

58. The Examiner's rejection noted that the specification did not disclose how a power signal would be fluctuated to provide distinguishing information about the piece of terminal equipment.

59. In response, the applicants cancelled all the claims and submitted new claims starting with claim 72, reproduced below:

72. (New) An identifiable piece of Ethernet terminal equipment comprising:
an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communication signals,
at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts,
the piece of Ethernet terminal equipment *to draw current via the at least one path* wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment.

'107 Prosecution History at 1047 (CMS050931) (emphasis added).

60. The claimed Ethernet terminal equipment includes at least two pairs of contacts, and a path coupled across at least one contact of each pair. At this point in the claim, all that is disclosed is a topology structure, namely a path that couples between at least one contact in each of two pairs of contacts. There is not yet any claim element indicating whether or what current is or is not present in the path.

61. However, claim 72 further requires that the piece of Ethernet terminal equipment is "to draw current via the at least one path" and that that current "comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment." These are functional limitations; i.e. they are defined solely by the function that is to be performed by the previously recited structure.

62. Applicants' remarks accompanying claim 72 and its dependents are provided in full below:

Notwithstanding, Applicant notes that newly presented Claims 72 - 163 now claim first and second pairs of contacts of an Ethernet connector used to carry Ethernet communication signals and at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts. The at least one of the contacts of the first pair and the at least one of the contacts of the second pair referred to as the recited contacts. The identifiable piece of Ethernet terminal equipment to draw current via the at least one path coupled across the recited contacts wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment. Support for the presently claimed subject matter can be found throughout the originally filed specification and drawings of the present application, including Paragraphs [0002], [0008], [0041], [0052] and Figure 8. Reconsideration and withdrawal of the present rejection are requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-71 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis et al. (U.S. Pat. No. 5,754,764) in view of Blair et al. (U.S. Pat. No. 5,586,273). This rejection is respectfully traversed.

At the outset, Applicant notes that by way of the present Amendment, Claims 1-71 have been cancelled, thereby rendering this rejection moot. Notwithstanding, in an attempt to expedite prosecution, Applicant submits the following comments in connection with Davis et al. and Blair et al.

Specifically, Applicant submits that Davis et al. merely teach that input/output and local area network functions are combined into a single integrated circuit on a single semiconductor. Local area network circuitry and input and output circuitry are both coupled to at least one host system via a common data bus. (Abstract) In some embodiments, Ethernet communications are employed.

However, it should be abundantly clear that Davis et al. are completely silent with regard to "an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communication signals", the recited contacts of the Ethernet connector (i.e., "at least one path coupled across at least one of the contacts of the first pair of contacts of [the Ethernet connector] and at least one of the contacts of the second pair of contacts [of the Ethernet connector]"), "the piece of Ethernet terminal equipment to draw current via the at least one path [coupled across the recited contacts] wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment" as presently claimed. That is, although Davis et al. note usage of an Ethernet network, Davis et al. are completely silent with

regard to using the at least one path coupled across contacts used to carry Ethernet communication signals, and to draw current via the at least one path coupled across the recited contacts wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment.

Similarly, Blair et al., like Davis et al., merely teach a synchronous communication protocol between synchronous application programs. The Examiner relies on Blair et al. for teaching an RJ45 connector. To this end, Blair et al., *in toto*, states that "the connector 62 is the ISDN standard connector RJ45." Col. 8, lines 47-48. However, Blair et al. are unable to cure the deficiencies of Davis et al. and are completely silent with regard to using the recited contacts of the Ethernet connector, which are also used to carry Ethernet communication signals, to couple a path across to draw current wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment.

For at least these reasons, Davis et al. and Blair et al., singly or in combination, fail to teach or suggest the claimed invention. Reconsideration and withdrawal of this rejection are requested.

'107 Prosecution History at 1065-67 (CMS050949-51).

