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**UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
SOUTHERN DIVISION**

MODERN TELECOM SYSTEMS
LLC, a California limited liability
company,

Plaintiff,

vs.

AOL INC., a Delaware corporation,

Defendant.

Case No. SACV14-00346 AG (ANx)

**SECOND AMENDED COMPLAINT
FOR PATENT INFRINGEMENT**

JURY TRIAL DEMANDED

This is an action for patent infringement in which Plaintiff Modern Telecom Systems LLC (“MTS”) makes the following allegations against AOL Inc. (“AOL”):

THE PARTIES

1. MTS is a California limited liability company.
2. On information and belief, AOL Inc. is a Delaware corporation with its principal place of business at 22000 AOL Way, Dulles, VA 20166. On

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1 information and belief, AOL Inc. can be served through its registered agent,
2 Corporation Service Company which will do business in California as CSC –
3 Lawyers Incorporating Service, 2710 Gateway Oaks Dr Ste 150N, Sacramento, CA
4 95833.

5 **JURISDICTION**

6 3. This action arises under the patent laws of the United States, 35
7 U.S.C. § 1, et seq., including § 271. This Court has subject matter jurisdiction
8 pursuant to 28 U.S.C. §§ 1331 and 1338(a).

9 4. This Court has personal jurisdiction over AOL because, on
10 information and belief, AOL has done business in this District, has committed and
11 continues to commit acts of patent infringement in this District, and/or has harmed
12 and continues to harm MTS in this District, by, among other things, using, selling,
13 offering for sale, and/or importing infringing products and services in this District.
14 In addition, AOL is registered to do business in California.

15 5. Venue is proper in this District under 28 U.S.C. §§ 1391(b)-(d) and
16 1400(b) because, among other reasons, AOL is subject to personal jurisdiction in
17 this District, and has committed and continues to commit acts of patent
18 infringement in this District. On information and belief, for example, AOL has
19 used, sold, offered for sale, and/or imported infringing products or services in this
20 District.

21 **FACTUAL BACKGROUND**

22 6. The technology claimed in the patents asserted in this action was
23 invented during the research and development activities of the Rockwell,
24 Conexant, and Mindspeed family of companies. In 1999, Rockwell International
25 spun off Rockwell Semiconductor group as Conexant Systems Inc. Conexant
26 inherited Rockwell’s mixed signal semiconductor expertise and intellectual
27 property portfolio, and was focused on developing semiconductor products for a
28 broad range of communications applications. These applications included wireline

1 and wireless voice and data communication networks. Conexant's Internet
2 Infrastructure group was incorporated as Mindspeed Technologies (as a wholly-
3 owned subsidiary) in 2001 and spun-off as an independent entity in 2003.
4 Mindspeed's focus is on semiconductor and software solutions for Internet access
5 devices, switching fabric, and network processors.

6 7. MTS is the owner of the patents asserted in this action and has the
7 exclusive right to sue for past, present, and future infringement of these patents.
8 MTS assumed all the rights and obligations related to these patents from Glocom
9 Patents Licensing, LLC, which in turn assumed all the rights and obligations
10 related to these patents from V-Dot Technologies, LLC (formerly V-Dot
11 Technologies, Limited) ("VDOT"), which in turn assumed all the rights and
12 obligations related to these patents from Telecom Technology Licensing, LLC
13 ("TTL"), which in turn assumed all the rights and obligations related to these
14 patents from Mindspeed Technologies, Inc.

15 8. MTS does not make, offer for sale, or sell within the United States
16 any article covered by the patents asserted in this action, nor does MTS import any
17 article covered by the patents asserted in this action into the United States.
18 Accordingly, MTS has complied with 35 USC § 287.

19 COUNT I

20 INFRINGEMENT OF U.S. PATENT NO. 6,504,886

21 9. United States Patent No. 6,504,886 ("the '886 patent"), entitled
22 "Communication of an impairment learning sequence according to an impairment
23 learning sequence descriptor," issued on January 7, 2003 from United States Patent
24 Application No. 09/956,207 filed on September 19, 2001. Application No.
25 09/956,207 is a Continuation of U.S. Patent Application Ser. No. 08/969,971,
26 entitled Method and Apparatus for Generating a Line Impairment Learning Signal
27 for a Data Communication System, filed Nov. 13, 1997 now U.S. Pat. No.
28 6,332,009, which is a Continuation-In-Part of U.S. Patent Application Ser. No.

1 08/922,851, entitled Method and Apparatus for Generating a Programmable
2 Synchronization Signal for a Data Communication System, filed Sep. 3, 1997, now
3 U.S. Pat. No. 6,212,247. A true and correct copy of the '886 patent is attached as
4 Exhibit A.

