FORM PTO-1595 (Rev. 6-93)	07-28-2000	3 SHEET  U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office
Tab settings ⇒ ⇒ ⇒ ▼	101415004	<u></u>
To the Honorable Commissioner of , a.c.,		e attached original documents or copy thereof.
1. Name of conveying party(ies): Frederick Schmid Chandra P. Khattak David B. Joyce  Additional name(s) of conveying party(ies) attached?	5.27.W N	lame and address of receiving party(ies): lame: Crystal Systems, Inc. nternal Address:
3. Nature of conveyance:	_	
☑ Assignment □	Merger S	Street Address: 27 Congress Street
☐ Security Agreement ☐ ☐ Other	Change of Name C	City: Salem State: MA ZIP: 01970
Execution Date: <u>June 15, 2000, respectivel</u>	У	dditional name(s) & address(es) attached? 🗅 Yes 🗹 No
4. Application number(s) or patent number	(s):	
If this document is being filed together w	ith a new application, the	execution date of the application is:
A. Patent Application No.(s) 09/512,947	ļ B	3. Patent No.(s)
	Additional numbers attached?	? ☐ Yes ਓ No
<ol><li>Name and address of party to whom concerning document should be mailed:</li></ol>	•	otal number of applications and patents involved:
Name: Michael A. Diener		otal fee (37 CFR 3.41)\$40.00
Internal Address: Hale and Dorr LLP		2 Enclosed
		Authorized to be charged to deposit account Charge any additional fees associated with this paper or during the pendancy of this application, or credit any overpayment, to deposit account.
Street Address: 60 State Street		Deposit account number:
		08-0219
City: Boston State: MA	ZIP: <u>02109</u> (	Attach duplicate copy of this page if paying by deposit account)
07/26/2000 DHGUYEN 00000162 080219 0951294/	DO NOT USE THIS SE	PACE
01 FC:581 40.00 CH		
9. Statement and signature.  To the best of my knowledge and belief, the original document.	the foregoing information is	s true and correct and any attached copy is a true copy o
Michael A. Diener	Muchan	June 23, 2000
Name of Person Signing	Signa	4
	nber of pages including cover she is to be recorded with require	d cover sheet information to:

## **ASSIGNMENT**

WHEREAS, We, Frederick Schmid, Chandra P. Khattak, and David B. Joyce, being citizens of the United States, and residing at 5 Gilbert Heights, Marblehead, Massachusetts 2 Hobard Rd. 240 6/15/00 01945, 14 Delaware Avenue, Danvers, Massachusetts 01923, and 17 Heritage Way, Marblehead, Massachusetts 01945, respectively, are inventors of certain new and useful inventions and discoveries, for which we have made an application for Letters Patent entitled METHOD AND APPARATUS FOR PURIFYING SILICON, which application was filed in the United States Patent and Trademark Office on February 25, 2000 and assigned Serial No. 09/512,947; and,

WHEREAS, Crystal Systems, Inc., a corporation of the Commonwealth of Massachusetts, whose address is 27 Congress Street, Salem, Massachusetts 01970, and which, together with its successors and assigns is hereinafter called "ASSIGNEE," is desirous of acquiring the title, rights, benefits, and privileges hereinafter recited;

NOW, THEREFORE, for and in consideration of good and valuable consideration furnished by ASSIGNEE to me, receipt and sufficiency of which I hereby acknowledge, I hereby, without reservations:

- 1. Assign, transfer, and convey to ASSIGNEE the entire right, title, and interest in and to said inventions and discoveries, said application for Letters Patent, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation, continuation-in-part, and convention applications based in whole, or in part, upon said inventions or discoveries, or upon said applications, and any and all Letters Patents, reissues, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon, or arise from, said inventions, said discoveries, said applications, and said Letters Patent;
- 2. Authorize ASSIGNEE to file patent applications in any or all countries on any or all of said inventions and discoveries in my name or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable, under International Conventions or otherwise;
- 3. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments throughout the world to issue or transfer all said Letters Patents to ASSIGNEE, as assignee of the entire right, title, and interest therein or otherwise as ASSIGNEE may direct;

PATENT REEL: 010943 FRAME: 0005

- Warrant that we have not knowingly conveyed to others any right in said 4. inventions, discoveries, applications, or patents, or any license to use the same, or to make, use, or sell anything embodying or utilizing any of said inventions or discoveries; and that I have good right to assign the same to ASSIGNEE without encumbrance;
- 5. Bind our heirs, legal representatives, and assigns, as well as ourselves, to do, upon ASSIGNEE's request and at ASSIGNEE's expense, but without additional consideration to us or them, all acts reasonably serving to assure that said inventions and discoveries, said patent applications, and said Letters Patents shall be held and enjoyed by ASSIGNEE as fully and entirely as the same could have been held and enjoyed by us, our heirs, legal representatives, and assigns if this Assignment had not been made; and particularly to execute and deliver to ASSIGNEE all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by ASSIGNEE; and to communicate to ASSIGNEE all facts known to me relating to said inventions and discoveries or the history thereof, and to testify as to the same in any court or proceeding; and to furnish ASSIGNEE any and all documents, photographs, models, samples, and other physical exhibits in my control or in the control of my heirs, legal representatives, or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said inventions and discoveries.

WITNESS my hand and seal this 15 day of June, 2000.	
Thedeut Chmed	
Frederick Schmid	_

Commonwealth of Massachusetts ) ss. County of Essex

Then personally appeared before me this 15 th day of June, 2000, the above named Frederick Schmid who acknowledged the foregoing instrument to be his free act and deed.

My Commission expires: 4/12/07

WITNESS my hand and seal this 15th day of June, 2000.
Chandra P. Khattak
Commonwealth of Massachusetts ) ss. County of E55ex )
Then personally appeared before me this 15th day of June, 2000, the above named Chandra P. Khattak who acknowledged the foregoing instrument to be his free act and deed.  Notary Public My Commission expires: 4/12/07
WITNESS my hand and seal this 15th day of, 2000.  David B. Joyce
Commonwealth of Massachusetts ) ss. County of Essex
Then personally appeared before me this 5 day of June, 2000, the above named David B. Joyce who acknowledged the foregoing instrument to be his free act and deed.  Notary Public My Commission expires: 4/12/01

- 3 -

RECORDED: 06/27/2000