63. Applicants distinguished over Davis explaining that the claims as amended require "*using the at least one path coupled across contacts used to carry Ethernet communication signals, and to draw current via the at least one path coupled across the recited contacts wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment.*" (emphasis added)

64. Applicants again focused on using the path to draw current when distinguishing the combination of Davis and Blair (conceded as including an Ethernet connector) because Blair allegedly also fails to disclose "*using the recited contacts of the Ethernet connector, which are also used to carry Ethernet communication signals, to couple a path across to draw current wherein the current comprises information to identify the piece of Ethernet terminal equipment.*" *Id.* (emphasis added)

65. Consistent with the remarks, the claims were not amended using the terms "operable to", "capable of", or "configured to." Instead, the functions performed by the Ethernet equipment are defined using the infinitive "to draw [] current."

66. Dependent claims 92 and 107 were introduced at the same time as independent claim 72, all reproduced below:

72. (New) An identifiable piece of Ethernet terminal equipment comprising: an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communication signals, at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts, the piece of Ethernet terminal equipment to draw current via the at least one path wherein the current comprises information to identify the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment.

92. (New) The identifiable piece of Ethernet terminal equipment of claim 72 wherein the piece of Ethernet terminal equipment to draw different magnitudes of current via the at least one path.

107. (New) The identifiable piece of Ethernet terminal equipment of claim 72 wherein the current comprises DC current.

'107 Prosecution History at 1047 (CMS050931), 1050 (CMS050934), 1053 (CMS050937).

67. The Examiner rejected claims 72, 92, and 107 (among others) in view of U.S. Patent No. 5,923,663 ("Bontemps") and in combination with the '260 patent. '107 Prosecution History at 1097-1101 (CMS050981-85).

68. However, the Examiner indicated that then pending claims 93-96, 147-149, and 163 would be allowable if rewritten in independent form including all of the limitations. Those claims are reproduced below:

93. (New) The identifiable piece of Ethernet terminal equipment of claim 92 wherein at least two different magnitudes of the current comprise the information to identify the piece of Ethernet terminal equipment.

94. (New) The identifiable piece of Ethernet terminal equipment of claim 92 wherein the different magnitudes of current comprise a series of magnitudes.

95. (New) The identifiable piece of Ethernet terminal equipment of claim 92 wherein the different magnitudes of current occur at regular intervals.

96. (New) The identifiable piece of Ethernet terminal equipment of claim 92 wherein the different magnitudes of current result from at least one condition applied to the contacts of the Ethernet connector.

147. (New) The identifiable piece of Ethernet terminal equipment according to claim 72 wherein the current comprises a first magnitude of current for a first interval followed by a second magnitude of current for a second interval wherein the second magnitude is greater than the first magnitude.

148. (New) The identifiable piece of Ethernet terminal equipment according to claim 147 wherein at least one of the first and second magnitudes of current identifies the piece of Ethernet terminal equipment.

149. (New) The identifiable piece of Ethernet terminal equipment of claim 72 wherein a magnitude of the current is part of a detection protocol.

163. (New) The identifiable piece of Ethernet terminal equipment according to claims 72 through 162 wherein the current comprises information to identify the piece of Ethernet of terminal equipment as a particular piece of Ethernet terminal equipment with the piece of Ethernet terminal equipment powered-off.

'107 Prosecution History at 1051 (CMS050935), 1059-60 (CMS050943-44), 1062 (CMS050946).

69. Each of the allowable dependent claims require “current” to be present. Claim 93 requires at least two different magnitudes of current. Claim 95 requires different magnitudes of current at regular intervals. Claim 96 requires current resulting from at least one condition applied. Claim 147 requires different magnitudes of current with the larger magnitude occurring second. Claim 148 requires two magnitudes of current, one of which identifying the device. Claim 149 requires a magnitude of current being part of a detection protocol. Claim 163 requires current comprising information.

70. The Examiner deemed these claims allowable not because of any structural limitations in the claim. Rather, they were allowed due to specific limitations requiring current flowing in the accused products.

