United States District Court,
D. Delaware.

In re REMBRANDT TECHNOLOGIES, LP PATENT LITIGATION.

No. 07-md-1848(GMS)

Nov. 19, 2008.

Collins J. Seitz, Jr., Connolly, Bove, Lodge & Hutz, David L. Schwarz, Pro Hac Vice, Evan T. Leo, Pro Hac Vice, Francis Digiovanni, Connolly, Bove, Lodge & Hutz, Wilmington, DE, Aaron M. Panner, John Christopher Rozendaal, Mark C. Hansen, Richard H. Stern, Pro Hac Vice, for In re Rembrandt Technologies LP Patent Litigation.

ORDER CONSTRUING THE TERMS OF U.S. PATENT NOS. 5,825,631*; 5,717,761; 6,950,444; 5,880,903; 4,937,819; 5,719,858; 6,131,159; AND* 5,778,234

GREGORY M. SLEET**, Chief Judge.**

. After having considered the submissions of the parties and hearing oral argument on the matter, IT IS HEREBY ORDERED, ADJUDGED, and DECREED that, as used in the asserted claims of U.S. Patent Nos. 5,825,631 (the "'631 patent"); 5,717,761 (the "'761 patent"); 6,950,444 (the "'444 patent"); 5,880,903 (the "'903 patent"); 4,937,819 (the "'819 patent"); 5,719,858 (the "'858 patent"); 6,131,159 (the "' 159 patent"); and 5,778,234 (the "'234 patent"):

A. The '631 Patent

. 1. The term "calling modem" is construed to mean "a modem that is operable with ITU V. standards, but not limited to such standards, that places a call to an answering modem." FN1

2. The term answering modem is construed to mean "a modem that is operable with ITU V. standards, but not limited to such standards, that answers a call placed by the calling modem." FN2

3. The term "link layer" is construed to mean "the second lowest layer of a communication model such as the Open System Interconnection (OSI) or TCP/IP architecture, and is provided to perform error checking functions as well as retransmitting frames that are not received correctly."

4. The term "establishing a link layer connection between a calling modem ... and an answering modem" is construed to mean "prior to the data transfer mode of operation, applying link layer parameters to establish a connection between a calling modem and an answering modem." FN3

5. The term "establishing said link layer connection based upon said negotiated physical layer modulation" is

construed to mean "prior to the data transfer mode of operation, applying link layer parameters for a connection based on the negotiated physical layer modulation." FN4

6. The term "physical layer" is construed to mean "the lowest layer of a communication model such as Open System Interconnection (OSI) or TCP/IP that is concerned with establishing the electrical and mechanical connection between two modems."

7. The term "physical layer connection" is construed to mean "a connection formed between the calling modem and answering modem before any link layer connection is established." FN5

8. The term "physical layer modulation" is construed to mean "a protocol that is concerned with establishing the mechanical and electrical connection between a calling modem and answering modem."

9. The term "establishing a physical layer connection between said calling and said answering modems" is construed to mean "prior to the data transfer mode of operation, applying physical layer parameters for a connection between the calling modem and the answering modem." FN6

10. The term "wherein said physical layer connection is based on a negotiated physical layer modulation chosen from said first and second physical layer modulations" is construed to have its plain and ordinary meaning.FN7

11. The term "means for establishing a physical layer connection between said calling and said answering modems, wherein said physical layer connection is based on a negotiated physical layer modulation chosen from said first and second physical layer modulations" is a meansplus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "establishing a physical layer connection between the calling and answering modems." The corresponding structure is "a calling modem with a control processor programmed to perform the algorithms shown in Figures 4 and 6, an answering modem with a control processor programmed to perform the algorithms shown in Figures 5 and 7," and all equivalents thereof.

12. The term "logic for establishing a physical layer connection between said calling and said answering modems, wherein said physical layer connection is based on a negotiated physical layer modulation chosen from said first and second physical layer modulations," is construed to mean "programming that allows a physical layer connection between a calling modem and an answering modem to be applied based on the negotiated physical layer modulation chosen from the first and second physical layer modulations."