5 10. AOL has been and now is directly infringing one or more claims of
6 the '886 Patent, in this judicial District and elsewhere in the United States, by,
7 among other things, practicing a method of communicating a learning sequence,
8 said method comprising: receiving a first parameter specifying a number of
9 segments in said learning sequence; receiving a second parameter specifying a sign
10 pattern of each of said segments; receiving a third parameter specifying a training
11 pattern of each of said segments, wherein said training pattern is indicative of an
12 ordering of a reference symbol and a training symbol in each of said segments;
13 constructing said learning sequence based on said parameters; and transmitting
14 said learning sequence. Upon information and belief, AOL practices the claimed
15 method during testing of and commercial operation of its dial-up internet service
16 when AOL customers connect using the International Telecommunications Union
17 ("ITU") V.90 or V.92 (56Kbps) connection protocol. *See, e.g.,*
18 <http://access.web.aol.com/accessnum/?ac=949> (listing local access numbers
19 supporting connections using modems operating according to the V.90 or both the
20 V.90 and V.92 standards).

21 11. AOL has also induced infringement of the '886 patent by both its
22 vendors and its customers, as further explained below.

23 12. AOL has had knowledge of the '886 patent no later than March 21,
24 2014 or shortly thereafter, when AOL was provided with a copy of the original
25 Complaint in this action (D.I. 1), and AOL has induced its vendors, providers of
26 dial-up modem banks that support connections using the ITU V.90 or V.92
27 (56Kbps) protocol, to practice a method of communicating a learning sequence,
28 said method comprising: receiving a first parameter specifying a number of

1 segments in said learning sequence; receiving a second parameter specifying a sign
2 pattern of each of said segments; receiving a third parameter specifying a training
3 pattern of each of said segments, wherein said training pattern is indicative of an
4 ordering of a reference symbol and a training symbol in each of said segments;
5 constructing said learning sequence based on said parameters; and transmitting
6 said learning sequence.

7 13. For example, on information and belief, AOL makes available lists of
8 AOL local access numbers on its website. Each of these numbers is designated as
9 supporting connections using modems operating according to the V.90 or both the
10 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
11 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>.
12 Upon information and belief, in contracting with its vendors to provide dial-up
13 modem banks that support connections using the V.90 or V.92 protocol so that
14 AOL can advertise to customers and potential customers that its access numbers
15 support V.90 or V.92 connections, AOL specifically intended to encourage its
16 vendors to connect to its customers' modems using the V.90 or V.92 protocol,
17 knowing that the use of such protocols constituted infringement of the '886 patent.
18 Thus, AOL has induced its vendors to infringe the '886 Patent literally and/or
19 under the doctrine of equivalents. Upon information and belief, AOL acted with
20 the specific intent to induce its vendors to connect to its customers' modems using
21 the methods claimed by the '886 Patent by continuing the above-mentioned
22 activities with knowledge of the '886 Patent.

23 14. AOL has also induced its customers, users of AOL's dial-up internet
24 service who connect using modems operating according to the ITU V.90 or V.92
25 (56Kbps) specifications, to practice a method of communicating a learning
26 sequence descriptor for use in constructing a learning sequence, said method
27 comprising: transmitting a first parameter specifying a number of segments in said
28 learning sequence; transmitting a second parameter specifying a sign pattern of

1 each of said segments; and transmitting a third parameter specifying a training
 2 pattern of each of said segments, wherein said training pattern is indicative of an
 3 ordering of a reference symbol and a training symbol in each of said segments.

4 15. For example, on information and belief, AOL makes available lists of
 5 AOL local access numbers on its website. Each of these numbers is designated as
 6 supporting connections using modems operating according to the V.90 or both the
 7 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
 8 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>:

America Online® Access Numbers

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Access Numbers

Last updated: Mon Feb 04 13:23:15 EST 2013

Country code: US

Country code prefix: 1

Area code: 949

City	State	Number	Network	Modem Type
Capistrano Valley	CA	949-429-4265	AOLnet	V90/K56+V92
Capistrano Valley	CA	949-606-0694	AOLnet	V90/K56+V92
Irvine	CA	949-930-1914	AOLnet	V90/K56
Irvine	CA	949-266-1308	AOLnet	V90/K56+V92
Irvine	CA	949-266-1338	AOLnet	V90/K56+V92
Laguna Beach	CA	949-281-1307	AOLnet	V90/K56+V92
Mission Viejo	CA	949-614-0570	AOLnet	V90/K56
Saddleback Valley	CA	949-203-7608	AOLnet	V90/K56
Saddleback Valley	CA	949-525-4265	AOLnet	V90/K56+V92

NOTE: AOL members may incur phone charges for the use of AOL access numbers depending on their location and local calling plan. The access number locations may not correspond to your local phone company's billing designations and therefore need to be carefully selected. Please check the AOL access number you select with your local phone company to make sure that the actual number you have selected is a local call for your calling plan.

Communications surcharges may apply when accessing the AOL service using certain access numbers. AOL members can visit [KW: Billing](#) for more information.

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1 In making these lists of AOL local access numbers available on its website, AOL
2 specifically intended to encourage its customers to dial into these numbers using
3 V.90 or V.92 modems to connect to the AOL dial-up internet service using the
4 56K V.90 or V.92 protocols in an infringing manner, knowing that the use of such
5 protocols constituted infringement of the '886 patent. Thus, AOL has induced its
6 customers to infringe the '886 Patent literally and/or under the doctrine of
7 equivalents. Upon information and belief, AOL acted with the specific intent to
8 induce its customers to connect to its dial-up internet service using the methods
9 claimed by the '886 Patent by continuing the above-mentioned activities with
10 knowledge of the '886 Patent.