71. Applicants further amended claim 72 as shown below:

72. (Currently amended) ~~An identifiable~~ A piece of Ethernet terminal equipment comprising:

an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communication signals, at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts, the piece of Ethernet terminal equipment to draw different magnitudes of DC current flow via the at least one path, the different magnitudes of DC current flow to result from at least one condition applied to at least one of the contacts of the first and second pairs of contacts, wherein at least one of the magnitudes of the DC current flow to convey comprises information ~~to identify about~~ the piece of Ethernet terminal equipment as a particular ~~piece of Ethernet terminal equipment.~~

‘107 Prosecution History at 1151 (CMS051035) (edits in original).

72. In response to the Examiner’s rejections in view of Bontemps and the ‘260 patent, the applicants added that the “piece of Ethernet terminal equipment to draw current” would also draw “different magnitudes,” that the current was “DC”, and there was current “flow.”

73. The word “flow” was correspondingly added three times in the claim for the functional limitations. As shown above, the inclusion of “flow” was a deliberate choice, added for the first time in the claims in this amendment.

74. The addition of “for the purpose of drawing DC current” provides an intended use for the path, namely, to draw DC current.

75. “Flow” was added to the existing word “current” to impart a different meaning than merely “for the purpose of drawing DC current.” It connotes that current is actually flowing.

76. This is further confirmed by the context in which the term “current flow” is used. Consistent with the earlier explications of the need to use the path to draw current in accordance with the asserted invention, the Ethernet terminal equipment was amended “to draw different magnitudes of DC current flow,” different magnitudes of current flow “result from at least one condition applied,” and further that at least one of the magnitudes of DC current flow to convey information.”

77. The changes from “to draw current” to “to draw different magnitudes of DC current flow,” from “current comprises information” to “DC current flow to convey information,” and the addition of “at least one condition applied” all confirm that specific actions are required by the claims.

DISPUTED PHRASES

(A) The Use of the Infinitive “To ___”

78. The following phrases in the asserted claims of the Patents-in-Suit use the infinitive “to ___”: “to draw different magnitudes of DC current flow”; “to detect at least two different magnitudes of the current flow”; “to detect current flow”; “to detect different magnitudes of DC current flow”; “to detect distinguishing information within

the DC current”; “to distinguish one end device from at least one other end device”; “to distinguish one network object from at least one other network object”; “to distinguish the piece of Ethernet terminal equipment from at least one other piece of Ethernet terminal equipment”; “to distinguish the powered-off end device from at least one other end device”; “to distinguish the piece of BaseT Ethernet terminal equipment from at least one other piece of BaseT Ethernet terminal equipment”; “to control application of at least one electrical condition”; “to control application of the at least one DC power signal”; “to convey information about the piece of Ethernet terminal equipment”; “to convey information about the powered-off end device”; “to provide at least one DC current”; and “to result from at least one condition applied to.”

79. The prosecution history of the '107 patent demonstrates that the use of “to ___” for these limitations and “current flow” (as opposed to “current”) in the claims of the '107 patent and continuation '838 and '760 patents requires that the functional acts must be performed, as opposed to only being capable of being performed.

80. The asserted independent claims of the '107, '760, and '838 patents are reproduced below with the infinitive “to ___” clauses shown below in italics for context.

1. A piece of Ethernet terminal equipment comprising:
an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communication signals,
at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts,
the piece of Ethernet terminal equipment to draw different magnitudes of DC current flow via the at least one path, the different magnitudes of DC current flow to result from at least one condition applied to at least one of the contacts of the first and second pairs of contacts,
wherein at least one of the magnitudes of the DC current flow *to convey information about the piece of Ethernet terminal equipment.*

104. A powered-off end device comprising:
an Ethernet connector comprising first and second pairs of contacts,
at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts,
the powered-off end device *to draw different magnitudes of DC current flow via*

the at least one path,
the different magnitudes of DC current flow *to result from at least one condition applied to at least one of the contacts of the first and second pairs of contacts,*
wherein at least one of the magnitudes of the DC current flow *to convey information about the powered-off end device.*
'107 patent, claims 1, 104.

