United States District Court,
N.D. Georgia, Atlanta Division.

SOFTCARD SYSTEMS, INC,
Plaintiff.
v.
TARGET CORPORATION and Visa U.S.A., Inc,
Defendants.

Civil Action No. 1:03-CV-3585-ODE

Jan. 11, 2005.

John David Hamann, John L. North, Malvern Ulysses Griffin, III, William Franklin Long, III, William R. Silverio, Michael I. Krause, Troy R. Covington, Sutherland Asbill & Brennan, Atlanta, GA, for Plaintiff.

Demetrius Tennell Lockett, Patrick J. Flinn, Robin Lynn McGrath, John D. Haynes, Alston & Bird, John Philip Fry, Morris Manning & Martin, Atlanta, GA, for Defendants.

ORDER

ORINDA D. EVANS**, District Judge.**

In this civil action Softcard Systems, Inc. ("Softcard") charges Target Corp. and Visa U.S.A. Inc. ("Defendants") with patent infringement. On December 16, 2004, the court held a claim construction *Markman* hearing to hear arguments in support of the parties' proffered claim constructions of the three patents in suit. Having reviewed the parties submissions and considered their arguments, the court construes the disputed terms as follows. A detailed description of the court's findings follows the table below; the page number refers to where in this order the term is discussed.

Pg.	Term	Construction
37	"First," "second," etc.	"First," "second," and "third" do not within themselves connote serial or temporal limitations; they merely distinguish between instances of the same term.
38	"First computer"	No construction
38	"Signal"	A message, effect, or other information conveyed over a communication system.
39	"Signal corresponding to a product" [FN1]	A signal containing electronic coupon data consisting of a UPC code or other identifier unique to a product along with discount data.

FN1. Note that this construction applies in every instance of "signal corresponding to a product" except the "product signal corresponding to a product," which is construed below.

42	"Second computer"	A computer, not located in the customer homes, identified as the destination of a first signal.
44	"Network address"	An address which identifies one computer on a particular network to other computers on that network.
44	"Inter-network address"	An address, such as an IP address, that identifies a computer on one network to computers on different networks.
46	"Wide-area communication links"	Communication links that generally cover a large geographic area.
47	"Routing system"	A wide area network, connected by routing computers to two or more local area networks, that uses direct addressing to transmit signals from one routing computer to another and eventually to a final destination computer. A 'routing computer' is a computer with network addresses on more than one network. In order to communicate with each other, any two consecutive routing computers must be part of the same network. In order to send the signal further along the path, consecutive routing computers must also be part of at least one network not shared by each other. A routing computer uses routing tables or other means to choose the next routing computer in the signal path and direct the signal to that next routing computer.
57	"To cause the routing system to generate a plurality of network addresses, each of the plurality of network addresses corresponding to a respective computer in a respective computer network"	To cause the routing computers in the routing system to generate network addresses, each of which identifies the next routing computer in the signal path.
59	"To cause the routing system to generate a plurality of routing signals corresponding to a respective portion of a signal path between the first and second computers"	To cause the routing computers in the routing system to create data packets, each of which includes an address that identifies the next routing computer in the signal path.
60	"Routing signal"	A signal which defines a portion of the path that the first signal will take as it travels from the first computer to the second computer.
61	"Processor"	Computer hardware which can be attached to a computer such as a home PC or an in-store check-out computer. The processor can read data from the memory of a customer's card and can write data onto the memory of the card.
63	"Card signal"	A signal transmitted to or from a card.
64	"Purchase signal corresponding to a product"	A signal transmitted at the time of purchase, for instance by a check-out scanner device, that contains information about a product selected for purchase by a customer.

66	"Determining a price for the product depending on whether the card signal corresponds to the purchase signal"	Determining a price for the product by comparing the purchasing signal with the product data read from a customer's card and, if the products are the same, applying a discount read from the customer's card.
68	"Means for sending first signals from a first computer to the routing system"	Requires the structures (1) a coupon dispensing computer that stores electronic coupons and distributes them via telephone signal paths. The computer is capable of constructing an IP packet and includes circuitry for sending a data packet; (2) a data packet including information defining the packet's final destination as well as the next routing computer to which the data packet will travel.
69	"Means for sending a first signal"	Same as previous
70	"Means for receiving first signals"	Requires the structures (1) a second computer; (2) a home PC with a modem that can connect to the second computer through telephone lines.
71	"A receiver that receives first signals"	Same as previous
72	"Means for sending, responsive to a first signal received by the previous means, a card signal to a portable card"	Requires the structures (1) a card writing device, (2) memory that stores a driver program for sending coupons to the card-writing device, (3) a CPU that executes the driver program, (4) a computer and special processor with hardware and software for receiving a coupon from a network and storing the coupon on a portable card, and (5) the act of the device writing a received product signal onto the customer card.
73	"Means, responsive to the signal corresponding to the product from the second signal, for sending a card signal to a portable card in the plurality of cards"	Same as previous
73	"Means for receiving the card signal from the portable card"	Requires the structures (1) a check-out station including a CPU and program for communicating with the memory on customer cards; (2) a card interface slot in which a customer can insert her card and which allows the CPU to read customer cards.
73	"Means for reading the card signal from the portable card"	Same as previous
74	"Means for generating a purchase signal with an electromagnetic detector"	No construction
74	"Means for generating a purchase signal with a bar code reader"	No construction
74	"Means for receiving a	Requires the structures (1) a CPU and program that act to receive a purchase

	purchase signal corresponding to a product"	signal identifying a product; (2) a processor connected to the point of sale device that receives scanned product information.
74	"Means for receiving the [a] purchase signal"	Same as previous
75	"A second receiver that receives a purchase signal corresponding to a product"	Same as previous
75	"A receiver for receiving a purchase signal corresponding to a product"	Same as previous
75	"A receiver that receives a purchase signal"	Same as previous
76	"A determiner for determining a price for the product"	Requires the structures (1) a card interface, attached to the point of sale device, which can read customer cards; (2) a processor connected to the point of sale device that receives scanned product information: (3) a CPU and program that determines the price of the scanned product based on product-specific information from the customer card.
77	"A determiner that determines whether a transmitted coupon corresponds to the purchase signal"	Same as previous
77	"A determiner means for determining a price for the product depending on whether the first signal corresponds to the third signal"	Same as previous
77	"Means for determining a price for the product depending upon whether the card signal corresponds to the purchase signal"	Same as previous
79	"First network address"	A network address on the first network.
80	"Means for sending a first signal including a first network address, an inter-network	Requires the structures (1) a coupon dispensing computer that stores electronic coupons and distributes them via telephone signal paths. The computer is capable of constructing an IP packet and includes circuitry for sending a data packet; (2) a data packet including an inter-network address defining the

