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

1. Name of conveying party(les):

Ximin Zhang, Anthony Vetro, Yun-Qing Shi, and Haifang Jun

Additional name(s) or conveying party les) attached? []Yes [X,No

3. Nature of Conveyance:

[X Assignment

- ElMeraer

[]Security Agreement []Change of Name

[] Other

Execution Date: 9/19/01, 9/19/01, 9/20/01 and 9/19/03

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

Name: Mitsubishi Electric Research Laboratories, Inc.

Street Address: 201 Broadway

City: Cambridge State: MA Zip: 02139

Additional name(s) and address(es) attached? []Yes [X]No

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

If this document is being fired together with a new application, the execution date of the application is: September 20, 2001

A. Patent Applic

3. Patent No.(s)

Additional numbers attached? []Yes [X]No

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

Name: Mitsubishi Electric Research Laboratories, Inc.

Street Address: 201 Froadway

City: Cambridge State: MA Zio: 02139

6. Total number of applications and patents involved:

7. Total fee (37CFR 3.41): \$40.00

1 Enclosed

X] Authorized to be charged to deposit account

8. Deposit account number: 50-0749

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Statement and signature.

To the best of my Fnowledge and belief, the polegaing information is true and correct and any attached copy is a true opy iginal document.

Andrew J. Curtin

Name of Person Signing

C16 26 <u>∠ _ _ _</u> Signature

September 24, 20)

Date

Total number of pages comprising cover sheet:

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PATENT REEL: 012209 FRAME: 0692

ASSIGNMENT

WHEREAS, We, Ximin Zhang, Anthony Vetro, Yun-Qing Shi and Huifang Sun have made certain inventions or discoveries (or both) set forth in an Application for Letters Patent of the United States of America entitled **Transcoder for Scalable Multi-Layer Constant Quality Video Bitstreams**, the specification of which:

X	was	executed	by us	on the date	indicated :	below;
	was	filed on	as	Application	Serial No.	;
	was	patented	under	U.S. Patent	No on	;

WHEREAS, Mitsubishi Electric Research Laboratories, Inc., a corporation of the State of Delaware, whose address is 201 Broadway, Cambridge, Massachusetts 02139, and who, together with its successors and assigns is hereinafter called "Assignee", is desirous of acquiring the entire right, title, and interest together with the benefits and privileges hereinafter recited;

NOW, THEREFORE, for valuable consideration furnished by Assignee to us, receipt and sufficiency of which we hereby acknowledge, we hereby, without reservation;

- Assign, transfer and convey to Assignee the entire right, title and interest together with the benefits and privileges in and to said inventions and discoveries, said Application for Letters Patent or similar forms of protection of the United States of America, and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation and convention applications based in whole or in part upon said inventions or discoveries, or upon said application, and any and all Letters Patent, reissues and extensions of Letters Patent or similar forms of protection 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 or groups of countries on any or all of said inventions and discoveries in our name or in the name

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of Assignee or otherwise as Assignee may deem advisable, under the International Convention or any other relevant convention or treaty or otherwise;

- 3. Authorize and request the Assistant Commissioner for Patents of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as Assignee of the entire right, title and interest therein or otherwise as Assignee may direct;
- 4. Warrant that we have not knowingly conveyed to others any rights in said 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 we have good right to assign the same to Assignee without encumbrance;
- Bind our heirs, legal representatives and assigns, as well as ourselvs, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us or them, all acts reasonable serving to assure that said inventions and discoveries, said patent applications and said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by us, my 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; to communicate to Assignee all facts known to us relating to said inventions and discoveries or the history thereof; and to furnish Assignee with 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 any facts of my conceptions, disclosures, and reduction to practice of said inventions or discoveries.

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IN WITNESS WHEREOF:		
DATE I SIGNED INVENTOR'S DECLARATION:		
Ximin Zhang	Date:	09/19/01
Witnessed: Ramon CABASSON Printed Name		
Signature	·	09/19/01 Date
Witnessed: Machine Achieva		
Signature		<u>9/19/02</u> Date
Anthony Vetro	Date:	09/19/01
Witnessed: Komus CAGASSON Printed Name		
Signature Signature		
Witnessed: MichAr Actor		
allemat to kett		9/19/01
Signature		Date

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PATENT REEL: 012209 FRAME: 0695

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J. Q St	Date:	9/20/01
Yun-Qing Shi		
Witnessed: XIAVQI/VG WV Printed Name		
<u> </u>		09/20/01
Signature		Date
Witnessed: LEL CAO Printed Name Cer Cao		09/20/0/
Signature		Dave
	Date:	9-19-01
Huifang Sun		
Witnessed: <u>Roman CABASSON</u> Printed Name		
Signature Signature		<u>09/19/01</u> Date
Witnessed: Michael NAL (677) Printed Name	<u></u> -	
Michael suchett		9/19/01
Signature		Date

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RECORDED: 09/24/2001