11 **COUNT II**

12 **INFRINGEMENT OF U.S. PATENT NO. 6,332,009**

13 16. United States Patent No. 6,332,009 (“the ‘009 patent”), entitled
14 “Method and apparatus for generating a line impairment learning signal for a data
15 communication system,” issued on December 18, 2001 from United States Patent
16 Application No. 08/969,971 filed on November 13, 1997. Application No.
17 08/969,971 is a Continuation-In-Part of U.S. Patent Application Ser. No.
18 08/922,851, entitled Method and Apparatus for Generating a Programmable
19 Synchronization Signal for a Data Communication System, filed Sep. 3, 1997. A
20 true and correct copy of the ‘009 patent is attached as Exhibit B.

21 17. AOL has been and now is directly infringing one or more claims of
22 the ‘009 Patent, in this judicial District and elsewhere in the United States, by,
23 among other things, practicing an impairment learning method for use over a
24 communication channel, said method comprising: receiving a learning sequence
25 descriptor over said communication channel, said learning sequence descriptor
26 having a training symbol order; and transmitting a learning signal over said
27 communication channel capable of use by a device for learning an impairment of
28 said communication channel; wherein said learning signal includes a number of

1 segments, each of said segments being associated with a sequence of symbols
2 configured in accordance with said learning sequence descriptor, and wherein said
3 training symbol order is indicative of an assignment of a plurality of training
4 symbols to said number of segments. Upon information and belief, AOL practices
5 the claimed method during testing of and commercial operation of its dial-up
6 internet service when AOL customers connect using the ITU V.90 or V.92
7 (56Kbps) connection protocol. *See, e.g.,*
8 <http://access.web.aol.com/accessnum/?ac=949> (listing local access numbers
9 supporting connections using modems operating according to the V.90 or both the
10 V.90 and V.92 standards).

11 18. AOL has also induced infringement of the '009 patent by both its
12 vendors and its customers, as further explained below.

13 19. AOL has had knowledge of the '009 patent no later than March 21,
14 2014 or shortly thereafter, when AOL was provided with a copy of the original
15 Complaint in this action (D.I. 1), and AOL has induced its vendors, providers of
16 dial-up modem banks that support connections using the ITU V.90 or V.92
17 (56Kbps) protocol, to practice an impairment learning method for use over a
18 communication channel, said method comprising: receiving a learning sequence
19 descriptor over said communication channel, said learning sequence descriptor
20 having a training symbol order; and transmitting a learning signal over said
21 communication channel capable of use by a device for learning an impairment of
22 said communication channel; wherein said learning signal includes a number of
23 segments, each of said segments being associated with a sequence of symbols
24 configured in accordance with said learning sequence descriptor, and wherein said
25 training symbol order is indicative of an assignment of a plurality of training
26 symbols to said number of segments.

27 20. For example, on information and belief, AOL makes available lists of
28 AOL local access numbers on its website. Each of these numbers is designated as

1 supporting connections using modems operating according to the V.90 or both the
2 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
3 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>.
4 Upon information and belief, in contracting with its vendors to provide dial-up
5 modem banks that support connections using the V.90 or V.92 protocol so that
6 AOL can advertise to customers and potential customers that its access numbers
7 support V.90 or V.92 connections, AOL specifically intended to encourage its
8 vendors to connect to its customers' modems using the V.90 or V.92 protocol,
9 knowing that the use of such protocols constituted infringement of the '009 patent.
10 Thus, AOL has induced its vendors to infringe the '009 Patent literally and/or
11 under the doctrine of equivalents. Upon information and belief, AOL acted with
12 the specific intent to induce its vendors to connect to its customers' modems using
13 the methods claimed by the '009 Patent by continuing the above-mentioned
14 activities with knowledge of the '009 Patent.

15 21. AOL has also induced its customers, users of AOL's dial-up internet
16 service who connect using modems operating according to the ITU V.90 or V.92
17 (56Kbps) specifications, to practice an impairment learning method for use over a
18 communication channel, said method comprising: transmitting a learning sequence
19 descriptor over said communication channel, said learning sequence descriptor
20 having a training symbol order; receiving a learning signal over said
21 communication channel, said learning signal having a member of segments, each
22 of said segments being associated with a sequence of symbols configured in
23 accordance with said learning sequence descriptor, wherein said training symbol
24 order is indicative of an assignment of a plurality of training symbols to said
25 number of segments; and learning an impairment of said communication channel
26 according to said learning signal.