	address corresponding to a computer on another network, and a signal corresponding to a product"	packet's final destination and a network address defining the next routing computer to which the data packet will travel.
81	"Means, responsive to the inter-network address from the first signal, for sending a second signal including a second network address and the signal corresponding to the product"	Requires the structures (1) One or more routing computers; and (2) a data packet including an inter-network address defining the packet's final destination and a network address defining the next routing computer to which the data packet will travel.
82	"Coupon signal"	A signal containing electronic coupon data consisting of a UPC code or other identifier unique to a product along with discount data.
83	"Destination signal corresponding to a customer"	A signal which identifies the customer to which the signal is finally destined.
85	"A receiver that receives the coupon signal sent in the first signal"	Requires the structures (1) a second computer; (2) a home PC with a modem that can connect to the second computer through telephone lines.
85	"A determiner for determining whether a coupon has previously been processed"	Requires the structures (1) a home PC with memory that stores a driver program; (2) a list, maintained by the driver, of all previously processed coupons; (3) the act, taken by the driver, of comparing an E-coupon which the customer attempts to write onto a portable card to the list of previously processed coupons; (4) the act, taken by the driver, of ensuring that the E-coupon's time and date have not been modified by the customer.
85	"Means for determining whether a coupon, corresponding to the received coupon signal, has been previously processed"	Same as previous
85	"A determiner that uses a record for previous coupons to determine whether a coupon, corresponding to the coupon signal, has been previously processed"	Same as previous
86	"Determining whether a coupon has been previously processed"	Comparing an E-coupon to a list of previously received electronic coupons stored on a customer's computer to verify whether the coupon has been previously processed.

87	"Transmitter"	Any circuit or electronic device designed to send electrically encoded data to another location.
88	"Conditionally transmits the coupon, if the coupon has not been previously processed"	Transmitting a coupon only if the card is eligible to receive electronic coupons.
88	"Conditionally processing the coupon, if the coupon has not been previously processed"	Processing a coupon only if the card is eligible to receive electronic coupons.
89	"Determining whether a coupon, processed by the processing step, corresponds to the purchase signal"	Determining whether the product covered by the E-coupon matches the product identified in a purchase signal.
90	"First signal" [FN2]	No construction

FN2. As it appears in '135 patent.

91	"Reading a first signal in response to a person presenting the card at the communication device"	Automatically reading a first signal from the card as a direct result of a person inserting a card into a communication device.
92	"A reader that reads a first signal from the card memory of a card in the plurality of cards, in response to a person presenting the card at the communication device, the first signal corresponding to a product"	Same as previous
92	"Generating, responsive to the first signal, a second signal containing an image of the product"	Automatically generating a signal containing an image of the product when the unique identifier identifying that product is read from the memory of a customer card.
94	"Displaying, responsive to the first signal, an image of the product"	Automatically displaying an image of the product when the unique identifier identifying that product is read from the memory of a customer card.
94	"Signal corresponding to pricing information for a product"	A signal that includes pricing information for a product.
95	"Third signal, corresponding to a product"	A signal transmitted at the time of purchase, for instance by a check-out scanner device, that contains information about a product selected for purchase by a customer.

I. *Background*

A. *Basic Overview of the Softcard Patents*

This lawsuit concerns three patents held by Softcard: U.S. Patent Number: 6,067,526 (the "'526 Patent"), U.S. Patent Number 5,890,135 (the "'135 Patent") and U.S. Patent Number 6,012,038 (the "'038 Patent"). These patents are substantially related. The '526 and '038 Patents claim priority to the same parent application, and they both incorporate by reference the application for the '135 Patent, which was filed on the same day as the parent application to '526 and '038. The '135 Patent, in turn, incorporates by reference the parent to '526 and '038. As such, with minor exceptions noted, the parties agree that identical terms appearing in more than one of the three patents should be construed consistently.

All three patents concern systems and methods for distributing and redeeming electronic coupons, or "E-coupons." The patents, particularly '526 and '038, describe systems and methods in which E-coupons are sent over computer networks to customers who receive the E-coupons, save them onto portable "smart" cards, FN3 and redeem them at retail stores using the cards. The ' 135 Patent also includes sending the E-coupons over computer networks, but it describes this data transfer in less detail than the other two patents.FN2 '135 focuses more on a system for displaying and redeeming E-coupons at the store itself-basically in-store kiosks where customers can insert their smart cards and view what E-coupons they have stored.

FN3. Throughout this memo, "smart card" refers to a card, roughly the size of a credit card, with a memory chip and a magnetic strip. Smart cards can store data on the memory chip and that data can be read through the magnetic strip, i.e. much like a typical credit card reader. The patent claims call the smart cards "portable cards," but the difference is immaterial and the term is not in dispute.

FN2. However, '135 incorporates the other two by reference, so apparently they all involve the same data transfer process.

B. *Legal Overview*

According to Markman v. Westview Instruments, Inc., 517 U.S. 370, 390-91 (1996), patent claim construction is a matter of law to be decided by a judge. There are two basic categories of evidence a court uses to interpret patent claims: "intrinsic" evidence and "extrinsic" evidence. Intrinsic evidence includes the language of the claims themselves, the specification, and the prosecution history. Extrinsic evidence is everything else-notably reference materials (dictionaries or other publications) and any expert testimony.

"Intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). There is also a clear hierarchy of the persuasiveness of various kinds of intrinsic evidence. At the top of that hierarchy is the plain language of the claims themselves. Vitronics, 90 F.3d at 1582; *see also* Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc., 381 F.3d 1111, 1115 (Fed.Cir.2004) ("It is a bedrock principle of patent law that the claims of a patent define the invention"); Interactive Gift Express, Inc. v. CompuServe Inc ., 256 F.3d 1323, 1331 (Fed.Cir.2003) ("In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves"). Where possible, the words in the claims should be given their ordinary meaning, unless the patentee has used these words in a manner explicitly different from that ordinary meaning. Vitronics, 90 F.3d at 1582.

The second most important form of intrinsic evidence is the specification. Because claim terms are often not clear on their face, the specification helps explain the inventor's meaning. According to the Federal Circuit, "[t]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." Vitronics, 90 F.3d at 1582. However, the Federal Circuit has also cautioned that while the specification may "shed light" on the meaning of the claims, the embodiment found in the specification does not independently limit the scope of the claims' plain language. See, e.g., Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571 (Fed.Cir.1988) ("Appellant misinterprets the principle that claims are interpreted in the light of the specification. Although the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims.").

The third best form of intrinsic evidence is the prosecution history. The prosecution history is the complete record of the proceedings before the PTO leading up to the grant of the patent. Because the prosecution history often includes express representations by the patentee about his invention, this evidence is "often of critical significance in determining the meaning of the claims." Vitronics, 90 F.3d at 1582.

"In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim terms." Vitronics, 90 F.3d at 1583. Only where this is not the case should the court resort to extrinsic evidence. Id.

C. *How the Internet Works*

The Softcard patents concern E-coupon distribution and E-coupon smart cards. While at a basic level this technology is not difficult to understand, the primary complexity of the patents lies in the fact that they describe in great technical detail the manner in which the E-coupon information is transferred over computer networks, received by customers, and understood and interpreted by the card readers. To a large extent, the parties' arguments about claim construction trace back to a basic disagreement about the meaning of this technical language. Softcard wants the court to interpret the claims broadly enough to include Internet and e-mail transmission of coupons. Defendants, on the other hand, contend that the highly technical detail in the patents indicates that they do not include transmission over the Internet. According to Defendants, Softcard has only patented a very particular way of transmitting E-coupons over a particular type of computer network.

