FORM PTO-1619A
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OMB 0651-0027

U.S. DEPARTMENT OF COMMERCE
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PATENT

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Name (line1): LOCKHEED MARTIN CORPORATION
Name (line 2): A Maryland Corporation
Execution Date (Month Day Year): 11 09 2000

Second Party
Name (line 1):
Name (line 2):
Execution Date (Month Day Year):

Receiving Party ☐ Mark if additional names of receiving party attached

Name (line1): TERACONNECT, Incorporated
Name (line 2): A Delaware Corporation
Address (line 1): 98 Spit Brook Road, Suite 300
Address (line 2):
Address (line 3): Nashua (City) NH (State/Country) 03062 (Zip Code)

☐ if a document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment)

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U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office
PATENT

Correspondent Name and Address

Area Code and Telephone Number: 603.886.6100

Name: Scott J. Asmus
Address (line 1): Maine & Asmus
Address (line 2): PO Box 3445
Address (line 3): Nashua NH 03061-3445
Address (line 4):

Pages Enter the total number of pages of the attached conveyance document including any attachments. # 6

Application Number(s) or Patent Number(s) ☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)			Patent Number(s)		
09/723,076					

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor. Month Day Year

Patent Cooperation Treaty (PCT)

Enter PCT application number only if a U.S. Application Number has not been assigned

PCT PCT PCT
PCT PCT PCT

Number of Properties

Enter the total number of properties involved # 1

Fee Amount Fee Amount for Properties Listed (37 CFR 3.41): $ 40

Method of Payment: Enclosed ☐ Deposit Account ☒
Deposit Account
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Deposit Account Number : # 500323
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Statement and Signature

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. Charges to deposit account are authorized, as indicated herein.

Scott J. Asmus	Scott J. Asmus	7/18/01
Name of Person Signing	Signature	Date

ASSIGNMENT OF PATENT APPLICATIONS

ASSIGNMENT OF PATENT APPLICATIONS made as of November 14, 2000 by Lockheed Martin Corporation, a Maryland corporation with a principal place of business at 6801 Rockledge Drive, Bethesda, Maryland 20817 ("Lockheed Martin").

RECITALS:

WHEREAS, Lockheed Martin is the owner of certain United States Patent Applications (the "Patents") as identified on Schedule A attached hereto;

WHEREAS, pursuant to the Transaction Agreement dated as of November 14, 2000 (the "Transaction Agreement") by and among Lockheed Martin, TeraConnect, Inc., a Delaware corporation ("TeraConnect") and the Investors named therein, Lockheed Martin has agreed to transfer certain of its assets, including the Patents, to TeraConnect; and

WHEREAS, TeraConnect desires to obtain all of Lockheed Martin's right, title and interest in, to and under said Patents.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Lockheed Martin,

1. Lockheed Martin hereby conveys, assigns, transfers and delivers to TeraConnect, its successors and assigns, all of its right, title and interest throughout the world in, to and under the Patents, and the underlying inventions described therein and any United States or foreign reissues, divisions, renewals, extensions, provisionals, continuations and continuations-in-part thereof, and substitutes therefor, and all Letters and Patents of the United States which have been or may be granted thereon and all foreign counterparts thereof, together with the right to sue and recover damages for future or past infringements of the Patents and to fully and entirely stand in the place of Lockheed Martin in all matters related thereto.

2. Lockheed Martin hereby conveys, assigns, transfers and delivers to TeraConnect, its successors and assigns, all of its right, title and interest throughout the world in and to all lab notes, prototypes, draft patent applications, any and all correspondence with the United States Patent and Trademark Office or any foreign patent office, nondisclosure agreements, invention agreements, noncompete agreements to the extent such material relates to the Patents.

3. Lockheed Martin hereby requests the Commissioner of Patents and Trademarks (the "Commissioner") to record this Assignment of Patent Applications to TeraConnect. Lockheed Martin hereby further requests the Commissioner to issue any and all Letters and Patents of the United States resulting from applications among the Patents or derived therefrom to TeraConnect as assignee of the entire interest. Lockheed Martin hereby covenants that the

Commissioner has full right to convey the entire interest herein assigned. and that Lockheed Martin has not executed, and will not execute, any agreements inconsistent herewith.

[The remainder of this page is intentionally left blank.]

IN WITNESS WHEREOF, the undersigned has caused this Assignment of Patent Applications to be executed as of the day and year first written above.

LOCKHEED MARTIN CORPORATION

By: _____

Name: Walter P. Havenstein
Title: President, Sanders, A Lockheed Martin Company

THE STATE OF NEW HAMPSHIRE

County of Hillsborough

This instrument was executed before me on this 9th day of November, 2000 by Lockheed Martin Corporation.

WITNESS my hand and official seal.

THOMAS XENOPHON TSIRIMOKOS
Justice of the Peace - New Hampshire
My Commission Expires October 4, 2005

_____
[SEAL] Notary Public

My Commission expires on: _____

Acknowledged and accepted:

TERACONNECT, INC.

By: _____

Name:
Title:

IN WITNESS WHEREOF, the undersigned has caused this Assignment of Patent Applications to be executed as of the day and year first written above.

