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| Name (line 1) | Yamanoi, Koyu | | | Month Day Year 01281999 | | | | | |
| Name (line 2) | | | | | | | | | |
| Second Party | | | | Execution Date Month Day Year | | | | | |
| Name (line 1) | Kobayashi, Hiroshi | | | 01281999 | | | | | |
| Name (line 2) | | | | | | | | | |
| Receiving Pa | | | Mark if additional names of I | receiving parties attached | | | | | |
| Name (line 1) | Texas Instruments Incorpora | ted | | is an assignment and the receiving party is not | | | | | |
| Name (line 2) | A Corporation of Delaware | | | domicited in the United States, an appointment of a domestic | | | | | |
| Address (line 1) | 7839 Churchill Way, M/S 399 | 9 | | representative is attached. (Designation must be a | | | | | |
| Address (line 2) | | | | separate document from Assignment.) | | | | | |
| Address (line 3) | Dallas | TX/USA | 75251 | | | | | | |
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| FORM PTO-16 Expires 06/30/99 OMB 0651-0027 | 19B | Page 2 | U.S. Department of Commerce Patent and Trademark Office PATENT | | | | |
|--|---|---|--|--|--|--|--|
| Correspondent | Name and Address Area Co | ode and Telephone Number | (972) 917-5633 | | | | |
| Name W. | Daniel Swayze, Jr. | | | | | | |
| Address (line 1) Te | xas Instruments Incorporated | | | | | | |
| Address (line 2) 78 | 7839 Churchill Way, M/S 3999 | | | | | | |
| Address (line 3) P. | P. O. Box 655474 | | | | | | |
| Address (line 4) Da | llas, Texas 75265-5474 | | | | | | |
| | nter the total number of pages of the cluding any attachments. | e attached conveyance doci | ument # 1 | | | | |
| Application Nu | mber(s) or Patent Number(s) | Mark | if additional numbers attached | | | | |
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| | ing filed together with a <u>new</u> Patent Application med executing inventor. | on, enter the date the patent applica | ation was Month Day Year | | | | |
| Patent Coopera | ation Treaty (PCT) | no. | POT [| | | | |
| | CT application number PCT | PCT | PCT | | | | |
| | U.S. Application Number PCT been assigned. | PCT | PCT | | | | |
| Number of Pro | perties | r of properties involved. | # 1 | | | | |
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| Method of F Deposit Ac | | Deposit Account X | | | | | |
| | ment by deposit account or if additional fees o | can be charged to the account.) count Number: | # 20-0668 | | | | |
| | Authorizati | on to charge additional fees: | Yes No X | | | | |
| Statement and | Signature | | | | | | |
| To the bes attached o indicated | st of my knowledge and belief, the factory is a true copy of the original deherein. | oregoing information is true ocument. Charges to depos | and correct and any sit account are authorized, as | | | | |
| Richard A. Bac | chand, Reg. No. 25,107 | and a Kachand | 1/29/99 | | | | |
| | Person Signing | Signature | Date | | | | |

PATENT REEL: 9746 FRAME: 0520

ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made, the said application having been executed on the date set forth below, filed on January 4, 1999 and assigned the serial number 09/225,125 in the United States Patent and Trademark Office; and

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the state of Delaware, with a place of business at 7839 Churchill Way, MS 3999, Dallas, Texas 75251, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entre right, title and interest.

I also hereby sell and assign to **TEXAS INSTRUMENTS INCORPORATED**, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International convention for the Protection of Industrial Property, and of the European Patent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said **TEXAS INSTRUMENTS INCORPORATED**, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said **TEXAS INSTRUMENTS INCORPORATED**, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year:

| TITLE OF INVENTION | WIDE CAPTURE RANGE CIRCUITRY | | |
|---------------------------------------|------------------------------------|---|------------------------------------|
| SIGNATURE OF INVENTOR and NAME | Koyli Yamanoi | Hiroshi kobayashi Hiroshi Kobayashi | <u>Futoshi Fujiwav</u> a |
| DATE | 1-28-99 | 1-28-199 | <u>/- 28 - '99</u> |
| RESIDENCE (City, County, State) | Funabashi-shi, Chiba-ken, Japan | Tomaku, Kawasaki- shi, Kanagawa- ken, Japan | Kouhoku-ku, Kanagawa-ken, Japan |
| DATE APPLICATION EXECUTED | January 28, 1999 | January 28, 1999 | January 28, 1999 |

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Texas Instruments Incorporated 7839 Churchill Way, M/S 3999 Dallas, TX 75251

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