27 22. For example, on information and belief, AOL makes available lists of
28 AOL local access numbers on its website. Each of these numbers is designated as

1 supporting connections using modems operating according to the V.90 or both the
2 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
3 one of AOL's vendors. *See, e.g.*, <http://access.web.aol.com/accessnum/?ac=949>.
4 In making these lists of AOL local access numbers available on its website, AOL
5 specifically intended to encourage its customers to dial into these numbers using
6 V.90 or V.92 modems to connect to the AOL dial-up internet service using the
7 56K V.90 or V.92 protocols in an infringing manner, knowing that the use of such
8 protocols constituted infringement of the '009 patent. Thus, AOL has induced its
9 customers to infringe the '009 Patent literally and/or under the doctrine of
10 equivalents. Upon information and belief, AOL acted with the specific intent to
11 induce its customers to connect to its dial-up internet service using the methods
12 claimed by the '009 Patent by continuing the above-mentioned activities with
13 knowledge of the '009 Patent.

14 COUNT III

15 INFRINGEMENT OF U.S. PATENT NO. 6,570,932

16 23. United States Patent No. 6,570,932 ("the '932 patent"), entitled
17 "Calculation and verification of transmit power levels in a signal point
18 transmission system," issued on May 27, 2003 from United States Patent
19 Application No. 10/026,096 filed on December 21, 2001. Application No.
20 10/026,096 is a continuation of U.S. Patent Application Ser. No. 09/740,567, filed
21 Dec. 18, 2000, now U.S. Pat. No. 6,359,932, which is a continuation of U.S. Patent
22 Application Ser. No. 09/075,719, filed May 11, 1998, now U.S. Pat. No.
23 6,163,570. A true and correct copy of the '932 patent is attached as Exhibit C.

24 24. AOL has been and now is directly infringing one or more claims of
25 the '932 patent, in this judicial District and elsewhere in the United States, by,
26 among other things, practicing a method of communicating over a communication
27 channel using a constellation including a plurality of signal points, said method
28 comprising: determining a probability of transmission of each signal point of said

1 constellation; calculating an average power of said signal points using a power
2 formula based on said probability of transmission of each said signal point; and
3 comparing said average power with a transmit power limit. Upon information and
4 belief, AOL practices (or practiced) the claimed method while testing its dial-up
5 internet service using the ITU V.90 or V.92 (56Kbps) connection protocol.

6 25. AOL has had knowledge of the '932 patent no later than March 21,
7 2014 or shortly thereafter, when AOL was provided with a copy of the original
8 Complaint in this action (D.I. 1), and AOL has induced its customers, users of
9 AOL's dial-up internet service who connect using modems operating according to
10 the ITU V.90 or V.92 (56Kbps) specifications, to practice a method of
11 communicating over a communication channel using a constellation including a
12 plurality of signal points, said method comprising: determining a probability of
13 transmission of each signal point of said constellation; calculating an average
14 power of said signal points using a power formula based on said probability of
15 transmission of each said signal point; and comparing said average power with a
16 transmit power limit.

17 26. For example, on information and belief, AOL makes available lists of
18 AOL local access numbers on its website. Each of these numbers is designated as
19 supporting connections using modems operating according to the V.90 or both the
20 V.90 and V.92 standards. *See, e.g.*, <http://access.web.aol.com/accessnum/?ac=949>.
21 In making these lists of AOL local access numbers available on its website, AOL
22 specifically intended to encourage its customers to use V.90 or V.92 modems to
23 connect to AOL's dial-up internet service using the V.90 or V.92 connection
24 protocol, knowing that such use constituted infringement of the '932 patent. Thus,
25 AOL has induced its customers to infringe the '932 Patent literally and/or under
26 the doctrine of equivalents. Upon information and belief, AOL acted with the
27 specific intent to induce its customers to connect to its dial-up internet service
28

1 using the method claimed by the ‘932 Patent by continuing the above-mentioned
2 activities with knowledge of the ‘932 Patent.

3 **COUNT IV**

4 **INFRINGEMENT OF U.S. PATENT NO. 7,062,022**

5 27. United States Patent No. 7,062,022 (“the ‘022 patent”), entitled
6 “Method and apparatus for fast V.90 modem startup,” issued on June 13, 2006
7 from a United States Patent Application No. 10/753,570 filed on January 8, 2004.
8 Application No. 10/753,570 is a Continuation of U.S. Patent Application Ser. No.
9 09/361,842, filed Jul. 27, 1999 now U.S. Pat. No. 6,819,749, which claims the
10 benefit of U.S. Provisional Application Ser. No. 60/128,874, filed Apr. 12, 1999.
11 A true and correct copy of the ‘022 patent is attached as Exhibit D.

12 28. AOL has been and now is directly infringing one or more claims of
13 the ‘022 Patent, in this judicial District and elsewhere in the United States, by,
14 among other things, practicing a method for reducing startup latency associated
15 with a data transmission system having a first device configured to communicate
16 with a second device over a communication channel, said method comprising the
17 steps of: establishing a call between said first device and said second device;
18 determining whether a characteristic of said communication channel is similar to a
19 corresponding characteristic associated with a previously established
20 communication channel; and initializing at least one of said first and second
21 devices using a number of stored parameters associated with said previously
22 established communication channel, said initializing step being performed if said
23 determining step determines that said characteristic is similar to said corresponding
24 characteristic. Upon information and belief, AOL practices (or practiced) the
25 claimed method while testing its dial-up internet service using the ITU V.92
26 (56Kbps) connection protocol.