To understand both the technical language in the claims and the parties' arguments, this section summarizes, in a rudimentary fashion, the process by which data is normally transmitted over the Internet.FN5 This summary is meant purely to make the background technology comprehensible to a non-expert and thereby clarify the significance and reasoning behind the parties' proposed claim constructions.

FN5. The sources of this information were Preston Gralla, *How the Internet Works* (7th Ed., 2004), and the instructional website http:// computer.howstuffworks.com. Also helpful were the affidavits of John P. Kelly and Michail Bletsas, both experts for Defendants.

The Internet is a gigantic collection of millions of computers linked together to allow them to communicate with one another. A home computer is typically linked to the Internet using a phone-line modem, DSL or cable modem that talks to an Internet service provider (ISP). A business computer typically connects first to a local area network (LAN)-a network connecting the computers within the business to each other. The

business then connects its LAN to an Internet service provider through a high speed connection. The ISPs connect to larger ISPs, the largest of which maintain fiber optic "backbones" connecting the entire nation and world. The Internet can be thought of as a "network of networks" connecting various ISPs and local networks to each other.

In order for computers on the Internet to communicate, every computer on the Internet is given a unique IP address. "IP" stands for "Internet Protocol," a standardization system which facilitates communication over the Internet. The IP address of a computer is unique at any particular time, but the address may change each time the computer connects to the Internet. For example, when a home computer dials into an ISP, usually the ISP assigns the computer one of the IP addresses the ISP owns. The computer only has this address for the duration of that connection; the next time the computer connects, the ISP will give the computer a different IP address.

Each computer also has another kind of address, called a "hardware address." FN6 Unlike the IP address, a computer's hardware address never changes-hardware addresses are static and always identify the same hardware, regardless of whether the computer is connected to the Internet or any other network. While computers use the IP address to communicate across the Internet, they generally use the hardware address to communicate within a local network.

FN6. The "hardware address" is also sometimes referred to as a "MAC address," "physical address" or "Link Layer address."

In addition to standardizing the format and uniqueness of IP addresses, the Internet Protocol also standardizes the way data moves across the Internet. Whenever data is sent across the Internet, it is divided into discrete "data packets" of standard size defined by the Protocol. The packets travel across the internet separately and then are reunited at the destination. This makes the Internet more efficient, and is why the Internet is sometimes called a "packet switching network."

When a message or data of some kind is sent by the computer originating that message (the "Originating Computer"), the data is split into packets and an "IP header" is attached to each packet. The IP header contains two IP addresses: the IP address of the "Originating Computer" and the IP address of the computer for which the information is destined (the "Destination Computer"). The header also states how many packets this particular email message, webpage, etc. contains, and the number of this particular packet. In other words, the IP header includes the information necessary to get the packet to its final destination and to reassemble the original message of which the packet is one small piece.

In order to travel from the Originating Computer to the Destination Computer, each packet must be routed through a series of intermediate Internet-connected computers. This will require that the packet travel from one network to another network, since the Internet connects many smaller networks to each other. Specialized computers known as "routers" connect to multiple networks and are therefore capable of selecting the route that each packet takes. As the router receives a data packet, it looks at the destination address in the data packet's IP header and compares that address to a lookup table stored on the router. Each packet is sent toward its destination by the best available route according to the table, taking into consideration the current Internet traffic and other factors. The route chosen for one packet might be taken by all the other packets in the message or by none of the other packets in the message.

The router tells the packet to which intermediate computer it should hop next by adding another piece of data to the packet. This piece of information is called the "frame header," and it identifies the intermediate destination computer. Thus at any given point during the packet's journey, the packet includes (1) a frame header, telling the packet where to hop to next; (2) an IP header, which identifies the IP address of the Originating Computer and the Destination Computer; and (3) the packet data-the portion of the message that the sender intends to arrive at the destination.

As the packet moves from one intermediate computer to the next, each intermediate computer replaces the old frame header with a new frame header. When the packet reaches the Destination Computer, the frame header and the IP header are both removed and all the packets are recombined to reformulate the original message.

D. *Summary of the Specifications*

The extent to which the Softcard patent specifications should influence the court's construction of disputed claim terms is a central legal issue in this case; that issue is discussed in great detail below. From the perspective of someone not skilled in the art, however, the patent claims in this lawsuit are nearly impossible to understand without first understanding the specifications. For this reason, this section contains a simple overview of what is described in the patent's specifications, purely as a reference for understanding the parties' positions regarding the construction of claim terminology.

1. *The '135 Specification*

The '135 patent is entitled "System and Method for Displaying Product Information in a Retail System." This patent focuses on the in-store kiosks which read the smart cards and display information about the stored coupons. The specification also describes the transmission of E-coupon data across some kind of computer network, but it does so in much less detail than the specification from the other two patents (described following).

The '135 specification describes two preferred embodiments, although they are almost totally identical. The first embodiment includes a "coupon-dispensing computer" which stores electronic coupons and distributes the coupons "to homes via telephone signal paths." ['135, 3:49-51]. For simplicity, the "coupon-dispensing computer" will be called the "coupon server," as it is sometimes called in the patent. The coupon server resides within "computer networks 1020," where 1020 is simply a meaningless number used to label the networks on the schematic diagrams. ['135, 3:50; Fig. 1]. The '135 specification does not differentiate between the multiple networks that make up 1020. Moreover, after initially using the plural "networks," the specification mostly uses the singular "network" to refer to 1020. For simplicity, this network or networks will be referred to simply as the "network" because it is the only network or networks mentioned in the '135 specification.

At the homes, each customer has a personal computer ("PC") and a "special processor" "with hardware and software for receiving a coupon from [the network] and storing the coupon" on a portable smart card. ['135, 3:52-56]. "To receive an electronic coupon the user establishes a telephone connection between [his personal computer] and [a computer from the network]. ['135, 4:5-8]. This connection is established through a modem. "Subsequently, the user logs onto the computer within [the network] and reads Electronic mail sent by the coupon-dispensing computer." ['135, 4:8-10]. The customer then "prints" the data in the E-mail message onto the smart card using the special processor. The '135 specification does not describe in any greater detail how the data travels from the coupon server to the customer. Thus the '135 specification

describes this data transfer in much simpler terms when compared to the specification of the other 2 patents. However, at this point in the '135 specification, the other Softcard patents are explicitly incorporated by reference.

The '135 specification next describes the display kiosks that are also part of the patented system. "When a customer visits [a store], a customer can insert their customer card [into the] display kiosk to view information about the products identified on the card, including the appearance and location of the product." ['135, 4:29-32]. The kiosk "has circuitry for displaying information about the coupons loaded onto the card, including the product and discount amount of the coupon." ['135, 5:10-13]. The kiosk is also capable of displaying an image and verbal description of the product, as well as displaying for the customer information on where in the store the product is located. ['135, 5:14-16].

The '135 specification provides details on how customers obtain smart cards and how they are used. A customer provides demographic data on an application at the time he is first issued a smart card. ['135, 6:30-33]. A market research center compiles the demographic data about all the card-holders, which helps track the effectiveness of coupons and determine which coupons to send to whom. ['135, 6:47-50].

