U.S.DEPARTMENT OF COMMERCE 01-17-2002 Patent and Trademark Office FT WED 1-7-02 Atty. Docket No.: (DMSL)HA-87 (HAL-ID 202) 101949736 To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Name: Hitachi, Ltd. Carl SCARPA Address: Additional name(s) of conveying party(ies) attached? __ Yes XX No Street Address: 6, Kanda Surugadai 4-chome 3. Nature of conveyance: XX Assignment Merger __ Change of Name Security Agreement City: Chiyoda-ku State: Tokyo 101 Country: Japan Other Execution Date: 1/7/0> Additional name(s) & address(es) attached? Yes XX No 4. Application number(s) or patent number(s): 10041082 B. Patent No.(s) A. Patent Application No.(s) Additional numbers attached? __ Yes XX No 6. Total number of applications and patents involved: 1 5. Name and address of party to whom correspondence concerning document should be mailed: 7. Total fee (37 CFR 3.41).....<u>\$ 40.00</u> XX Enclosed (included with Filing Fees) Michael P. Straub, Esq. XX Any additional fees required are authorized to be STRAUB & POKOTYLO charged to the deposit account listed below. Customer No. 26479 Internal Address: 1 Bethany Road 8. Deposit account number: Street Address: Suite 83, Building 6 50-1049 (Attach duplicate copy of this page if paying by deposit account) ZIP: 07730 City: Hazlet State: NJ

DO NOT USE THIS SPACE

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 9. Statement and signature

Michael P. Straub

"Muchael 6 Strank

Name of Person Signing

Total number of pages comprising cover sheet plus assignment:

Do not detach this portion OMB No. 0651-0011(exp.4/94) Mail documents to be recorded with required cover sheet information to:

01/14/2002 HMOHAMM1 00000127 10041082

04 FC:581

40.00 OP

Commissioner of Patents and Trademarks

Box Assignments

Washington, D.C. 20231

Public burden reporting for this sample cover sheet is estimated to average about 30 minutes per document to be recorded, including time to reviewing the document and gathering the data needed, and completing and reviewing the sample cover sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Office of information Systems, PK2-1000C, Washington, D.C. 20231, and to the Office of Management and Budget, Paperwork Reduction Project (0651-0011), Washington, D.C. 20503.

Atty. Doc. No.: (DMSL) HA-87 (HAL-ID 202)

ASSIGNMENT (single inventor)

WHEREAS, I, Carl Scarpa, ASSIGNOR

a citizen of the USA, residing at 9 Mershon Lane, Plainsboro, NJ 08530;

am the inventor of the invention in:

A NOVEL OFDM CHANNEL ESTIMATION TECHNIQUE USING THE CONSTANT MODULUS ALGORITHM AND REDUCED CONSTELLATION SLICING

for which I have executed an application for a Patent of the United States herewith;

and WHEREAS, **Hitachi**, **Ltd.**, a **Japanese** corporation, having a place of business at **6**, **Kanda Surugadai 4-chome**, **Chiyoda-ku**, **Tokyo 101**, **Japan**, ASSIGNEE

is desirous of obtaining the entire right, title and interest in, to and under the invention and the application;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to me in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, I, the ASSIGNOR, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the ASSIGNEE, its successors, legal representatives and assigns, the entire right, title and interest in, to and under the invention, and the United States application and all divisions, renewals and continuations (including all continuation-in-part applications) thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models and designs which may hereafter be filed for the invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from the United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection,

PATENT REEL: 012460 FRAME: 0054

including, without limitation, patents, utility models, inventor's certificates and designs which may be granted for the invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof;

AND I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND I HEREBY covenant and agree that I have full right to convey the entire interest assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

AND I HEREBY further covenant and agree that I will communicate to the ASSIGNEE, its successors, legal representatives and assigns, any facts known to me regarding the invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for the invention in all countries.

The undersigned hereby grant(s) the law firm of Straub & Pokotylo the power to insert on this Assignment any further identification, including the application serial number, which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

PATENT. REEL: 012460 FRAME: 0055

	Tanual pand and seal 20 Cal Scarpa, Assignor	
WITNESSED BY:		
Stephen Leuns		
Name		
39-07 Ravens Crest		
Address		
Plansbas NJ 081	536	
WITNESSED BY:		
Sangay RVinekan		
Name		
11 Brookside U		
Address		
Crambury No 08512	_	