27 29. AOL has had knowledge of the ‘022 patent no later than March 21,
28 2014 or shortly thereafter, when AOL was provided with a copy of the original

1 Complaint in this action (D.I. 1), and AOL has induced its customers, users of
2 AOL's dial-up internet service who connect using modems operating according to
3 the ITU V.92 (56Kbps) specification, to practice a method for reducing startup
4 latency associated with a data transmission system having a first device configured
5 to communicate with a second device over a communication channel, said method
6 comprising the steps of: establishing a call between said first device and said
7 second device; determining whether a characteristic of said communication
8 channel is similar to a corresponding characteristic associated with a previously
9 established communication channel; and initializing at least one of said first and
10 second devices using a number of stored parameters associated with said
11 previously established communication channel, said initializing step being
12 performed if said determining step determines that said characteristic is similar to
13 said corresponding characteristic.

14 30. For example, on information and belief, AOL makes available lists of
15 AOL local access numbers on its website. Some of these numbers are designated
16 as supporting connections using modems operating according to the V.92 standard.
17 *See, e.g.*, <http://access.web.aol.com/accessnum/?ac=949>. In making these lists of
18 AOL local access numbers available on its website, AOL specifically intended to
19 encourage its customers to dial into these numbers using V.92 modems to connect
20 to the AOL dial-up internet service using the 56K V.92 protocol in an infringing
21 manner, knowing that the use of such protocol constituted infringement of the '022
22 patent.

23 31. Thus, AOL has induced its customers to infringe the '022 Patent
24 literally and/or under the doctrine of equivalents. Upon information and belief,
25 AOL acted with the specific intent to induce its customers to connect to its dial-up
26 internet service using the method claimed by the '022 Patent by continuing the
27 above-mentioned activities with knowledge of the '022 Patent.

28 **COUNT V**

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INFRINGEMENT OF U.S. PATENT NO. RE42,661

1
2 32. United States Patent No. RE42,661 (“the ‘661 Patent”), entitled
3 “Method and apparatus for fast V.90 modem startup,” issued on Aug. 30, 2011 as a
4 reissue application of United States Patent Application No. 11/205,896, filed on
5 Aug. 16, 2005, now U.S. Pat. No. 7,277,531, which is a continuation of U.S. Patent
6 Application No. 10/753,570, filed on Jan. 8, 2004, now U.S. Pat. No. 7,062,022,
7 which is a continuation of U.S. Patent Application No. 09/361,842, filed on Jul. 27,
8 1999, now U.S. Pat. No. 6,819,749, which claims the benefit of U.S. Provisional
9 Application No. 60/128,874, filed on Apr. 12, 1999. A true and correct copy of the
10 ‘661 patent is attached as Exhibit E.

11 33. AOL has been and now is directly infringing one or more claims of
12 the ‘661 Patent, in this judicial District and elsewhere in the United States, by,
13 among other things, practicing a training method for use by a first modem to
14 reduce a training time for training said first modem with a second modem, said
15 training method comprising the steps of: receiving a call from said second modem
16 to establish a communication channel; initiating, in response to said call, a
17 capabilities exchange phase of the V.90 modem protocol, wherein said capabilities
18 exchange phase of the V.90 modem protocol is indicative of a fast connect
19 capability; receiving a fast connect capability identifier from said second modem in
20 response to said fast connect capability indication; and skipping at least a portion
21 of the capabilities exchange phase of the V.90 modem protocol to reduce said
22 capabilities exchange phase time, said skipping step being performed in response
23 to receiving said fast connect capability identifier. Upon information and belief,
24 AOL practices (or practiced) the claimed method during testing of and commercial
25 operation of its dial-up internet service when AOL customers connect using the
26 ITU V.92 (56Kbps) connection protocol.

27 34. AOL has also induced infringement of the ‘661 patent by both its
28 vendors and its customers, as further explained below.

1 35. AOL has had knowledge of the '661 patent since at least the filing of
2 this Second Amended Complaint for Patent Infringement or shortly thereafter, and
3 AOL has induced its vendors, providers of dial-up modem banks that support
4 connections using the ITU V.90 or V.92 (56Kbps) protocol, to practice a training
5 method for use by a first modem to reduce a training time for training said first
6 modem with a second modem, said training method comprising the steps of:
7 receiving a call from said second modem to establish a communication channel;
8 initiating, in response to said call, a capabilities exchange phase of the V.90
9 modem protocol, wherein said capabilities exchange phase of the V.90 modem
10 protocol is indicative of a fast connect capability; receiving a fast connect
11 capability identifier from said second modem in response to said fast connect
12 capability indication; and skipping at least a portion of the capabilities exchange
13 phase of the V.90 modem protocol to reduce said capabilities exchange phase time,
14 said skipping step being performed in response to receiving said fast connect
15 capability identifier.