13. The term "establishing said link layer connection based upon said negotiated physical layer modulation" is construed to have its plain and ordinary meaning.FN8

14. The term "means for establishing said link layer connection based upon said negotiated physical layer modulation" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "establishing a link layer connection based upon the negotiated physical layer modulation." The corresponding structure is "a control processor programmed to perform the step of establishing link layer parameters to default values that are based upon the previously negotiated physical layer modulation," and all equivalents thereof.

15. The term "logic for establishing link layer connection based upon said negotiated physical layer modulation" is construed to mean "programming that allows link layer parameters for the connection to be

applied based on the negotiated physical layer modulation."

B. The '761 Patent

1. The term "physical layer of a data connection" is construed to mean "parameters of the data connection associated with the physical layer."

2. The term "to determine a set of parameters for the physical layer of the data connection with the far end data communications equipment" is construed to have its plain and ordinary meaning, but this step must take place before error control.FN9

3. The term "error control negotiation sequences" is construed to mean "a sequence of different types of error control protocols or a disconnection step that the equipment attempts to use in turn."

4. The term "error control" is construed to mean "any of a variety of approaches employed concerning transmission errors that occur on a communications channel."

5. The terms "selecting one of a number of error control negotiation sequences as a function of a value of at least one parameter from the set of parameters for the physical layer" and "selects from memory one of a number of error control negotiation sequences as a function of a value of at least one parameter from the set of parameters for the physical layer" are construed to mean "selecting one error control negotiation sequence using the value of at least one physical layer parameter." FN10

6. The terms "negotiating error control ... in accordance with the selected one of the number of error control negotiation sequences" and "negotiates error control ... in accordance with the selected one of the number of error control negotiation sequences" are construed to have their plain and ordinary meaning. FN11

C. The '444 Patent

1. The term "preamble operating to frame the message and to delimit the message from silence" is construed to mean "an initial pattern of bits to frame the message and to delimit the message from silence."

2. The term "a plurality of bits representing communication link control information" is construed to have its plain and ordinary meaning.FN12

3. The term "communication link control information" is construed to mean "a programmable pattern of bits that controls communications over the link."

4. The term "means for applying a preamble to a communication message ... the preamble including a plurality of bits representing communication link control information" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "applying a preamble to a communication message." The corresponding structure is "sequencer 236 and multiplexer 224," and all equivalents thereof.

5. The term "an encoder configured to encode the preamble bits into a plurality of symbol indices, the symbol indices encoded at a lower bit per symbol rate relative to the maximum rate capable of being supported over a communication channel" is construed to mean "an encoder converts the preamble bits into symbols at a lower bit per symbol rate than the maximum rate capable of being supported over a communication channel."

6. The terms "encoding the preamble bits into a plurality of symbol indices, the symbol indices encoded at a lower bit per symbol rate relative to the maximum rate capable of being transmitted over a communication channel" and "the symbol indices encoded at a lower bit per symbol rate relative to the maximum rate capable of being transmitted over a communication channel" are construed to mean "converting the preamble bits into symbols at a lower bit per symbol rate than the maximum rate capable of being transmitted over a communication channel."

7. The term "maximum rate capable of being transmitted over a communication channel/maximum rate capable of being supported over a communication channel" is construed to mean "the highest bit per symbol rate at which the data portion of the message is sent."

8. The term "means for encoding the preamble bits into a plurality of symbol indices, the symbol indices encoded at a lower bit per symbol rate relative to the maximum rate capable of being transmitted over a communication channel" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "encoding the preamble bits into a plurality of symbol indices." The corresponding structure is "preamble encoder 219," and all equivalents thereof.