1. A BaseT Ethernet system comprising:
a piece of central BaseT Ethernet equipment;
a piece of BaseT Ethernet terminal equipment;
data signaling pairs of conductors comprising first and second pairs used to carry BaseT Ethernet communication signals between the piece of central BaseT Ethernet equipment and the piece of BaseT Ethernet terminal equipment,
the first and second pairs physically connect between the piece of BaseT Ethernet terminal equipment and the piece of central BaseT Ethernet equipment,
the piece of central BaseT Ethernet equipment having at least one DC supply,
the piece of BaseT Ethernet terminal equipment having at least one path *to draw different magnitudes of current flow* from the at least one DC supply through a loop formed over at least one of the conductors of the first pair and at least one of the conductors of the second pair,
the piece of central BaseT Ethernet equipment *to detect at least two different magnitudes of the current flow through the loop and to control the application of at least one electrical condition to at least two of the conductors.*

73. A BaseT Ethernet system comprising:
Ethernet cabling having at least first and second individual pairs of conductors used to carry BaseT Ethernet communication signals, the at least first and second individual pairs of conductors physically connect between a piece of BaseT Ethernet terminal equipment and a piece of central network equipment;
the piece of central network equipment having at least one DC supply,
the piece of BaseT Ethernet terminal equipment having at least one path *to draw different magnitudes of current flow* via the at least one DC supply through a loop formed over at least one of the conductors of the first pair of conductors and at least one of the conductors of the second pair of conductors, the piece of central network equipment *to detect at least two different magnitudes of current flow through the loop.*

'760 patent, claims 1, 73.

1. A central piece of network equipment comprising:
at least one Ethernet connector comprising first and second pairs of contacts used to carry BaseT Ethernet communication signals; and
the central piece of network equipment *to detect different magnitudes of DC current flow via at least one of the contacts of the first and second pairs of contacts and to control application of at least one electrical condition to at least one of the contacts of the first and second pairs of contacts in response to at least one of the magnitudes of the DC current flow.*

'838 patent, claim 1

81. The infinitive “to ___” is used in the claims shown above to identify the function to be performed by the claimed Ethernet terminal equipment, end device, and central piece of network equipment.

82. Mr. Baxter concedes that these clauses specify a function. Baxter Decl. at ¶ 16. Mr. Baxter also concedes that “current” and “current flow” do not constitute structure in the claims. Baxter Decl. at ¶ 64.

83. I agree with Mr. Baxter to the extent that the claim language “at least one path coupled across [claimed contacts] for the purpose of drawing DC current” alone does not require current to be flowing through the path. *Id.* The “path coupled across” and related limitations provide the claimed structure necessary for current flow.

84. However, Mr. Baxter is incorrect that “claim 1 merely requires a path that is configured to draw DC current.” Baxter Decl. at ¶ 65.

85. With respect to claim 1 (then pending claim 72) of the '107 patent, Applicants' remarks to overcome the cited Blair and Davis prior references twice explained that the claims as amended allegedly overcame the prior art because “although Davis et al. not usage of an Ethernet network, Davis et al. are completely silent with regard to *using* the at least one path coupled across contacts to carry Ethernet communication signals, and *to draw current* via the at least one path coupled across the recited contacts” '107 Prosecution History at 1066-67 (CMS050950-51) By both amending the claim to require action and arguing that that action (the drawing of current) was not present in the cited prior art, the applicants made it clear that actual current (current flow) was required in the claim.

86. Applicants further amendment of claim 72 adding the requirement that the current results from a condition applied and the addition of the word “flow” after “current” for all the functional claim limitations further clarifies that performance of the actions is required. The addition of the word “flow” was deliberate and suggests a

different meaning for “current” and “current flow.” Specifically, “current flow” is suggesting that the current is actually flowing.