16 36. For example, on information and belief, AOL makes available lists of
17 AOL local access numbers on its website. Each of these numbers is designated as
18 supporting connections using modems operating according to the V.90 or both the
19 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
20 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>.
21 Upon information and belief, in contracting with its vendors to provide dial-up
22 modem banks that support connections using the V.92 protocol so that AOL can
23 advertise to customers and potential customers that its access numbers support
24 V.92 connections, AOL specifically intended to encourage its vendors to connect
25 to its customers' modems using the V.90 or V.92 protocol, knowing that the use of
26 such protocols constituted infringement of the '661 patent. Thus, AOL has
27 induced its vendors to infringe the '661 Patent literally and/or under the doctrine of
28 equivalents. Upon information and belief, AOL acted with the specific intent to

1 induce its vendors to connect to its customers' modems using the methods claimed
2 by the '661 Patent by continuing the above-mentioned activities with knowledge of
3 the '661 Patent.

4 37. AOL has also induced its customers, users of AOL dial-up internet
5 service who connect using modems operating according to the ITU V.92 (56Kbps)
6 specification, to practice a training method for use by a first modem to reduce a
7 training time for training said first modem with a second modem, said training
8 method comprising the steps of: initiating a call from said first modem to establish
9 a communication channel; receiving from said second modem a portion of a
10 capabilities exchange phase of the V.90 modem protocol, wherein said capabilities
11 exchange phase of the V.90 modem protocol is indicative of a fast connect
12 capability; sending a fast connect capability identifier to said second modem in
13 response to said fast connect capability indication; receiving from said second
14 modem a fast connect capability acknowledgement; and skipping at least a portion
15 of the capabilities exchange phase of the V.90 modem protocol to reduce said
16 capabilities exchange phase time, said skipping step being performed in response
17 to receiving said fast connect capability acknowledgement.

18 38. For example, on information and belief, AOL makes available lists of
19 AOL local access numbers on its website. Each of these numbers is designated as
20 supporting connections using modems operating according to the V.90 or both the
21 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
22 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>.
23 In making these lists of AOL local access numbers available on its website, AOL
24 specifically intended to encourage its customers to dial into these numbers using
25 V.92 modems to connect to the AOL dial-up internet service using the V.92
26 protocol in an infringing manner, knowing that the use of such protocol by its
27 customers constituted infringement of the '661 patent. Thus, AOL has induced its
28 customers to infringe the '661 Patent literally and/or under the doctrine of

1 equivalents. Upon information and belief, AOL acted with the specific intent to
2 induce its customers to connect to its dial-up internet service using the methods
3 claimed by the '661 Patent by continuing the above-mentioned activities with
4 knowledge of the '661 Patent.

5 **COUNT VI**

6 **INFRINGEMENT OF U.S. PATENT NO. 5,970,100**

7 39. United States Patent No. 5,970,100 (“the ‘100 patent”), entitled
8 “System for controlling and shaping the spectrum and redundancy of signal-point
9 limited transmission,” issued on October 19, 1999 from United States Patent
10 Application No. 09/047,802 filed on March 25, 1998. Application No. 09/047,802
11 is a continuation-in-part of U.S. Pat. Application Serial No. 08/756,383 filed on
12 November 27, 1996. Application No. 08/756,383 is a continuation-in-part of U.S.
13 Pat. Application Ser. No. 08/746,731, filed November 15, 1996. A true and correct
14 copy of the ‘100 patent is attached as Exhibit F.

15 40. AOL has been and now is directly infringing one or more claims of
16 the ‘100 patent, in this judicial District and elsewhere in the United States, by
17 practicing a method of spectrally shaping transmitted samples with a set of
18 predetermined frequency characteristics and a predetermined set of allowable
19 transmitted signal levels, wherein a transmitted sample is either of an unmodified
20 source sample or a dependent sample, the transmitted samples being transmitted in
21 data frames, said method comprising the steps of: (a) calculating, for each of the
22 transmitted samples, a Running Filter Sum of unwanted components up to the
23 current sample, wherein said Running Filter Sum is based on a biquad filter; (b)
24 computing an objective function in accordance with the Running Filter Sum
25 obtained in Step (a); (c) selecting, for each data frame of transmitted samples, at
26 least one redundant sample to be added or modified within the data frame such that
27 the objective function of Step (b) is optimized. Upon information and belief, AOL
28 practices the claimed method during testing of and commercial operation of its

1 dial-up internet service when AOL customers connect using the ITU V.90 or V.92
2 (56Kbps) connection protocol. *See, e.g.,*
3 <http://access.web.aol.com/accessnum/?ac=949> (listing local access numbers
4 supporting connections using modems operating according to the V.90 or both the
5 V.90 and V.92 standards).

6 41. AOL has had knowledge of the '100 patent no later than March 21,
7 2014 or shortly thereafter, when AOL was provided with a copy of the original
8 Complaint in this action (D.I. 1), and AOL has induced its vendors, providers of
9 dial-up modem banks that support connections using the ITU V.90 or V.92
10 (56Kbps) protocol, to practice a method of spectrally shaping transmitted samples
11 with a set of predetermined frequency characteristics and a predetermined set of
12 allowable transmitted signal levels, wherein a transmitted sample is either of an
13 unmodified source sample or a dependent sample, the transmitted samples being
14 transmitted in data frames, said method comprising the steps of: (a) calculating, for
15 each of the transmitted samples, a Running Filter Sum of unwanted components up
16 to the current sample, wherein said Running Filter Sum is based on a biquad filter;
17 (b) computing an objective function in accordance with the Running Filter Sum
18 obtained in Step (a); (c) selecting, for each data frame of transmitted samples, at
19 least one redundant sample to be added or modified within the data frame such that
20 the objective function of Step (b) is optimized.