D. The '903 Patent

1. The term "adjusting means responsive to the pre-emphasis coefficients for adjusting frequency dependent characteristics of an output of said first transmitting means" is a meansplus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "adjusting frequency dependent characteristics of an output of the first transmitting means." The corresponding structure is "pre-filter 16, including nine-tap filter 70," and all equivalents thereof.

2. The term "adjusting frequency dependent characteristics" is construed to have its plain and ordinary meaning.FN13

3. The term "receiving means for receiving said output from said first transmitting means" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "receiving output from the first transmitting means." The corresponding structure is "receiver element, RX, of Figures 4 and 5," and all equivalents.

4. The term "noise spectrum" is construed to mean "a frequency domain plot of the noise signals across a range of frequencies."

5. The term "generating means for generating parameters responsive to a noise spectrum of said output" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "generating parameters responsive to a noise spectrum of the output." The corresponding structure is "noise spectrum generator circuit 50, complex discrete Fourier transform block 68," and all equivalents thereof.

6. The term "generating means, including a noise spectrum generator circuit, for generating parameters responsive to a noise spectrum of said output" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "generating parameters responsive to a noise spectrum of the output." The corresponding structure is "noise spectrum generator circuit 50, complex discrete Fourier transform block 68," and all equivalents thereof.

7. The term "parameters responsive to a noise spectrum/parameters responsive to said noise spectrum" is construed to mean "values based upon the noise signal at given frequencies."

8. The term "generating parameters responsive to said noise spectrum of said output" is construed to have its plain and ordinary meaning.FN14

9. The term "means for calculating said noise spectrum of said output" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "calculating the noise spectrum of the output." The corresponding structure is "noise spectrum generator circuit 50, complex discrete Fourier transform block 68," and all equivalents thereof.

10. The term "second transmitting means for transmitting said parameters to the transmitting modem" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "transmitting the parameters to the transmitting modem." The corresponding structure is "secondary channel transmitter 38," and all equivalents thereof.

11. The term "secondary channel" is construed to mean "a sideband of the primary channel."

12. The term "computing means for computing the pre-emphasis coefficients from said parameters" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "computing the pre-emphasis coefficients from the parameters." The corresponding structure is "compute block 48 and operating code which performs the steps of computing the pre-emphasis coefficients from the parameters," and all equivalents thereof.

13. The term "output from said transmitting step" is construed to mean "output signal from the transmitting modem."

14. The term "receiving said output from said first transmitting means" is construed to have its plain and ordinary meaning.FN15

E. The '819 Patent

1. The term "master unit" is construed to mean "a data communication device that communicates with one or more remote units using time-division multiplexing without packet headers or delimiters." FN16

2. The terms "remote units communicating with said master unit in a multidrop configuration" and "communication with a master unit in a multidrop configuration" are construed to mean "modems that communicate with a master unit in a network linking the multiple units together." FN17

3. The term "application program[s]" is construed to mean "a computer program running on a modem that performs tasks for an end user."

4. The term "in a time slot assigned to each of said application programs" is construed to mean "in one of the intervals of time assigned to the application programs."

6. The term "time slot assigned to each of said application programs" is construed to mean "an interval of

time assigned to the application programs."

7. The term "messages outbound from said master unit" is construed to mean "messages sent from the master unit to the remote units using time-division multiplexing without packet headers and delimiters." FN18

8. The term "master network timing means" is construed to mean "a network timing and control processor that provides timing for the master unit."

9. The terms "a period which is divided into a plurality of subframes, wherein each subframe is divided into said time slots, and each of said time slots is used as an interval in which one of said application programs in said one of said remote units is assigned to transmit" and "dividing a period of a clock in said master unit into a number of subframes, dividing each subframe into a number of slots, each corresponding to transmission times for one of said remote units, and assigning a slot to each of said application programs in said one of said remote units" are construed to have their plain and ordinary meaning.FN19

10. The term "subframe[s]" is construed to mean "the division of a frame with respect to time."

11. The term "each corresponding to transmission times for one of said remote units" is construed to mean "each time slot is a transmission time for one of the remote units."

