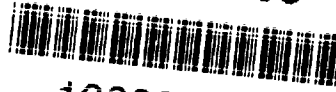


REC



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Attorney Docket No.: 041514-5053

To the Assistant Commissioner for Patents:
Please record the attached original documents or copy thereof.

ATTN: BOX ASSIGNMENT

1. Name of conveying party(ies):

- | | |
|------------------------|------------------------|
| 1. Shuuichi YANAGISAWA | 6. Nobuyasu NEGISHI |
| 2. Takamasa YOSHIKAWA | 7. Takashi YAMADA |
| 3. Kazuto SAKEMURA | 8. Shingo IWASAKI |
| 4. Atsushi YOSHIKAWA | 9. Hiroshi ITO |
| 5. Takashi CHUMAN | 10. Kiyohide OGASAWARA |

Additional name(s) of conveying party(ies) attached?

Yes No

3-3-99

2. Name and address of receiving party(ies):

Name: Pioneer Electronic Corporation

Internal Address:

Street Address: 4-1, Meguro 1-chome, Meguro-ku, Tokyo, Japan

City:

State: Zip:

Additional name(s) & address(es) attached?

Yes No

3. Nature of conveyance:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Assignment | <input type="checkbox"/> Merger |
| <input type="checkbox"/> Security Agreement | <input type="checkbox"/> Change of Name |
| <input type="checkbox"/> Other | |

Execution Date: 1) February 18, 1999; 2), 3), 4), 6), 7), and 8) February 9, 1999; 5), 9), 10) February 10, 1999

4. Application number(s) or patent number(s):

If this document is being filed together with a new application the execution date of the application is:

A. Patent Application No.(s): 09/219,779

B. Patent No.(s)

Additional numbers attached: Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Mr. Robert J. Gaybrick

Internal Address: Customer No. 009629
Morgan, Lewis & Bockius LLP

Street Address: 1800 M Street, N.W.

City: Washington State: D.C. Zip: 20036

6. Total number of applications and patents involved: 1

7. Total fee (37 C.F.R §3.41): \$40.00
 Enclosed
 Authorized to be charged to deposit account 50-0310

8. Deposit account number: 50-0310
Attach duplicate of page if paying by deposit account

9. Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

J. Michael Thesz
Name of Person Signing

March 3, 1999
Date

Total number of pages including cover sheet, attachments and documents: 3

03/09/1999 MORGAN 00000124 09219779

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ASSIGNMENT

In consideration of the sum of ten dollars (\$10.00) and other good and valuable consideration paid to each of the undersigned, the undersigned agree to assign, and hereby do assign, transfer, and set over to:

Pioneer Electronic Corporation

having the address:

4-1, Meguro 1-chome, Meguro-ku, Tokyo, Japan

(hereinafter designated as the "ASSIGNEE") the entire right, title, and interest for the United States and all foreign countries (including protection in foreign countries via the Patent Cooperation Treaty), in the invention, and all applications for patent and any Letters Patent which may be granted therefor, the application being known by the Title:

ELECTRON EMITTING DEVICE BASED FLAT PANEL DISPLAY APPARATUS
for which application for Letters Patent of the United States was executed on even date herewith unless otherwise indicated below:

filed on December 23, 1998,

Serial No. 09/219,779

1. The undersigned agree to execute all papers necessary in connection with the application and any continuing or devotional applications thereof and also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.

2. The undersigned agree to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation or division thereof and to cooperate with the ASSIGNEE in every way possible in obtaining evidence and going forward with such interference.

3. The undersigned agree to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial property or similar agreements.

4. The undersigned agree to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the ASSIGNEE.

5. The undersigned hereby authorize and request the commissioner of Patents in the United States and the appropriate national or regional authority in each foreign country to issue any and all Letters Patents resulting from said application or any division or divisions or continuing applications thereof to the said ASSIGNEE, as ASSIGNEE of the entire interest, and hereby covenants that they have full right to convey the entire interest herein assigned, and that they have not executed and will not execute, any agreement in conflict herewith.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned names.

The undersigned hereby authorize the firm of
MORGAN, LEWIS & BOCKIUS LLP at the address of
1800 M Street, N.W., Washington, D.C., 20036-5869, U.S.A.

to insert hereon any further identification necessary or desirable for recordation of this document.

Feb. 18, 1999
Date Shuuichi Yanagisawa
Typed Name: Shuuichi YANAGISAWA

Feb. 9, 1999
Date Takamasa Yoshikawa
Typed Name: Takamasa YOSHIKAWA

Feb. 9, 1999
Date Kazuto Sakemura
Typed Name: Kazuto SAKEMURA

Feb. 9, 1999
Date Atsushi Yoshizawa
Typed Name: Atsushi YOSHIZAWA

Feb. 10, 1999
Date Takashi Chuman
Typed Name: Takashi CHUMAN

Feb. 9, 1999
Date Nobuyasu Negishi
Typed Name: Nobuyasu NEGISHI

Feb. 9, 1999
Date Takashi Yamada
Typed Name: Takashi YAMADA

Feb. 9, 1999
Date Shingo Iwasaki
Typed Name: Shingo IWASAKI

Feb. 10, 1999
Date Hiroshi Ito
Typed Name: Hiroshi ITO

Feb. 10, 1999
Date Kiyohide Ogawara
Typed Name: Kiyohide OGASAWARA