87. Applicants also amended the claims to add “for the purpose of drawing DC current” for the path. Where applicants wanted to assert an intended use or capability to perform an action, for example, they drafted the claim language accordingly. Mr. Baxter does not suggest any change in the configuration or design of the path to allow it to do the rudimentary task of “drawing DC current”

88. In view of the remarks in the prosecution history, amendment of the claims to add “flow,” and functional limitations being tied to the claimed device itself, Applicants make it clear that the infinitive phrases “to ____” should be interpreted to require that the specified functional limitations are actually performed.

89. For example, claim 1 of the ’107 patent (then pending claim 72) was amended to add specific functional limitations tied to actions that would only occur when current is present:

72. (Currently amended) ~~An identifiable~~ A piece of Ethernet terminal equipment comprising:
an Ethernet connector comprising first and second pairs of contacts used to carry Ethernet communication signals, at least one path for the purpose of drawing DC current, the at least one path coupled across at least one of the contacts of the first pair of contacts and at least one of the contacts of the second pair of contacts, the piece of Ethernet terminal equipment to draw different magnitudes of DC current flow via the at least one path, the different magnitudes of DC current flow to result from at least one condition applied to at least one of the contacts of the first and second pairs of contacts, wherein at least one of the magnitudes of the DC current flow to convey comprises information ~~to identify about~~ the piece of Ethernet terminal equipment as a particular piece of Ethernet terminal equipment.

’107 Prosecution History at 1151 (CMS051035).

90. This claim is directed to Ethernet terminal equipment comprising structural limitations provided by the Ethernet connector and path coupled across the claimed contacts of the Ethernet connector. This path already has the ability to draw DC current as evidenced by its intended use.

91. The remainder of the limitations recite what actions the claimed Ethernet terminal equipment must do with that structure. Specifically, while the structure is already provided for drawing DC current via the path coupled across, the acts of drawing different magnitudes of DC current due to a condition applied and in which one magnitude conveys information about the Ethernet terminal equipment must occur.

92. Mr. Baxter asserts that each instance of “to ___” be construed to read in “configured to” or “designed to” perform the function recited in the claim. Baxter Decl. at ¶ 16. In doing so, he is merely rewriting the claims to suit his needs. Had this been the intent, the drafter of the claims could easily have used the appropriate language.

93. Mr. Baxter’s interpretation renders “the piece of Ethernet terminal equipment to draw different magnitudes of DC current flow via the at least one path, the different magnitudes of DC current flow to result from at least one condition applied to at least one of the contacts of the first and second pairs of contacts, wherein at least one of the magnitudes of the DC current flow to convey information about the piece of Ethernet terminal equipment” superfluous.

94. One of ordinary skill in the art would know that the “path coupled across” inherently possesses the ability to draw DC current (including different magnitudes of DC current) when connected, to have the magnitude of DC current measured, and to be affected in accordance Ohm’s law. Ethernet terminal equipment already including the path coupled across does not add any further configuration or design already present in the path itself.

95. The functions were provided overcome the prior art without imparting any additional structure to the claim, “flow” was added, and the remarks by the Applicant make it clear that “to ____” requires the actions to be performed.

(B) Current / Current Flow

96. Mr. Baxter and I agree regarding the definition of “current” as a flow of electrons (or electric charge). We also agree that the use of “current” and “current flow” in the patents generally refers to direct current (DC), as opposed to alternating current (AC). Baxter Decl. at ¶¶ 57, 59.

97. Mr. Baxter asserts that “current” and “current flow” mean the same thing. Baxter Decl. at ¶ 57. His argument is that because “current” and “current flow” are both preceded by “DC,” they are both “being used in connection with direct current.” Baxter Decl. at ¶¶ 61-63. I agree that “current” and “current flow” both refer to direct current (DC) in the asserted claims.