12. The term "ranging means" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "calculating and transmitting a transmission time adjustment between the master unit and each of the remote units." The corresponding structure is "network timing and control processor 12, ranging and network initialization generator 20, and ranging receiver 32, executing an algorithm to perform a ranging calculation," and all equivalents thereof.

13. The term "reservation request generator" is construed to mean "a device or processor that adds to a message a request for additional time slots." FN20

14. The term "reservation request bit" is construed to mean "a bit in a message that allows the remote unit to request additional time slots to be allocated to transmit a longer message."

15. The term "reservation request processor communicating to said master networking means, said reservation request processor being responsive to said reservation request bit" is construed to mean "a device or process communicating with the master network timing means that receives and processes a request from a remote unit for additional time slots in order to transmit a longer message ." FN21

16. The term "priority bit" is construed to mean "a bit used to convey the relative importance of the communication."

17. The term "said time slot comprises a format so as to include a preamble, a poll response data bit, said reservation bits, at least one priority bit and error detection bit" is construed to have its plain and ordinary meaning. FN22

18. The term "transmitting from said master unit to each of said respective remote units the transmission time between said master unit and said respective remote unit, each of said respective remote units using

said transmission time to adjust initiation of said slots" is construed to have its plain and ordinary meaning.FN23

F. The '858 Patent

1. The term "data communications apparatus/communications apparatus/data communications equipment" is construed to mean "network access unit, or single device that manages the flow of data between a local network and a network facility."

2. The term "bus" is construed to mean "hardware line(s) within a device used for data transfer among its components."

3. The term "time-division multiplexed bus" is construed to mean "a bus having a bandwidth partitioned into a defined repeated sequence of time slots, that is shared by two or more sources of data by limiting each source's transmission opportunities to discrete intervals of time."

4. The term "packet data" is construed to mean "variable bit-rate data that travel in packets."

5. The term "portion of the bandwidth is allotted to packet data" is construed to mean "one or more time slots allotted to sources or packet data."

6. The term "second portion of the predefined bandwidth" is construed to have its plain and ordinary meaning.FN24

7. The term "the allocated portion of the bandwidth" is construed to have its plain and ordinary meaning.FN25

8. The terms "allocating a portion of the bandwidth of the time-division multiplexed bus" is construed to have its plain and ordinary meaning.FN26

9. The term "[for communicating synchronous data in a] first portion of the predefined bandwidth is construed to have its plain and ordinary meaning. FN27

10. The term "synchronous data" is construed to mean "constant bit-rate data that are not packetized."

11. The term "coupling a plurality of packet data sources to the time division multiplexed bus" is construed to have its plain and ordinary meaning. FN28

12. The terms "plurality of packet data sources ... that share the allotted bandwidth for transmitting packet data," "where the plurality of sources share the second portion of the predefined bandwidth for transmitting packet data," "in such a way that the allocated portion is shared among the plurality of packet data sources," and "allocating a portion of the bandwidth of the time-division multiplexed bus as a multiple-access channel" are construed to have their plain and ordinary meaning.FN29

13. The term "distributed packet manager" is construed to mean "a device, process, or algorithm located within each packet data source, that controls how the packet data source accesses the time-division multiplexed bus."

14. The term "wherein each one of the plurality of packet data sources includes interface circuitry to the time-division multiplexed bus for synchronizing packet data to the time-division multiplexed bus" is construed to have its plain and ordinary meaning.FN30

15. The term "controlling access by said packet data sources to the allocated portion of the bandwidth via a distributed packet manager within each of said packet data sources" is construed to have its plain and ordinary meaning. FN31

16. The term "allocate access to the allotted bandwidth among said packet data sources is construed to mean "control access by each of the packet data sources to a portion of the bandwidth previously assigned to packet data." FN32

17. The term "the second portion of the predefined bandwidth being shared in such a way that only one of the plurality of packet data sources accesses the second portion of the predefined bandwidth at a time" is construed to have its plain and ordinary meaning.FN33

18. The term "network access manager/module" is construed to mean "a component of the network access unit that provides the interface between the time-division multiplexed bus and a network."

