

375/222

09/15/03
01/08/01

Class	375
Subclass	222
ISSUE CLASSIFICATION	

PATENT NUMBER
6658052

U.S. UTILITY Patent Application

SCANNED *[Signature]* O.I.P.E. *[Signature]* PATENT DATE *DEC 02 2003*
G.A. *A.G.*

APPLICATION NO.	09/755173	CONT/PRIOR	D	CLASS	375	SUBCLASS	222	ART UNIT	3768	EXAMINER	KKIM
TITLE	Systems and methods for digital filtering of signals for transmission over the Internet										

ISSUING CLASSIFICATION			
ORIGINAL		CROSS REFERENCE(S)	
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)
375	222	375	224
INTERNATIONAL CLASSIFICATION		370	241
H04L	5/16		

<input type="checkbox"/> TERMINAL DISCLAIMER	DRAWINGS			CLAIMS ALLOWED	
	Sheets Drwg.	Figs. Drwg.	Print Fig.	Total Claims	Print Claim for O.G.
	2	2	2	192	1
<input type="checkbox"/> The term of this patent subsequent to _____ (date) has been disclaimed.	<i>Kevin Kim</i> 6/29/03 (Assistant Examiner) (Date)			NOTICE OF ALLOWANCE MAILED	
	<i>[Signature]</i> 6/29/03 STEPHEN CHIN SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2800 (Primary Examiner) (Date)			7/1/03 ISSUE FEE <i>6w</i>	
<input type="checkbox"/> The term of this patent shall not extend beyond the expiration date of U.S. Patent No. _____	<i>[Signature]</i> 7-9-03 (Legal Instruments Examiner) (Date)			Amount Due	Date Paid
				1600.00	7-17-03
<input type="checkbox"/> The terminal _____ months of this patent have been disclaimed.				ISSUE BATCH NUMBER	

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ISSUE FEE IN FILE

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PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

01/05/2001 VYANGI 00000094 09755173

01 FC:101	710.00 OP
02 FC:103	414.00 OP
03 FC:102	480.00 OP

PTO-1556
(5/87)

*U.S. GPO: 2000-468-987/39595



Bib Data Sheet

CONFIRMATION NO. 3915

SERIAL NUMBER 09/755,173	FILING DATE 01/08/2001 RULE	CLASS 375	GROUP ART UNIT 2634	ATTORNEY DOCKET NO. 081513-4						
APPLICANTS David M. Krinsky, Acton, MA; Robert Edmund Pizzano JR., Stoneham, MA; ** CONTINUING DATA ***** This appln claims benefit of 60/224,308 08/10/2000 and claims benefit of 60/174,865 01/07/2000 ** FOREIGN APPLICATIONS ***** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 05/02/2001										
Foreign Priority claimed 35 USC 119 (a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no Met after Allowance Examiner's Signature _____ Initials _____	STATE OR COUNTRY MA	SHEETS DRAWING 2	TOTAL CLAIMS 43	INDEPENDENT CLAIMS 9					
ADDRESS 22204 NIXON PEABODY, LLP 8180 GREENSBORO DRIVE SUITE 800 MCLEAN, VA 22102										
TITLE SYSTEMS AND METHODS FOR ESTABLISHING A DIAGNOSTIC TRANSMISSION MODE AND COMMUNICATING OVER THE SAME										
FILING FEE RECEIVED 6962	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<table border="1"> <tr><td>All Fees</td></tr> <tr><td>1.16 Fees (Filing)</td></tr> <tr><td>1.17 Fees (Processing Ext. of time)</td></tr> <tr><td>1.18 Fees (Issue)</td></tr> <tr><td>Other _____</td></tr> <tr><td>Credit</td></tr> </table>		All Fees	1.16 Fees (Filing)	1.17 Fees (Processing Ext. of time)	1.18 Fees (Issue)	Other _____	Credit
All Fees										
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**SYSTEMS AND METHODS FOR ESTABLISHING A DIAGNOSTIC
TRANSMISSION MODE AND COMMUNICATING OVER THE SAME**

This application claims the benefit of the provisional applications Ser. Nos. 60/334, 303, filed Aug. 16, 2000, and 60/04, 203, filed Jan. 7, 2000.

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Field of the Invention

This invention relates to test and diagnostic information. In particular, this invention relates to a robust system and method for communicating diagnostic information.

Background of the Invention

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The exchange of diagnostic and test information between transceivers in a telecommunications environment is an important part of a telecommunications, such as an ADSL, deployment. In cases where the transceiver connection is not performing as expected, for example, where the data rate is low, where there are many bit errors, or the like, it is necessary to collect diagnostic and test information from the remote transceiver. This is performed by dispatching a technician to the remote site, e.g., a truck roll, which is time consuming and expensive.

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In DSL technology, communications over a local subscriber loop between a central office and a subscriber premises is accomplished by modulating the data to be transmitted onto a multiplicity of discrete frequency carriers which are summed together and then transmitted over the subscriber loop. Individually, the carriers form discrete, non-overlapping communication subchannels of limited bandwidth. Collectively, the carriers form what is effectively a broadband communications channel. At the receiver end, the carriers are demodulated and the data recovered.

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DSL systems experience disturbances from other data services on adjacent phone lines, such as, for example, ADSL, HDSL, ISDN, T1, or the like. These disturbances may commence after the subject ADSL service is already initiated and, since DSL for internet access is envisioned as an always-on service, the effect of these disturbances must be ameliorated by the subject ADSL transceiver.

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SUMMARY OF THE INVENTION

The systems and methods of this invention are directed toward reliably exchanging diagnostic and test information between transceivers over a digital subscriber line in the presence of voice communications and/or other disturbances. For simplicity of reference, the

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