

Class	Sub.	Date	Exmr.
709	200-203 204 205-206 213 223-224 227	11/30/00	BB
↓		↓	↓
455	412 418-420 461-463		
↓			
update search		5/23/01	BB
update search		6/16/01	BB
709	313-315	↓	↓
update search		2/28/02	BB

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.
704	202 205 223 224 314	2/28/02	BB
↓		↓	↓

SEARCH NOTES
(INCLUDING SEARCH STRATEGY)

	Date	Exmr.
WEST search	11/30/00	BB
Hand search	11/30/00	BB
WEST search	6/22/01	BB
WEST search	10/16/01	BB
WEST search	2/28/02	BB
Consult Zardi	2/28/02	BB

(RIGHT OUTSIDE)

ISSUE SLIP STAPLE AREA (for additional cross references)

POSITION	INITIALS	ID NO.	DATE
FEE DETERMINATION	BA	7038	
O.I.P.E. CLASSIFIER		1E	12/9
FORMALITY REVIEW		65703	12-15-98
MP IEEP	QS	59227	4/19/99

INDEX OF CLAIMS

✔ ..... Rejected
= ..... Allowed
— (Through numeral)... Canceled
÷ ..... Restricted
N ..... Non-elected
I ..... Interference
A ..... Appeal
O ..... Objected

Claim Final	Claim Original	Date
1	1	12 05 12 02
2	2	01 02 01 02
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Claim Final	Claim Original	Date
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If more than 150 claims or 10 actions staple additional sheet here

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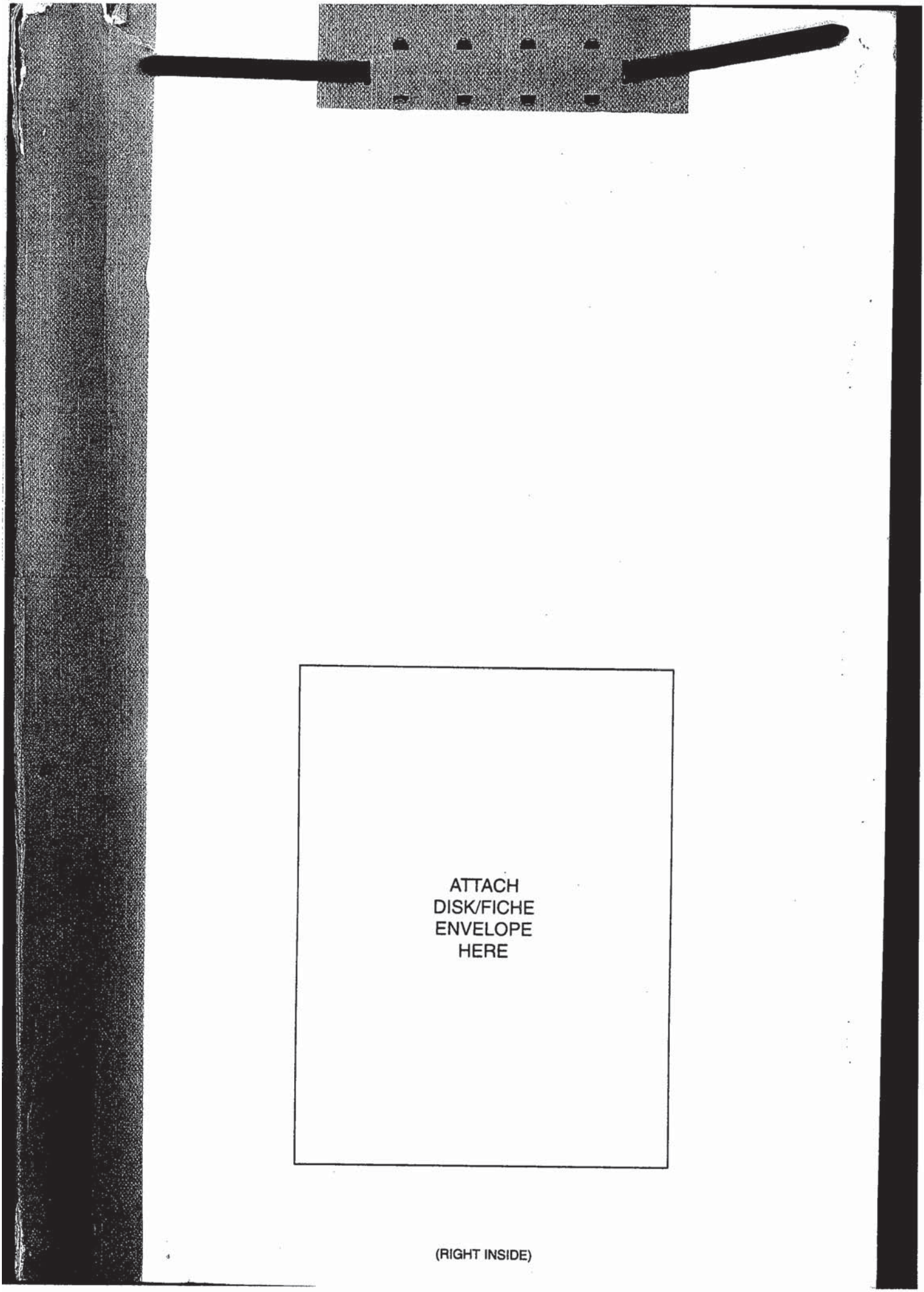

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PATENT APPLICATION

09198095

JC523 U.S. PTO
09/198095
11/23/98

INITIALS _____

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