21 42. For example, on information and belief, AOL makes available lists of
22 AOL local access numbers on its website. Each of these numbers is designated as
23 supporting connections using modems operating according to the V.90 or both the
24 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
25 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>.
26 Upon information and belief, in contracting with its vendors to provide dial-up
27 modem banks that support connections using the V.90 or V.92 protocol so that
28 AOL can advertise to customers and potential customers that its access numbers

1 support V.90 or V.92 connections, AOL specifically intended to encourage its
2 vendors to connect to its customers' modems using the V.90 or V.92 protocol,
3 knowing that the use of such protocols constituted infringement of the '100 patent.
4 Thus, AOL has induced its vendors to infringe the '100 Patent literally and/or
5 under the doctrine of equivalents. Upon information and belief, AOL acted with
6 the specific intent to induce its vendors to connect to its customers' modems using
7 the methods claimed by the '100 Patent by continuing the above-mentioned
8 activities with knowledge of the '100 Patent.

9 **COUNT VII**

10 **INFRINGEMENT OF U.S. PATENT NO. 6,163,570**

11 43. United States Patent No. 6,163,570 (the '570 patent"), entitled
12 "Methods and apparatus for verifying transmit power levels in a signal point
13 limited transmission system," issued on December 19, 2000 from United States
14 Patent Application No. 09/075,719 filed on May 11, 1998. A true and correct copy
15 of the '570 patent is attached as Exhibit G.

16 44. AOL has been and now is directly infringing one or more claims of
17 the '570 patent, in this judicial District and elsewhere in the United States, by
18 practicing a method for verifying transmit power levels in a signal point limited
19 transmission system, wherein said system having: a first device configured to
20 communicate with a second device over a communication channel; said method
21 comprising the steps of: receiving at said first device, a plurality of signal points
22 from said second device, said plurality of signal points having a first computed
23 transmit power, as determined by said second device, less than or equal to a
24 transmit power limit, said first computed transmit power being calculated in
25 accordance with a transmit power calculation formula; calculating, at said first
26 device, in accordance with said transmit power calculation formula, a second
27 computed transmit power of said plurality of signal points; and comparing, at said
28 first device, said second computed transmit power with said transmit power limit,

1 to determine whether said second computed transmit power is less than or equal to
2 said transmit power limit. Upon information and belief, AOL practices the
3 claimed method during testing of and commercial operation of its dial-up internet
4 service when AOL customers connect using the ITU V.90 or V.92 (56Kbps)
5 connection protocol. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>
6 (listing local access numbers supporting connections using modems operating
7 according to the V.90 or both the V.90 and V.92 standards).

8 45. AOL has had knowledge of the '570 patent no later than June 6, 2014,
9 when AOL was served with a copy of the First Amended Complaint in this action
10 (D.I. 15), and AOL has induced its vendors, providers of dial-up modem banks that
11 support connections using the ITU V.90 or V.92 (56Kbps) protocol, to practice a
12 method for verifying transmit power levels in a signal point limited transmission
13 system, wherein said system having: a first device configured to communicate with
14 a second device over a communication channel; said method comprising the steps
15 of: receiving at said first device, a plurality of signal points from said second
16 device, said plurality of signal points having a first computed transmit power, as
17 determined by said second device, less than or equal to a transmit power limit, said
18 first computed transmit power being calculated in accordance with a transmit
19 power calculation formula; calculating, at said first device, in accordance with said
20 transmit power calculation formula, a second computed transmit power of said
21 plurality of signal points; and comparing, at said first device, said second
22 computed transmit power with said transmit power limit, to determine whether said
23 second computed transmit power is less than or equal to said transmit power limit.

24 46. For example, on information and belief, AOL makes available lists of
25 AOL local access numbers on its website. Each of these numbers is designated as
26 supporting connections using modems operating according to the V.90 or both the
27 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
28 one of AOL's vendors. *See, e.g.,* <http://access.web.aol.com/accessnum/?ac=949>.

1 Upon information and belief, in contracting with its vendors to provide dial-up
2 modem banks that support connections using the V.90 or V.92 protocol so that
3 AOL can advertise to customers and potential customers that its access numbers
4 support V.90 or V.92 connections, AOL specifically intended to encourage its
5 vendors to connect to its customers' modems using the V.90 or V.92 protocol,
6 knowing that the use of such protocols constituted infringement of the '570 patent.
7 Thus, AOL has induced its vendors to infringe the '570 Patent literally and/or
8 under the doctrine of equivalents. Upon information and belief, AOL acted with
9 the specific intent to induce its vendors to connect to its customers' modems using
10 the methods claimed by the '570 Patent by continuing the above-mentioned
11 activities with knowledge of the '570 Patent.