In addition to the in-store kiosks, card readers are also located at check-out. ['135, 7:9-10]. The customer redeems coupons stored on her card by inserting the card at the check-out station during check-out. These card readers match the product-specific coupon data on the cards with the products the customer has purchased. To identify products for this process, the systems always use UPC codes. ['135, 8:51 and 12:3-5]. Periodically, the check-out computers send electronic data to two places. Sometimes data is sent to the market research center to track customer behavior. Sometimes data is sent to a clearinghouse for redemption purposes, i.e. so that the store can be compensated by the manufacturer for the face value of coupons that customers have used. ['135 7:40-45].

The rest of the '135 specification describes in great detail how the circuitry of the kiosk stores product information-price, image, in-store location for a range of products-and how the kiosk calls up the correct product data in response to the coupons saved on a customer's smart card. The kiosk is capable of allowing customers to print an image of the coupon, with a picture of the product, a price, and a location within the store, i.e. "Aisle B, shelf 2." The kiosk can also allow customers to print a shopping list of all the products for which their smart card contains coupons, the list also including the location of the product within the store.

The second preferred embodiment described in the '135 specification differs from the first embodiment only in that in the second embodiment, the kiosks are additionally capable of displaying and printing a map of the store. The map is labeled with the location of all the products for which the customer's smart card has coupons.

2. *The '526 and '038 Specification*

The '526 patent is entitled "System and Method for Distributing Coupons Through A System of Computer Networks." The '038 patent is entitled "System and Method for Controlling Distribution of Coupons." Despite the different titles (and different claim language), as mentioned previously, the '526 and ' 038 patents share identical specifications.FN5 This specification concerns the method and system for distributing the E-coupons across computer networks to the customer homes and smart cards. It describes in much greater detail than the '135 specification the manner in which this data travels from the coupon server to the

customers.

FN5. For simplicity this section cites only to '526.

Unlike the '135 specification, which mentions only a single computer network or networks, the '526/'038 specification describes "a system of computer networks" which are interconnected ['526, 7:15-18]. Each network "includes a plurality of computers ." Each home is connected to one of these computer networks "via a respective telephone signal path." ['526, 7:28-29]. A computer within one of these networks "stores electronic coupons and distributes the stored coupons to the homes." ['526, 7:31]. Purely for the purpose of clarity, this computer will again be called the "coupon server." The coupon server resides on a network called the "first network," with all the computers on it called "first computers." Since this terminology is confusing, this first network will be called "the coupon server's network." The specification makes clear that the coupon server's network is a local area network ("LAN"). ['526, 7:43].

The '526/'038 specification goes into great detail about multiple computer networks involved in the data transfer and how that data transfer occurs. Figure 2 of the specification is particularly helpful in understanding the data transfer and the parties' related claim construction arguments.

According to the specification, each computer on the coupon server's network "has a respective network address uniquely identifying the computer" on that network. ['526, 7:48-49]. These computers (the ones on the same network as the coupon server) "can communicate with each other by sending data packets in a certain format." ['526, 7:50-51]. The format of these data packets is specific to the coupon server's network. Put another way, the coupon server's network has a particular "protocol" defining the format of these data packets. ['526, 7:53]. The coupon server includes software that allows it to construct a data packet "having the packet format of [the coupon server network and] containing a discount coupon identifying a product." ['526, 7:60-62].

The specification next describes a second computer network that includes "a second plurality of computers." ['526, 7:63]. Whereas the coupon server's network is a LAN, this second network is a "wide area network" or a WAN. ['526, 7:44]. Each of the computers on this second network "has a respective second network address uniquely identifying the computer" on this network, and they "can communicate with each other by sending a packet" of data in the second network's format. ['526, 8:3]. Neither the coupon server nor the customer PCs are a part of this second network. However, there is a computer that resides both on the second computer network and on the coupon server's network. The schematic drawings call this "computer 238," but the court will call it "Router 1" because it is the first of two routing computers.

As mentioned above, the coupon server is able to send data packets in a format understood by the other computers on its LAN. According to the specification, the coupon server sends a data packet that "includes a destination address field allowing [Router 1] to recognize that the data packet is to be received by [Router 1] ." ['526, 8:5-7]. Because Router 1 resides both on the coupon server's network and on the WAN, it "acts to route packets" between the two networks. ['526, 8:14]. More specifically, Router 1 receives the first data packet from the coupon server. That data packet is in the format of the coupon server's LAN and contains an electronic coupon identifying a certain product. Router 1 then sends a second data packet, which also contains the product-specific information. The second data packet is in the format of the second network (the WAN). ['526, 8:14-21].

Router 1 determines where to send the second data packet based on where the first data packet said that packet was destined. ['526, 8:22]. Because the first packet says it is destined for computer 276, Router 1 determines that the second data packet should be sent to computer 272. In particular, the specification describes that "[Router 1] determines that the packet should be sent to computer 272 on [the WAN] by reading a routing table." ['526, 8:66-67]. Computer 272 can be called "Router 2" because, like Router 1/computer 238, computer 272 sits on two networks, both the WAN on which Router 1 also sits and another LAN which hasn't been described yet. This third network (another LAN) is the network on which also sits computer 276.

The specification then describes the whole process again in even more detail about how these data packets are constructed and moved across the various networks. Starting again from the coupon server, the specification states that the coupon server "constructs an IP [data] packet addressed to computer 276, using the Internet Protocol (IP)." ['526, 8:30-31]. This is the first time that the specification mentions the Internet. The coupon server "embeds this IP packet" within a data packet formatted according the coupon server's network protocol. ['526, 8:32]. "When [Router 1] receives the packet, [Router 1] reads the IP address, determines that the IP packet should be sent over [the WAN], and imbeds the IP packet" within a second data packet. The second data packet is formatted according to the WAN's protocol and is addressed to Router 2. When Router 2 receives the packet, it "reads the IP address, determines that it corresponds to computer 276, and imbeds the packet in a packet addressed to computer 276" using the protocol of the third network. ['526, 8:40-43].

Thus there are really three data packets. First, there is the packet sent originally by the coupon server, in the format of the coupon server's network. When the packet reaches Router 1, Router 1 creates the second data packet, according to the WAN's format. The second packet travels to Router 2, which creates the third data packet, in the format of the third network. The third packet travels to computer 276.

The specification describes and diagrams the information contained in these three packets. ['526, Figures 3A, 3B, 3C]. Each data packet contains three "fields" of information. The specification calls the first field of information a "header field." ['526, 8:50]. This field includes a "destination address" indicating the next destination. In data packet one, the header field includes Router 1's network address, in the format of the coupon server's network. The second field includes the IP address of computer 276, the final destination. The third field is called the "coupon data," which is in text form. ['526, 8:55]. As the data packet travels, the header field is changed to form each of the new data packets. After Router 1 receives the first data packet, it generates data packet two. In data packet two, Router 1's address is gone, and now the header field includes Router 2's network address, in the WAN's format. Similarly, in data packet three, the header field includes computer 276's network address, in the format of the third network.