98. However, from the fact that both “current” and “current flow” are preceded by DC as a modifier, Mr. Baxter wrongly concludes: “Thus, a person of ordinary skill in the art would understand that the terms ‘current’ and ‘current flow’ to mean the same thing in the context of the claims, namely a flow of electric charge.” Baxter Decl. at ¶ 63. Mr. Baxter’s conclusion does not logically follow and fails to consider the manner in which “flow” was added in the prosecution history.

99. As noted above, “flow” was deliberately introduced in the claims, which previously only mentioned “current.” This addition was made to distinguish the functional limitations (i.e., the actions) that the Ethernet terminal device/end device must perform from the structural limitations (i.e., the Ethernet connector and the path). In this respect, “current flow” connotes that current is actually flowing to satisfy the claim limitation.

100. For example, in contrast with the path's structure having an intended use "for the purpose of drawing DC current," the applicants specifically amended their claims to require that the piece of Ethernet terminal equipment draw different magnitudes of DC current flow via the at least one path.

101. Following Mr. Baxter's logic, the functional limitations in the claims reciting "current flow" become superfluous. The path coupled across has the structure for DC current to flow and is expressly defined with an intended use of drawing DC current. The Ethernet terminal equipment as claimed is already defined to include this path. Applying Mr. Baxter's interpretation, the Ethernet terminal equipment is merely configured (or designed) to draw different magnitudes of DC current flow in response to at least one condition applied to a contact. However, such a capability must already be present in the path through the operation of Ohm's law.

102. Any ambiguity concerning "current flow" is resolved by the prosecution history as discussed above. Applicants specifically added "flow" multiple times for the functional limitations. Applicants explained that the distinction over the prior art was "using" the path to draw current, not any structural difference.

103. The "at least one path" provides the structure to carry a DC current presented from one contact in one pair to another contact in another pair, and that current is governed by Ohm's law. Under the claim language, the Ethernet terminal equipment must have not just the *capability* to draw different magnitudes of DC current, it must actually draw different magnitudes of DC current.

(C) Path Coupled Across

104. The word "path" is used only once in the specification:

The output of signal modulator 7 is diode OR'd with the output of isolation power supply 8 and then connects to one of the transmit data lines that connect to remote module 16.

The return path for current from PC 3A is the pair of receive data lines.

'012 Patent, 7:31-53; '107 Patent, 7:37-61.

105. Mr. Baxter does not propose a plain and ordinary meaning of "path." The plain and ordinary meaning of "path" as used in the claims is the route or course over which the signal travels. Specifically, the "path" is the course that the signal travels from one claimed contact to the other claimed contact.

106. Variations of the word "couple" are used 16 times in the specification:

FIG. 10 is a detailed schematic diagram which illustrates a remote module and a central receiver module **coupled** to a network in accordance with the third embodiment of the present invention. '012 Patent, 4:4-7.

Each pair of transmit and receive wires are internally **coupled** to an associated personal computer via two windings of an internally located isolation transformer (not shown). Each pair of transmit wires and each pair of receive wires thereby form a current loop through one of the personal computers 3A through 3D which is advantageously employed in accordance with the approach described herein. '012 Patent, 5:25-32.

Within central module 15 a, high pass filter 62 prevents the encoded signal from being conducted through the data lines to hub 1. The signal **couple**s through transformer 72 to low pass active filter 74 which filters out normal network communications signals. The filtered signal is squared-up by comparator 76 and outputted to Manchester decoder 5. '012 Patent, 8:59-65.

It is also within the scope of the invention to **couple** the signal from the receiver data lines through an isolating device into a microprocessor wherein the low pass filtering and decoding functions are implemented. '012 Patent, 9:14-18.

The tether 150 includes two conductive lines 152 and 154 **coupled** between a pair of connectors 156 and 158. An attachment status signal is conducted through the conductive lines 152 and 154 for indicating whether the tether 150 remains attached to the protected equipment. The first conductive line 152 includes pads P1 and P2 inline to provide a means of shorting a break in the line. The second conductive line 154 is **coupled** directly between the connectors. An external jumper 160 is connected to the output connector 158 of the tether 150 to complete the electrical connection. '012 Patent, 11:26-36.