19. The term "a counter for counting time-slots representing the second portion of the predefined bandwidth" is construed to have its plain and ordinary meaning.FN34

G. The '159 Patent

1. The terms "said memory being of a type which may be completely updated in its entirety but which is not volatile," "said memory being completely updatable in its entirety but nonvolatile," "said memory being non-volatile and capable of being completely updated in its entirety," and "said memory being of a type which is completely updatable in its entirety but non-volatile" are construed to mean "non-volatile memory that is capable of being erased and overwritten during an update."

2. The term "program memory" is construed to mean "updatable and non-volatile memory where initialization programs are stored."

3. The term "said memory being the only program memory in said [the] system" is construed to mean "the non-volatile memory is the only memory used by the system for storage of initialization programs."

4. The term "a set of programs stored in said memory that are executed when the system needs to be initialized" is construed to have its plain and ordinary meaning.FN35

5. The term "said memory containing programs, including a set of programs that are executed when the system needs to be initialized and a program for controlling communication through said communication port" is construed to have its plain and ordinary meaning.FN36

6. The term "a program module in said memory that, when activated by said processor, effects communications with said port" is construed to mean "a set of programs that, when executed by the processor, provides communication with remote devices via the communication port."

7. The term "set of program means stored in said memory that are activated when said system needs to be updated with a new set of programs" is construed to mean "set of programs stored in the memory that, when executed, support updating the system with a new set of programs."

8. The term "alterable storage means for holding a displacement multi-bit address that is used to point to the starting address accessed by the processor when initializing" is a means-plusfunction term pursuant to 35 U.S.C. s. 112(6). The function of the term is "holding a displacement multi-bit address." The corresponding structure is "register 40," and all equivalents thereof.

9. The term "alterable memory means for storing a multi-bit memory address that controls the starting address accessed by the processor when initializing" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "storing a multi-bit memory address." The corresponding structure is "register 40," and all equivalents thereof.

10. The term "alterable storage means for holding an offset memory address that is used to point to a starting address accessed by said processor when initializing" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "holding an offset memory address." The corresponding structure is "register 40," and all equivalents thereof.

11. The term "means for receiving a trigger signal at a telecommunications input port of the system to begin execution of said programs" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "receiving a trigger signal at a telecommunications input port of the system to begin execution to said programs." The corresponding structure is "processor 10 programmed to monitor the data supplied to the telecommunications port," and all equivalents thereof.

12. The term "operationally alterable means for setting the starting address of said program, which address is supplied to said system via said communication port" is a means-plusfunction term pursuant to 35 U.S.C. s. 112(6). The function of the term is "setting the starting address of the program." The corresponding structure is "register 40," and all equivalents thereof.

13. The term "means for activating said program for controlling communication" is a means-plusfunction term pursuant to 35 U.S.C. s. 112(6). The function of the term is "activating the program for controlling communication through the communication port." The corresponding structure is "communication port and processor 10 programmed to activate the program for controlling communication," and all equivalents thereof.

14. The term "means for ... receiving information through said communication port to modify the programs in said memory, said information including the program for controlling communication through said communication port and a command that is executed by said processor effectively when it is received" is a means-plus-function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "receiving information through the communication port to modify the programs in the memory." The corresponding structure is "memory 20, communication line 12, and processor 10, programmed to perform the step of receiving information through the communication port to modify the programs in the memory," and all equivalents thereof.