After all the technical detail, the specification includes one particularly clearly written paragraph summarizing the data transfer piece of the invention.

The preferred system may be conceptualized as computers sending packets containing electronic coupons. The preferred system may also be conceptualized as programs, running on the computers, that send electronic mail (Email) messages to each other. Each Email message includes one or more of the packets described above. The programs include a coupon server ... for constructing the Email message and sending the Email message to a customer, and Mail Transfer Agents and a User Agent that route the email messages between each other and ultimately store an email message ... into an electronic mail box for the recipient of the message. An electronic mail box is a memory area readable by the owner of the mail box.... To receiver

an electronic coupon, the user establishes a telephone connection between [the customer's home PC] and computer 276 through [a modem].

['526, 9:29-42].

This paragraph is the first mention of email, but the rest of the specification presumes that the E-coupons are sent in email format. The specification actually describes the content and appearance of these coupon emails in great detail.

The rest of the specification is not significantly different from the specification for '135. After downloading the E-coupons stored on computer 276 to her personal computer, the customer writes the coupon data onto her smart card using a special processor. The customer takes the card to the store and can redeem the coupons by swiping the card during check-out. The specification also mentions the kiosks for displaying the contents of the customer card, although the kiosks are not described in as great detail as in the '135 specification (that specification is incorporated by reference). The specification also describes particular ways that the system prevents the fraudulent or duplicate redemption of E-coupons.

III. *Claim Construction*

With the background in place, this section explains the reasoning behind the construction of all disputed terms. Before discussing particular terms, however, it is necessary to review the parties' overarching dispute about how the specifications should influence claim construction. This dispute colors all of the parties' proposed claim constructions, and reasonably so, since claim construction in this case largely turns on the extent to which the court relies on the specifications. The court's general finding on the relevance of the specifications is discussed here and can be assumed to apply to the court's construction of all disputed terminology.

Throughout their briefs, Defendants argue again and again that the court should put heavy emphasis on the particular embodiment of the inventions outlined in the specifications. Defendants argue that the claims lack meaning and context unless terms are construed in reference to the specifications. Defendants also argue that the patents only enable the particular invention described in the specifications and must be limited as such. *See, e.g.,* Modine Mfg. Co. v. United States Int'l Trade Comm'n, 75 F.3d 1545, 1551 (Fed.Cir.1996)("when the preferred embodiment is described in the specification as the invention itself, the claims are not necessarily entitled to a scope broader than that embodiment"). In essence, Defendants want the court to narrow substantially the breadth of the claims by interpreting the terms of the claims to mean no more than that which is described in the specification.

Plaintiff, on the other hand, protests that the court's duty during claim construction is to read and construe the claims based on their plain meaning, and that the specification describes only one possible embodiment of the invention. Plaintiff's briefs almost never refer to the specification as a source of guidance in construing the claims, except where Plaintiff acknowledges that a claim is in "means plus function" format. Plaintiff generally asks the court to construe the claim terms using simple dictionary definitions or even to leave many claim terms uninterpreted because that term is "clear on its face" or "requires no further construction."

Plaintiff is correct that it is a fundamental principle of claim construction that "limitations in the specification are not to be read into the claims." [Pl's Reply Claim Construction Brief, at p. 4]. Many

Federal Circuit cases caution against narrowing the meaning of the claims to conform precisely with the bounds of the preferred embodiment described in the specification. *See, e.g.,* Laitram Corp. v. Cambridge Wire Cloth Co., 863 F.2d 855, 865 (Fed.Cir.1988)("References to a preferred embodiment, such as those often present in a specification, are not claim limitations"); Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193, 1204-1205 (Fed.Cir.2002)(chastising a district court for finding claim terms to be limited to the single embodiment in the specification).

However, the central point of these cases is that limitations in the specifications which are not tied to the wording of the claims should not be imported during claim construction. At the same time, the Federal Circuit repeatedly emphasizes that the specification is the single best source for understanding the terms which do appear in the claims. Using the specification to understand the claims is not only acceptable practice, it is actually a critical required step during claim construction.

While Defendants may at times overreach in their specification-heavy approach to claim construction, Defendants at least acknowledge that construction begins with the claim terms themselves and concede that in places the specification should not be read into the claims. [Defs.' Reply Claim Construction Brief, at p. 9]. Plaintiff, on the other hand, unfairly characterizes nearly every reference Defendants make to the specification as an unlawful attempt to limit the scope of claim terms. By pushing such an unyielding position, Plaintiff offers the court little assistance in determining when and how the specification should be employed during claim construction at all.

Plaintiff's categorical rejection of the use of the specification simply does not square with the long line of cases that instruct courts to rely extensively on the specification as a key source of guidance.FN6 While reference to the specification may lead to claim constructions that appear to narrow the breadth of the invention, in reality such reliance on the specification reveals the meaning of claim language that could not otherwise be understood properly. While the specification should not be viewed as an *independent* limitation on the scope of claims, claim construction absolutely requires review and application of the specification "to ascertain the meaning of the claim term as it is used by the inventor in the context of the entirety of his invention ." Interactive Gift Express, Inc. v. CompuServe Inc., 256 F.3d 1323, 1331 (Fed.Cir.2003).

FN6. Two examples illustrate the latitude a court may sometimes take in applying the specification to understand and narrow claim terms. In Netword, L.L.C. v. Centraal Corp., 242 F.3d 1347, 1352 (Fed.Cir.2001), the court severely limited the scope of the claim term "local server computers" to include only local server computers that maintain and access a limited database of a specific type of "alias" information. This limitation derived entirely from the fact that these functions had been emphasized in the specification. The Federal Circuit explained that "[t]he claims are always construed in light of the specification, of which they are a part ... The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose." Netword, 242 F.3d at 1353.

In Karsten Mfg. Corp. v. Cleveland Golf Co., 242 F.3d 1376, 1380 (Fed.Cir.2001), the Federal Circuit approved of the district court's claim construction substantially limiting the scope of multiple terms because the "claim construction correctly reflected the description in the specification." Karsten, 242 F.3d at 1380. For instance, the *Karsten* court interpreted the claim term "correlated set" as applied to golf clubs to mean "two or more golf clubs sharing the same design characteristics and sold together in a set." The court further required that in order to constitute a "correlated set," the set of clubs had to be completely correlated, i.e.

every club had to share the design feature. All of these very specific limitations to the term "correlated set" derived from the specification.

Many other cases could be cited to support this point.

The key issue for the court, then, is determining where the fine line lies between treating the specification as an independent limit to the claims and using the specification to understand what the claims themselves mean. Comark Communications, Inc. v. Harris Corp ., 156 F.3d 1182, 1186-87 (Fed.Cir.1998). Helpful guidance was given by the Federal Circuit on how to locate this line in Wang Laboratories, Inc. v. America Online, Inc., 197 F.3d 1377, 1383 (Fed.Cir.1999):

Although precedent offers assorted quotations in support of differing conclusions concerning [whether the patent extends beyond the] scope of the specification, these cases must be viewed in the factual context in which they arose. Whether an invention is fairly claimed more broadly than the "preferred embodiment" in the specification is a question specific to the content of the specification, the context in which the embodiment is described, the prosecution history, and if appropriate the prior art, for claims should be construed, when feasible, to sustain their validity.