The system transmits a signal over pre-existing network wiring or cables without disturbing network communications by **coupling** a signal that does not have substantial frequency components within the frequency band of network communications. The system is particularly suitable for high-frequency networks such as Ethernet operating at speeds of 10 megabits per second (Mb/s) and higher. For purposes of this invention the term "high frequency information" means the band of frequencies needed to carry data at 10 Mb/s or more. **Coupling** a lower frequency signal to the data lines of such a network permits increased utilization of the available transmitting medium without a commensurate increase in the cost of the network.

'012 Patent, 11:64-12:9.

Further suppression of harmonics results from the lowpass filtering provided by the resistors used to **couple** the low frequency signal to the data lines acting with the capacitors used for the highpass function mentioned above.

'012 Patent, 12:43-47.

A decoder plug 206 attached to a computer port is electronically **coupled** to the sender tag 202. The decoder plug 206 receives the serial stream, and then converts the serial stream into a signal format that is compatible with the port to which the decoder plug 206 is connected. Although, in the presently preferred embodiment the decoder plug 206 is connected to a computer parallel port 210, the principles of the invention may be readily extended to other types of ports, such as USB, Firewire, keyboard, and serial ports. In addition, the scope of the invention includes **coupling** multiple ID senders 202 to a single decoder plug 206 so that multiple objects can be monitored with the decoder plug 206. Also, connecting multiple decoder plugs 206 in series is within the scope of the invention.

'012 Patent, 13:30-44.

Although the presently preferred embodiment of the invention includes a port reader 218 and a control manager 216, the principles of the invention may be practiced with merely an ID sender tag 202 electronically **coupled** to a decoder plug 206.

'012 Patent, 13:59-63.

The buffered serial stream is **coupled** from the output of the signal receiver 230 to an input of the processor 232 which converts it into a parallel stream. Firmware in the processor 232 implements an ID reader module 236 to provide the conversion function. A tri-state buffer 233 coupled to the processor 232 permits unobstructed passthrough communication from the interface port 210 to a peripheral device **coupled** to the decoder plug 204 through a connector 235.

'012 Patent, 14:64-15:5.

Continuing to refer to FIGS. 19 a and 20, during network management information mode a network manager determines the location or configuration of assets that are **coupled** to the network by interrogating ID senders 202 and decoder plugs 206 attached to assets.
'012 Patent, 16:5-9.

Although, in the preferred embodiment the comparison function of the control manager and database is executed on a network server electronically **coupled** through a network to an ID sender tag 202, the scope of the invention includes conducting the comparison locally on a computer that is being scanned, in a central database over a network, over a corporate intranet, and over the world wide Internet.
'012 Patent, 16:28-34.

107. Mr. Baxter cites to the McGraw-Hill Electronics Dictionary definition of "coupling." Baxter Decl. at ¶ 89. I agree that "coupling" or "coupled circuit" can be defined as allowing energy transfer between points along the specified path.

108. In the context of the claims, "couple" is used as a verb to connote that a signal will travel along the claimed path from one claimed contact to the other. Applying the definition of "couple" to the claims, an acceptable construction of "path coupled across" is a "path permitting energy transfer between," which uses Mr. Baxter's own definition.

109. However, Mr. Baxter seems to believe that the term "connection" is somehow more restrictive. It appears that he is interpreting that term to require a direct connection (e.g., through a single wire), with no intervening components, such as resistors, inductor windings, etc. Defendants' construction is not so limited. For example, Newton's Telecom Dictionary defines "connection" as "An electrical continuity of circuit between two wires or two units, in a piece of apparatus." There is no restriction, express or implied, about the connection being direct, without intervening devices. All that is required is continuity along the path.

110. Mr. Baxter's statements concerning "an important distinction for devices using DC current, like Power over Ethernet ('PoE') equipment" are irrelevant. Baxter Decl. at ¶ 91. PoE products have nothing to do with the Patents-in-Suit or any aspect of