

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Hiroyuki HIRAKAWA	10/13/2009
Ayae NAGAOKA	10/13/2009
Yasuo IMURA	10/13/2009
Tadashi IWAMATSU	10/13/2009

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12698435

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NAME OF SUBMITTER:	H. Warren Burnam, Jr.
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Total Attachments: 2
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OP \$40.00 12698435

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**PATENT
 REEL: 023885 FRAME: 0450**

ASSIGNMENT OF PATENT APPLICATION

(Inventors) Hiroyuki HIRAKAWA
Ayae NAGAOKA
Yasuo IMURA
Tadashi IWAMATSU

(Assignee) In consideration of the sum of one dollar (\$1.00) and other good and valuable
(Address) considerations paid to each of the undersigned, the undersigned agree(s) to assign, and
hereby does assign, transfer and set over to
SHARP KABUSHIKI KAISHA
(hereinafter designated as the Assignee) the undersigned's entire right, title and interest
for the United States, its territories, dependencies and possessions, and for the country of
(Other Countries) in the invention, and all application(s) for patent and any Letters Patent which may
(Title) be granted therefor, known as
ELECTRON EMITTING ELEMENT AND METHOD FOR PRODUCING ELECTRON
EMITTING ELEMENT (Case No. -)
for which the undersigned has (have) executed on even date herewith an application for
patent in the United States of America or, if not on even date, then has executed
on or has already filed in
U.S. appln. Serial No. filed on
The undersigned acknowledges an obligation of assignment of this invention to said
assignee at the time the invention was made.

The undersigned agree(s) to execute all papers and documents necessary in connection with the application or any interference which may be declared and any continuing or divisional applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient and further to 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.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patent of the United States 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 he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the firm of NIXON & VANDERHYE P.C. the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent Office for recordation of this document. It is understood and agreed that ASSIGNEE'S attorneys Nixon & Vanderhye P.C. have represented only ASSIGNEE and will continue to represent only ASSIGNEE with respect to this invention.

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

Date October 13, 2009 Signature of inventor *Miroyuki Hirakawa*
Miroyuki HIRAKAWA

Date October 13, 2009 Signature of inventor *Ayae Nagaoka*
Ayae NAGAOKA

Date October 13, 2009 Signature of inventor *Yasuo Imura*
Yasuo IMURA

Date October 13, 2009 Signature of inventor *Tadashi Iwamatsu*
Tadashi IWAMATSU

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