In other words, according to *Wang*, there is no single rule controlling the exact extent to which the specification should influence the claim construction. Rather, the degree to which claim construction turns on the specification depends largely on the context of the specific patents at issue-how the specific invention is claimed and especially how the invention is described. *See also* Alloc, Inc. v. Int'l Trade Comm'n, 342 F.3d 1361, 1370 (Fed.Cir.2003)("[T]his court recognizes that it must interpret the claims in light of the specification, yet avoid impermissibly importing limitations from the specification. That balance turns on how the specification characterizes the claimed invention.").

For a number of reasons, the court finds that reference to the specification is particularly appropriate to assist in construing the terms of the Softcard patents at issue in this suit. First, many if not most of the disputed terms in the Softcard patents are not terms with common meaning in the field of invention. The field itself-which could be summarized as "retail systems for distributing discount coupons" FN7-is not a field with the kind of inherent technological complexity of, say, genetics or chemical engineering. On the contrary, the highly technical terminology used in the Softcard patents is often unique to these patents and is generally not language familiar to one skilled in the art.FN8

FN7. All three patents explicitly state that this is the field of the invention. *See, e.g.,* ['526, 1:19-22; '135, 1:7-10] (stating under the heading "Field of the Invention" that "[t]his invention relates generally to a retail system and, more particularly, to a system and method for distributing discount coupons through a system of computer networks.").

FN8. Phrases such as "a signal corresponding to a product," "coupon signal," or "conditionally processing a coupon" have no meaning outside these patents. Indeed, Kenneth Powell, Softcard's CEO, admitted during his deposition that the claims are not intrinsically clear even to one skilled in the art. Powell is unarguably an expert in the field of the inventions: he is the sole inventor behind all three patents; he is Plaintiff's CEO and Chairman of its Board; and he has a professional degree in mathematical engineering and an understanding of electrical circuitry. Nonetheless, Powell testified repeatedly that the specific claim terms did not mean anything to him apart from his understanding of his invention itself.

For example, Powell testified that while he has "a very good understanding of what [his] invention was to begin with," [Powell Dep. at p. 301], he has "no understanding" of "what reading a first signal from the memory of the card and the plurality of the cards means." [Powell Dep. at p. 297-98]. According to Powell, "I described to our attorneys, you know, my invention and they used language to draft [the patents] that has, you know, legal meanings that are beyond my capabilities." [Powell Dep. at p. 289]. *See also* Powell Dep. at p. 299 ("[I]t is difficult for me to, you know, interpret, if not impossible, to interpret the meaning of these words"); Powell Dep. at p. 298 ("[The patent] has very specific legal meanings that I relied on counsel to draft").

Given that even Powell, the inventor behind the three patents and an expert in the relevant field, does not find the claims to convey any ordinary or customary meaning to someone skilled in the art, it is somewhat ironic that Softcard now contends that the claims are uniformly straight-forward, clear, and comprehensible without reference to the specification.

"Claims are to be construed from the vantage point of a person skilled in the relevant art." Vanderlande Industries Nederland BV v. I.T.C., 366 F.3d 1311, 1321 (Fed.Cir.2004). Because many of the claim terms and phrases in the Softcard patents are not easily recognizable to artisans in the field, the specification takes on added significance. Vanderlande Industries, 366 F.3d at 1321-22(specification best evidence for claim construction where claim terms have no meaning to those skilled in the art). Plaintiff frequently implores the court to use only dictionaries and ordinary definitions to construe the claims. However, "dictionaries, encyclopedias and treatises are particularly useful resources to assist the court in determining the *ordinary* and *customary* meanings of claim terms." Texas Digital Systems, Inc. v. Teleqenix, Inc., 308 F.3d 1193, 1202 (Fed.Cir.2002)(emphasis added); *see also* C.R. Bard. Inc., v. U.S. Surgical Corp., 388 F.3d 858, 863 (Fed.Cir.2004)(offering a number of relevant reasons dictionary definitions are "inappositive"). Where, as here, the claim terms are not terms of broad general usage within the field, the court's job is to determine the particular meaning of the claim terms in the context of the invention, not in an abstract, general sense. *See, e.g.,* Norian Corp. v. Stryker Corp., 363 F.3d 1321, 1326 (Fed.Cir.2004) (claim terms may be limited beyond their general meaning on the basis of the specifications and the prior art).

Second, with a few exceptions noted below, the court disagrees with Plaintiff's frequent assertion that most of the disputed terms are clear and require little or no further construction. Even where the patents employ terms with some customary usage-for instance certain terms relating to computer networks-the terms are anything but clear in the context of the highly specific and complex patents at issue in this case. In the judgment of the court, these patents simply are not clear, even to one skilled in the art, without extensive reference to the specifications. *See, e.g.,* Toro Co. v. White Consol. Indus., Inc., 199 F.3d 1295, 1299 (Fed.Cir.1999) ("words of ordinary usage must nonetheless be construed in the context of the patent documents").

Where the claims are not intrinsically clear, the specification rightly becomes critical to defining the claim language. *See, e.g .,* Interactive Gift Express, Inc. v. CompuServe Inc., 256 F.3d 1323, 1331 (Fed.Cir.2003)("[i]f the claim language is clear on its face, then our consideration of the rest of the intrinsic evidence is restricted to determining if a deviation from the clear language of the claims is specified ... If however the claim language is not clear on its face, then our consideration of the rest of the intrinsic evidence is directed to resolving, if possible, the lack of clarity."). Even where the specification does not explicitly define terms or affirmatively declare limits to the scope of the invention, it is entirely proper to refer to the specification to reveal the meaning of claim terms. Bell Atlantic Networking Serv., Inc. v.

Covad Communications Group, Inc., 262 F.3d 1258, 1268 (Fed.Cir.2001)("the specification may define claim terms by implication"); Alloc, 342 F.3d at 1370 ("where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims").

Third, although invalidity is an issue of fact not determined at this stage of trial, the Federal Circuit has stated repeatedly that "claims should be construed, when feasible, to sustain their validity." Wang Laboratories, Inc. v. America Online, Inc., 197 F.3d 1377, 1383 (Fed.Cir.1999). The specifications in the patents in suit describe an E-coupon distribution and redemption system in great detail and complexity. "Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention, neither do the claims enlarge what is patented beyond what the inventor has described as the invention." Netword, 242 F.3d at 1352. Were the court to construe the claim terms as open-ended and broadly as Plaintiff suggests, the patents could no longer be said to describe the inventions in the detail required by law. 35 U.S.C. s. 112 para. 2. Wang, 197 F.3d at 1383 ("claims are not properly construed to have meaning or scope that would lead to their invalidity for failure to satisfy the requirements of patentability").

Following is a more specific review of the construction of each disputed term from the three patents.

