Form PTO-1595 (Rev. 03-09) OMB No. 0651-0027 (exp. 03/31/2009)	U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office
11-9-09	ET
To the Director of the U.S. Patent . 103580	298 J documents or the new address(es) below.
1. Name of conveying party(ies)	2. Name and address of receiving party(ies)
	Name: L-3 SERVICES, INC.
JAMES COVOSSO FRANCIS	Internal Address:
Additional name(s) of conveying party(ies) attached? Yes X No  3. Nature of conveyance/Execution Date(s):  Execution Date(s) NOVEMBER 5, 2009	Street Address: 3033 SCIENCE PARK ROAD
	City: SAN DIEGO
Joint Research Agreement	State: CALIFORNIA
Government Interest Assignment Executive Order 9424, Confirmatory License	Country: US Zip: 92121
Other	Additional name(s) & address(es) attached? Yes X No
4. Application or patent number(s):  A. Patent Application No.(s)	document is being filed together with a new application.  B. Patent No.(s)
12/613,387  Additional numbers at	tached? Yes No
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:
Name: EDWARD W. CALLAN	7. Total fee (37 CFR 1.21(h) & 3.41) \$_40.00
Internal Address:	X Authorized to be charged to deposit account
Street Address: 3830 VALLEY CENTRE DRIVE	Enclosed
NO. 705, PMB 452	None required (government interest not affecting title)
City: SAN DIEGO	8. Payment Information
State: CALIFORNIA Zip: 92130	1
Phone Number: (858) 259-5533	Deposit Account Number 03-0375
Fax Number: (858) 259-5537	
Email Address: <u>ECALLAN1@SAN.RR.COM</u>	Authorized User Name_EDWARD W. CALLAN
9. Signature: Elward W Callan Signature	11/89/2009 DRYRNE NOMERONE A15, 6:18375 12618387
EDWARD W. CALLAN  Name of Person Signing	Tela rid more of pages including cover sheet, attachments, and documents:

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

PATENT REEL: 023506 FRAME: 0488

## ASSIGNMENT

## TO WHOM IT MAY CONCERN

RECORDED: 11/09/2009

For the sum of One Dollar and other valuable consideration, to me in hand paid, receipt of which is hereby acknowledged, be it known that I, JAMES COVOSSO FRANCIS of 30 Parkview Manor Circle, Honeoye Falls, New York 14472, USA, do hereby sell, assign, transfer and set over unto L-3 SERVICES, INC. (a Delaware Corporation) having principal offices located at 3033 Science Park Road, San Diego, CA 92121, its successors, legal representatives, or assigns, the whole right, title and interest in and to a certain invention relating to PERMUTATION MAPPING FOR ARQ-PROCESSED TRANSMISSIONS and the application for United States Letters Patent therefor executed by us on even date with my execution of this Assignment for filing in the United States Patent and Trademark Office and all original and reissue patents granted thereof, and all divisions and continuations thereof, including the subject-matter of any and all claims which has been or may be obtained in every such patent, and all foreign rights to said invention, and covenant that I have full right to do so, and agree that I will communicate to said corporation or its representatives all facts known to me respecting said invention, whenever requested, and testify in any legal proceedings, sign all lawful papers, make all rightful oaths and generally do everything possible to aid said corporation, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

The Commissioner of Patents and Trademarks is requested to issue the Letters Patent, which may be granted for said invention or any part thereof unto the said corporation, its successors, legal representatives, or assigns in keeping with this Assignment.

Done at Victor, New York this5	day of November, 2009.
	JAMES COVOSSO FRANCIS
State of New York ) ) ss.	
County of Ontario )	
the basis of satisfactory evidence to be t	, 2009, before me, the undersigned, a Notary Public JAMES COVOSSO FRANCIS, who proved to me on he individual whose name is subscribed to the within he executed the same in his capacity, and that by his
	al or the person upon behalf of which the individual  DONNA M. CLAUDIUS  Notary Public, State of New York  No. 01 CL6075038
WITNESS my hand and official seal.	Qualified in Ontario County Commission Expires May 27, 20
	Signature of Notary)

PATENT REEL: 023506 FRAME: 0489