15. The term "communication[s] port coupled to said processor, said communication port being adapted to

communicate with devices which are external to said system" is construed as "an interface through which remote communication is supported is connected to the processor to communicate with remote devices." FN37

H. The '234 Patent

1. The term "a memory" is construed to mean "electronic storage or holding place for data, including instructions." FN38

2. The term "communications programs" is construed to mean "programs that can support remote communication."

3. The term "communications port" is construed to mean "an interface through which remote communication is supported."

4. The term "P_{old}" is construed to mean "the set of communication programs already resident in memory."

5. The term "P_{new}" is construed to mean "a new set of programs to be installed."

6. The term "with the aid of a set of communication programs P_{old} already resident in said memory" is construed to have its plain and ordinary meaning. FN39

7. The term "installing the EP $_{new}$ programs in a first area of said memory" is construed to mean "downloading and storing the EP_{new} programs in a first area of the memory that does not contain EP_{old} programs."

8. The term "said memory" is construed to have the same meaning as "memory," which the court already has defined.FN40

9. The term "altering operation of said apparatus to execute the EP_{new} programs instead of the EP_{old} programs" is construed to have its plain and ordinary meaning.FN41

10. The term "installing the remaining programs of said P_{new} set of programs" is construed to have its plain and ordinary meaning.FN42

11. The term "remaining programs of said P_{new} set of programs" is construed to mean "subset of P_{new} programs that does not include the EP_{new} programs."

12. The term "altering operation of said apparatus to execute said EP_{new} programs is accomplished by installing an offset address to pass control of said apparatus to said EP_{old} programs" is construed to mean "installing an offset address to cause the apparatus to execute the EP_{new} programs instead of the EP_{old} programs."

13. The term "moving the EP_{new} programs from said first area of memory to a second area of said memory" is construed to have its plain and ordinary meaning.FN43

FN1. The court's construction of this term does not limit the patent to a telephone network, as the specification is broad and refers to both telephone and other networks.

FN2. See Footnote 1.

FN3. "[A] patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution." Computer Docking Station Corp. v. Dell, Inc., 519 F.3d 1366, 1374 (Fed.Cir.2008) (quoting Purdue Pharma L.P. v. Endo Pharms., Inc., 438 F.3d 1123, 1136 (Fed.Cir.2006)). Here, the patentee disavowed data byte transfer in establishing the physical and link layer connections. See D.I. 265 Ex. 37 at F000207 ("*McGlynn* makes no suggestion of negotiating for features utilized prior to the data transfer mode of operation. Hence, *McGlynn* fails to disclose the step of establishing a link layer connection based on the negotiated physical layer modulation."); see also *id*. at F000209 ("Furthermore, negotiating for features via the use of data byte transfer suggests that the physical layer and link layer should be already established before any feature negotiation under *McGlynn* occurs in order to enable the transfer of data bytes. This is contrary to the present invention which uses different communication techniques (*e.g.*, different frequency tones) to establish the physical and link layer connections since data byte transfer is not yet enabled during the establishment of the physical and link layers.").

FN4. *Id*.

FN5. See '631 patent at 6:53-62 ("After the physical layer has been established, the communicating modems enter the information exchange/communication sequence, referred to herein as error negotiation, in order to establish the link layer connection."); id. at 11:39-46 ("In contrast, the present invention establishes the link layer connection based upon the modulation chosen in the physical layer connection during the automatic mode synchronization sequence.... Thus, the steps for establishing an error-correcting protocol are eliminated and the link layer connection is established substantially instantaneously upon the completion of the physical layer negotiation.").

FN6. See Footnote 3.

FN7. The court rejects the defendants' proposed construction. *See* Phillips v. AWH Corp., 415 F.3d 1303, 1320, 1323-24 (Fed.Cir.2005) *(en banc)* (approving of the court's past decisions regarding the impropriety of reading limitations from the specification into the claim and noting that examples in the specification are "one of the best ways to teach a person of ordinary skill in the art how to make and use the invention"); *see also* Comarck Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186 (Fed.Cir.1998) (" '[w]hile ... claims are to be interpreted in light of the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims.' ").

FN8. The court rejects the defendant's proposed construction. See Footnote 7.