A. *Disputed terms in the* '526 patent

The '526 patent includes 51 claims, including 4 independent method claims and 9 independent system claims. The rest of the claims are dependent claims that narrow the independent claims slightly. The main focus of the claim construction dispute is the independent claims. Moreover, although there are 13 of them, they are very similar in structure and wording. Usually each independent claim differs from the others in only one or two phrases or words. So although there are 51 claims, they can substantially be understood in unison. Similarly, '038 includes 39 claims, but only 6 are independent.

The disputed terms from '526 usually appear in multiple claims, and some of those terms also appear in the other two patents. This discussion session will only note the different claims in which the same term appears where that appearance is significant. Unless otherwise noted, the same term can be assumed to mean the same thing across all claims in all three patents.

The Plaintiff's opening brief has a good "preliminary introduction" to the ' 526 patent, which appears at pages 8-9. The introduction accurately describes that the claims generally describe 8 different components:

1) *A component that is able to send a signal.*

2) *The signal itself,* which usually "corresponds to a product."

3) *The routing system,* which conveys the signal along its path.

4) *A receiving component* that receives the signal from the routing system.

5) *A card signal sending component* that sends data to the smart cards.

6) *The card signal itself,* which also "corresponds to a product."

7) *The in-store component* that reads the card.

8) *The smart card itself.*

Keeping these elements in mind, the court will begin by discussing disputed terms in Claim 2 of '526, followed by terms not in Claim 2 but present in other '526 claims, which generally differ from Claim 2 only slightly. As a reference, the text below is the entire text of Claim 2 of the '526 patent:

2. In a system including a plurality of portable cards, a plurality of homes, a store and a routing system for receiving a signal and generating network addresses in response to an inter-network address in the received signal, the routing system including a plurality of wide area communication links, a retail system comprising:

a first computer; and

a second computer, wherein the first computer includes circuitry for sending first signals to the routing system, each first signal including a signal corresponding to a product, and an inter-network address corresponding to the second computer, to cause the routing system to generate a plurality of network addresses, each of the plurality of network addresses corresponding to a respective computer in a respective computer network, and wherein the second computer includes circuitry for receiving first signals, and wherein the system further includes:

a plurality of first processors, each located in one of the plurality of homes, responsive to a first signal received by the second computer, for sending a card signal to a portable card in the plurality of cards, the card signal corresponding to the product; and

a second processor, in the store, for receiving the card signal from a portable card in the plurality of cards.

1. Terms from the Independent '526 Claims

" *First* " signal, computer, network etc.

The claims frequently refer to the "first" or "second" computer, the "first" or "second" network, etc. Plaintiff offers as a construction that " 'First,' 'second,' and 'third' do not within themselves connote serial or temporal limitations, but are merely to distinguish between or among repeated instances of the same term." [Pl.'s Opening Brief, at p. 13]. Defendants don't dispute this, it is readily apparent from the claims that these numerical terms are used as Plaintiff says; i.e. they are used only to differentiate between the computers, networks etc., not to suggest any ordering.

" *First computer* "

Neither party offers a construction for "first computer." The "first computer" is clearly the computer which the specifications call the "coupon dispensing computer" and which is called the "coupon server" in the specification summary above. The "first computer" is the one that stores the coupon data and sends the E-coupons. However, the role of the first computer is made clear and limited by the rest of the claim terms, and therefore "first computer" requires no construction.

" *Signal* "

The term "signal" is used in a number of senses throughout almost every claim in all 3 patents. Defendants did not propose a construction of "signal" in their opening brief, preferring instead to construe the different signals separately, i.e. the "first signal," "card signal," "coupon signal," "routing signal," etc.

Plaintiff, citing to the *McGraw Hill Dictionary of Scientific and Technical Terms,* proposes that "signal" be defined to mean "the intelligence, message, or effect to be conveyed over a communication system." [Pl.'s Opening Brief, at p. 12]. In reply, Defendants complain that this construction differs from Plaintiff's preliminary definition, which was "a general term for any electrical quantity that can be used to transmit information." Defendants ask the court not to define "signal" standing alone, but only to define the specific various signals in context.

Defendants are right that the different signals need to be defined individually. However, to understand its usage throughout the patents, "signal" also needs an independent construction. Defendants' objection to Plaintiff's proposed construction is a minor semantic quibble; their proposed construction does not differ from Plaintiff's in any significant way. More importantly, it is clear that throughout the claims, "signal" always refers to information being conveyed over a communication system. Therefore "signal" is construed to mean "a message, effect, or other information conveyed over a communication system."

However, it should be noted that as Defendants are correct that the different signals all need to be construed separately, the construction of "signal" standing alone takes on a more limited importance.

" *Signal corresponding to a product* "

This phrase appears in all of the independent '526 claims but in only Claim 1 of the '038 claims. According to Claim 2 (and many other claims), the "signal corresponding to a product" is included in the "first signal" sent by the "first computer" (i.e. the coupon server). In addition, claim 2 also states that a "signal corresponding to a product" is sent to and from the portable cards.

In the context of the '526 and '038 patents, Defendants propose that "signal corresponding to a product" be read to mean "A signal containing electronic coupon data consisting of a UPC code or other universally recognized identifier unique to a product along with discount data." [Defs.' Opening Brief, at p. 28]. Defendants support this proposed construction with reference to the specifications. As described above, in the specifications, the "signal corresponding to a product" is invariably an E-coupon. Defendants also cite to the prosecution history, during which Powell linked the term "signal corresponding to a product" to the parts of the specification that support Defendants' proposed construction. [Defs.' Opening Brief, at p. 28].

Plaintiff argues that "corresponding to a product" is clear on its terms and requires no construction. [Pl.'s Opening Brief, at p. 14-15]. Plaintiff points out (correctly) that the prosecution history doesn't really help Defendants' argument in this instance. When Powell points to the part of the specification that describes a "signal corresponding to a product," he explicitly states that his invention is not limited to that one embodiment described. [Pl.'s Reply Brief, at 15].

More generally, Plaintiff protests that Defendants are importing numerous limitations from the specifications that do not appear in the claims. [Pl.'s Reply Brief, at p. 14]. The general merit of this argument was discussed above. However, Plaintiff's argument is particularly unpersuasive with regard to "signal corresponding to a product."

First, Plaintiff's overall argument-that "signal corresponding to a product" is clear on its face-is simply perplexing. The term "signal corresponding to a product" has no ordinary or customary meaning, either to a lay person or to one skilled in the art.

Second, Defendants' construction is fair for the simple reason that these patents are entirely about electronic coupons. That is stated in the patent titles, their abstracts, and their specifications. *See, e.g.,* C.R. Bard, Inc., v. U.S. Surgical Corp ., 388 F.3d 858, 863 (Fed.Cir.2004)("statements which describe the invention as a whole" such as the patent's summary more likely to "support a limiting definition of a claim term"). The patents describe nothing except systems and methods for distributing and redeeming electronic coupons, and there isn't any hint within the intrinsic evidence of the '526 and '138 patents of what a "signal corresponding to a product" could possibly be besides electronic coupon data about a particular product.