12 47. AOL has also induced its customers, users of AOL's dial-up internet
13 service who connect using modems operating according to the ITU V.90 or V.92
14 (56Kbps) specification, to practice a method for verifying transmit power levels in
15 a signal point limited transmission system having a first device configured to
16 communicate with a second device over a communication channel, said method
17 comprising the steps of: receiving, at said second device, a transmit power limit
18 calculated in accordance with a predetermined power calculation formula;
19 selecting at least one signal point constellation such that said at least one signal
20 point constellation has a first computed transmit power less than or equal to said
21 transmit power limit, said first computed transmit power being calculated in
22 accordance with said predetermined power calculation formula; transmitting said at
23 least one signal point constellation from said second device to said first device; and
24 prompting said first device to verify that the transmit power of said at least one
25 signal point constellation is less than or equal to said transmit power limit.

26 48. For example, on information and belief, AOL makes available lists of
27 AOL local access numbers on its website. Each of these numbers is designated as
28 supporting connections using modems operating according to the V.90 or both the

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1 V.90 and V.92 standards, and corresponds to a dial-up modem bank operated by
2 one of AOL's vendors. See, e.g., <http://access.web.aol.com/accessnum/?ac=949>.
3 In making these lists of AOL local access numbers available on its website, AOL
4 specifically intended to encourage its customers to dial into these numbers using
5 V.92 modems to connect to the AOL dial-up internet service using the V.92
6 protocol in an infringing manner, knowing that the use of such protocol constituted
7 infringement of the '570 patent. Thus, AOL has induced its customers to infringe
8 the '570 Patent literally and/or under the doctrine of equivalents. Upon
9 information and belief, AOL acted with the specific intent to induce its customers
10 to connect to its dial-up internet service using the methods claimed by the '570
11 Patent by continuing the above-mentioned activities with knowledge of the '570
12 Patent.

13 *****

14 49. By engaging in the conduct described herein, AOL has injured MTS
15 and is thus liable for infringement of the '886 patent, '009 patent, '932 patent, '022
16 patent, '661 patent, '100 patent, and '570 patent pursuant to 35 U.S.C. § 271.

17 50. AOL has committed these acts of infringement without license or
18 authorization.

19 51. As a result of AOL's infringement of the '886 patent, '009 patent,
20 '932 patent, '022 patent, '661 patent, '100 patent, and '570 patent, MTS has
21 suffered monetary damages and is entitled to a money judgment in an amount
22 adequate to compensate for AOL's infringement, but in no event less than a
23 reasonable royalty for the use made of the invention by AOL, together with interest
24 and costs as fixed by the Court.

25 52. MTS has also suffered and will continue to suffer severe and
26 irreparable harm unless this Court issues a permanent injunction prohibiting AOL,
27 its agents, servants, employees, representatives, and all others acting in active
28 concert therewith from infringing the '886 patent, '009 patent, '932 patent, '022

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1 patent, ‘661 patent, ‘100 patent, and ‘570 patent. In particular, AOL’s disregard
2 for MTS’s property rights threatens MTS’s relationships with the actual and
3 potential licensees of this intellectual property, inasmuch as AOL will derive a
4 competitive advantage over any of MTS’s current or future licensees by using
5 MTS’s patented technology without paying compensation for such use.
6 Accordingly, unless and until AOL’s continued acts of infringement are enjoined,
7 MTS will suffer further irreparable harm for which there is no adequate remedy at
8 law.

9 **PRAYER FOR RELIEF**

10 WHEREFORE, MTS prays that this Court grant it the following relief:

11 A. A judgment in favor of MTS that AOL has infringed the ‘886 patent,
12 ‘009 patent, ‘932 patent, ‘022 patent, ‘661 patent, ‘100 patent, and ‘570 patent;

13 B. A permanent injunction enjoining AOL and its officers, directors,
14 agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents,
15 and all others acting in active concert therewith from infringement of the ‘886
16 patent, ‘009 patent, ‘932 patent, ‘022 patent, ‘661 patent, ‘100 patent, and ‘570
17 patent, or such other equitable relief the Court determines is warranted;

18 C. A judgment and order requiring AOL to pay MTS its damages, costs,
19 expenses, and prejudgment and post-judgment interest for Defendant’s
20 infringement of the ‘886 patent, ‘009 patent, ‘932 patent, ‘022 patent, ‘661 patent,
21 ‘100 patent, and ‘570 patent, as provided under 35 U.S.C. § 284;

22 D. A judgment and order finding that this is an exceptional case within
23 the meaning of 35 U.S.C. § 285 and awarding to MTS its reasonable attorneys’
24 fees against AOL;

25 E. A judgment and order requiring AOL to provide an accounting and to
26 pay supplemental damages to MTS, including without limitation, pre-judgment and
27 post-judgment interest; and

28 F. Any and all other relief to which MTS may be entitled.

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DEMAND FOR JURY TRIAL

MTS, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

DATED: July 25, 2014

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