FN9. See '761 patent at 1:13-17 ("The type of modulation is representative of the 'physical' layer of a date connection, while the type of error control protocol is representative of the 'link' layer of data connection. The negotiation of the physical layer is *always* negotiated before the link layer.") (emphasis added); id. at 2:18-23 ("And, finally, the modulation (physical layer) is always negotiated before the error control protocol (link layer). Therefore, and in accordance with the invention, a modem dynamically selects the type of link layer negotiation sequence as a function of a negotiated parameter of the physical layer.").

FN10. The court finds that this step must take place after negotiating the physical layer and determining the physical layer parameters. See Footnote 9.

FN11. The court finds that this step must take place after negotiating the physical layer. See id.

FN12. The court rejects the defendants' construction. See Footnote 7.

FN13. The court rejects the defendants' proposed construction. See Footnote 7.

FN14. The court rejects the defendants' proposed construction. See id.

FN15. Id.

FN16. "[A] patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution." Computer Docking Station Corp. v. Dell, Inc., 519 F.3d 1366, 1374 (Fed.Cir.2008) (quoting Purdue Pharma L.P. v. Endo Pharms., Inc., 438 F.3d 1123, 1136 (Fed.Cir.2006)). Here, the patentee disavowed packetized outbound messages. See D.I. 266 Ex. 45 at F001461 ("Therefore, the outbound messages from the Krum reference master unit are 'packetized' whereas the instant claimed invention is time division multiplexed without packet headers and delimiters.").

FN17. The court rejects the defendants' construction that would require all messages to contain responses to outbound polls. See Footnote 7.

FN18. See Footnote 16.

FN19. The court rejects the defendants' proposed construction. See Footnote 7.

FN20. The court finds that "reservation request generator" is the only portion of the claim term "reservation request generator which activates a reservation request bit for requesting an additional time interval inbound to said master unit" that needs construction.

FN21. The court concludes that the term "reservation request processor" need not be construed as a separate term.

FN22. The court rejects the defendants' proposed construction. See Footnote 7.

FN23. *Id*.

FN24. *Id*.

FN25. *Id*.

FN26. *Id*. Further, having already construed "allocating a portion of the bandwidth of the time-division multiplexed bus," the court need not construe the term "allocating a portion of the bandwidth of the time-division multiplexed bus to the plurality of packet data sources." Moreover, the construction of the "plurality of packet data sources" portion of the term is not in dispute.

FN27. The court rejects the defendants' proposed construction. See Footnote 7.

FN28. *Id*. Further, having already construed this term in its entirety, as well as the term "synchronous data," the court need not separately construe the terms "plurality of packet data sources coupled to the time division multiplexed bus" and "a plurality of synchronous data sources coupled to the time-division multiplexed bus."

FN29. The court rejects the defendants' proposed construction. See Footnote 7.

FN30. *Id*.

FN31. *Id*.

FN32. *Id*. Further, in light of the court's construction of this term, it need not construe the terms "allocate access to the second portion of the predefined bandwidth among said packet data sources," and "controlling

[the] access by said packet data sources to the allocated portion of the bandwidth."

FN33. The court rejects the defendants' proposed construction. See Footnote 7.

FN34. *Id*.

FN35. *Id*.

FN36. *Id*.

FN37. Because the court has construed the entire claim term, it need not construe "communication[s] port" separately.

FN38. The court rejects the defendants' proposed construction, because it limits the memory to a non-volatile memory, which is not required by the claims or supported by the specification. See '234 patent at 2:50-55 ("That is, the apparatus employing the principles of this invention does not need to have a non-volatile 'boot-up' read-only memory."). See Footnote 7.

FN39. The court rejects the defendants' proposed construction. See Footnote 7.

FN40. See claim term 1 "a memory."

FN41. Id.

FN42. Id.

FN43. Id.

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In re Rembrandt Technologies, LP Patent Litigation