LOCKHEED MARTIN CORPORATION

By:_____
Name:
Title:

THE STATE OF NEW HAMPSHIRE

County of _____

This instrument was executed before me on this ___ day of September, 2000 by Lockheed Martin Corporation.

WITNESS my hand and official seal.

_____
[SEAL] Notary Public

My Commission expires on: _____

Acknowledged and accepted:

TERACONNECT, INC.

By:_____
Name:
Title:

SCHEDULE A
TO
ASSIGNMENT OF PATENT APPLICATIONS

#	Docket	Title
1.	4434	Method For Implementing A Receiver Reserved Channel
2.	4436	Optoelectronic Connector System
3.	4437	Multiple Laser Emitters and Detectors Integrated with Electronic Driver Circuits and Fiber Bundles for use in Bi-directional, High-Speed Computer Network Interconnects
4.	4438	Process of Interdigitization of VCSEL Emitters and Detectors using Blanks as Placeholders
5.	4440	Method For Implementing A Distributed Cross Bar Switch
6.	4442	Bump-On-Bump Structures That Yield Predictable Topology Between Multiple Hybridized Devices
7.	4443	Multiple Etch Stop Layers To Maintain Quality Of Optical Surfaces During Processing
8.	4444	Cluster Integration Approach To Optical Transceiver Arrays And Fiber Bundles
9.	4445	Method And Apparatus For Implementing An Optical Interconnect Using Modulated Detectors
10.	4446	Method And Apparatus For Wafer Scale Integration Using Optoelectronic Transceiver
11.	4447	Optical Bench On A Chip
12.	4449	Optical Integrated Processor Chip
13.	4450	Active Optical Interconnects
14.	4454	Process for creating Optical Transceiver Arrays
15.	4455	High Rate Optical Correlator
16.	4459	High Rate Optical Correlator Implemented On A Substrate
17.	4460	Optical Disc Parallel Read/Write Apparatus
18.	4461	Security Mapping And Auto Reconfiguration
19.	4462	Dark-Field Barriers Between Emitters And Detectors To Prevent Crosstalk
20.	4463	Auto Gain Structure And Feedback Mechanism For Communication Devices
21.	4464	Star Topology Network With Fiber Interconnect On Chip
22.	4466	On-chip WDM broadcast
23.	4477	Parallel Optical Node Controller
24.	4478	Optically Extended Virtual Field Programmable Gate Array
25.	4479	Parallel Optics-based Configurable Pipeline Processor
26.	4508	Self-Configuring Parallel Photonic Network Routing
27.	4509	Spatial Arrangement of Differential Channels
28.	4510	Multipixel Channel Tessellation
29.	4511	Channel Arrangement and Bypassing for Fault Tolerance
30.	4512	Alternate Material Beam Lead Device For Ultra-High Density Interconnection
31.	4513	Technique For Localized Planarization Of Printed Wiring Board For Subsequent Fine Line Processing To Enable Direct Chip Attach Of High Speed, High I/O Count Ics A.K.A., Local Pwb Planarization
32.	4514	Alpha Epoxy Ridge Anternative
33.	4515	Method To Create A Built-In Standoff For Opto-Electronic Devices, A.K.A., Mbe Standoff

#	Docket	Title
34.	4516	Technique For Planarization Of Electrical Fanout Device Attached By Flip Chip
35.	4517	Epoxyless Flip Chip Attach Of Opto-Electronic Devices
36.	4518	Precision Optical Standoff For Spacing Of Optical Components On Opto-Electronic Devices, A.K.A., Epoxy Ridge
37.	4519	Substrateless Interconnect Devices For Ultra-High Density Interconnection
38.	4520	Technique For Flip Chip Attach Of Beam Lead Devices For Ultra-High Density Interconnection, A.K.A., Bump On A Beam
39.	4521	Discrete Pixelation Of 2-D Photo-Sensitive Focal Plane Arrays
40.	4522	Stress Relieving Flip Chip Attach Device For Ultra-High Density Interconnection
41.	4523	Integrated Precision Standoff For Spacing Of Optical Components On Opto-Electronic Devices, A.K.A., The "Greg Grid."
42.	4524	Optical Loop-Back Device for Active Self Test
43.	4525	Self Aligning Optical Interconnect Using Multiple Emitters/Detectors Pairs Per Fiber Channel
44.	4526	Method to Maintain Cleanliness and Perform Open Fiber Control of Fiber Optic Connector
45.	4527	Method to Connect Opto-electronic Components To Fiber Optic Bundles Using A Precision Insert
46.	4528	Direct Optical Interconnect Method for "Inter" and "Intra" IC Data Transfer
47.	4529	Optical Interconnect Method for Circuit Card Assemblies & Backplanes
48.	4530	Right Angle Optical Interconnect Technique
49.	4531	Electro-optical Translator
50.	4532	Configurable Network Interface Controller (NIC)
51.	4533	Parallel Photonic Network Eye Safety Device
52.	4535	Flexible Self configuring Networks Using Parallel Optical Interconnect
53.	4536	Opto-electronic device Using Multiple Emitters and/or Detectors per Fiber Channel
54.	4540	Self Aligning Optical Interconnect Using Multiple Emitters/Detectors Pairs per Fiber Channel