The court therefore construes "signal corresponding to a product" to mean "A signal containing electronic coupon data consisting of a UPC code or other identifier unique to a product along with discount data." One important caveat is that this construction does not apply to the longer phrase "purchase signal corresponding to a product," which is discussed below. This purchase signal is basically the signal created when a check-out scanner scans a particular product the consumer is buying. In those cases, "signal corresponding to a product" is not referring to E-coupons but just to the data the check-out scanner scans, i.e. "this is a can of Campbell's soup" etc. Although this is a different use for the same phrase, in the context of the "first signal," the specification and written description of the invention require that "signal corresponding to a product" be construed to be limited to the E-coupon data.

" *Second computer* "

In Claim 2 and other claims using the term "second computer," the second computer "includes circuitry for receiving first signals," which are the signals sent by the coupon server (the first computer). The signals sent by the coupon server end up at the "second computer."

Plaintiff argues that "second computer" requires no further construction, because the claims sufficiently limit the second computer by describing it as the computer which is capable of receiving and which does receive the signal sent from the first computer. [Pl.'s Opening Brief, at p. 20]. As with most of Plaintiff's proposed constructions, this construction adds nothing to help the fact-finder understand the claims. Plaintiff is correct that the claims themselves create the limits on "second computer," but the purpose of construing "second computer" is to articulate exactly how the claims limit that term.

Defendants propose that "second computer" be construed to mean "An Email server identified as the destination of a first signal." [Defs.' Opening Brief, at p. 47]. Obviously, this is quite a severe limitation on the claims. While Defendants' proposed construction limits "second computer" in two ways, the court finds only one of them appropriate.

That the "second computer" is the "destination of a first signal" is easily supported by the claims, even without much reference to the specification. The claims themselves require that the first signal include the "inter-network address corresponding to the second computer." This address is clearly used to route the signal to the second computer. [Defs.' Reply Brief, at p. 34].

Defendants are correct that the second computer is always an Email server in the specifications; throughout

the specifications, the E-coupons are always sent as emails. The customers use their home computers and a modem to connect by phone to an email in-box located on the second computer. However, there is no direct support in the claim language for the "Email server" requirement. In addition, there is some suggestion in the specification that the invention could be broader than just email, particularly the phrase "The preferred system may be conceptualized as computers sending packets containing electronic coupons. The preferred system *may also be conceptualized* as programs, running on the computers, that send electronic mail (Email) messages to each other." ['526, 9:29-42](emphasis added). Thus even the specification presents email as an especially specific embodiment of the invention. For this reason "second computer" should not be so limited.

However, an additional limit to "second computer" is required by both the specification and the claims themselves: the second computer is not located in the customers' homes. Claim 2 (and most of the other claims) states that there is a *plurality* of processors (plural), each located in one of the homes (plural), that respond to the signal received by the second computer (singular). Thus there is only one second computer from which multiple processors in multiple homes receive the signal. While the processors are "each located in one of the plurality of homes," the claims say no such thing about the second computer. Combined with the specification, the patents therefore require that the second computer be located outside the customers' homes.

In sum, "second computer" is construed as "a computer, not located in the customer homes, identified as the destination of a first signal."

" *Network address* " *and* " *Inter-network address* "

Many of the claims, including claim 2 re-printed above, refer to two different kinds of addresses: "network addresses" and "inter-network addresses." These terms are easier to understand if considered together.

According to Claim 2, the first computer (i.e. the coupon server) sends a "first signal" that includes two things: a "signal corresponding to a product" and "an inter-network address corresponding to the second computer." The first signal heads to the "routing system" (described next). The routing system "generat[es] network addresses in response to an inter-network address" in the first signal. More specifically, "the routing system [generates] a plurality of network addresses, each of the plurality of network addresses corresponding to a respective computer in a respective computer network."

Softcard argues that "network address" needs no further construction. [Pl.'s Opening Brief, at p. 31]. Softcard proposes that "inter-network address" means "an address that identifies a computer to a network different from the network of the first computer." [Pl.'s Opening Brief, at p. 14].

Defendants propose that "network address" be defined as "an address that identifies a computer to the network" on which the computer sits. Thus a "first network address" identifies a computer to the first network, and a "second network address" identifies a computer to the second network. [Defs.' Opening Brief, at p. 41, 43]. Defendants propose that "an inter-network address" be construed as "an address of a computer on a different network than the first computer, which is recognizable by-computers on more than one network." [Defs.' Opening Brief, at p. 45].

Plaintiff complains about Defendants' use of the word "to" in the definitions of "network address." [Pl.'s Reply Brief, at p. 27]. Plaintiff's complaint is trivial. For all relevant purposes, the parties essentially agree:

a "network address" identifies the computers on that network to each other. Moreover, although Plaintiff is correct that "network address" is a technical term, it still needs to be construed in order for the claims to retain clarity. *See, e.g.,* Norian, 363 F.3d at 1326 ("The meaning of a technical term in a patent claim is determined in accordance with its usage in the specification"). Leaving "network address" undefined will needlessly confuse the fact finder.

Plaintiff also complains about Defendants' definition of "inter-network address," saying that "nothing in the claim or the use of the term requires that the inter-network address be recognizable by computers on more than one network." [Pl.'s Reply, at p. 29]. Again, Plaintiff's complaint is trivial. Common sense dictates that the address is only an "inter-network" address if computers on more than one network can read it. However, Defendants' proposed definition is needlessly redundant and confusing.

Accordingly, a "network address" is construed as "an address which identifies one computer on a particular network to other computers on that network." "Inter-network address" is construed as "an address, such as an IP address, that identifies a computer on one network to computers on different networks."

" *Wide-area communication links* "

As discussed above in relation to the "routing system," most of the claims require that the "routing system" include a plurality of "wide-area communication links." Plaintiff proposes the construction "communication links that generally cover a large geographic area." [Pl.'s Opening Brief, at p. 17]. Defendants don't discuss the term, and Plaintiff's construction is entirely fair. However, it is important to note that the construction of "wide area communication links" on its own is relatively unimportant. Rather, this phrase is important because it alters the court's construction of "routing system," described next.

" *Routing system* "

"Routing system" appears in almost every independent '526 claim and in independent claims 14, 23 and 26 of the '038 patent. This term is crucial to the construction of the claims because the "routing system" is critical to the parties' different views of whether the patents cover Internet transfer of data or only something more specific.

Plaintiff argues that "routing system" requires no construction. Plaintiff cites a dictionary definition of "routing" to mean "the assignment of a path by which a message will travel to its destination." [Pl.'s Opening Brief, at p. 15]. According to Plaintiff, a routing system is simply a "system that routes."

Defendants argue that "routing system" is not a term of art and is defined in the specification. [Defs.' Opening Brief, at p. 48]. The routing system consists of Router 1, sitting on the coupon server's LAN and the WAN, and Router 2, sitting on the WAN and the third network (see specification summary above). Defendants also cite the prosecution history. When the patent examiner complained that the term "routing system" was not sufficiently supported by the patent's written description, Powell cited the two routing computers and the WAN from the specification. Id. Accordingly, Defendants propose that "routing system" be defined as "A wide area network, connected by routing computers to two or more local area networks, that uses direct addressing to transmit signals from one routing computer to another. A routing computer is a computer that has a network address on both the wide area network and a local area network." Id.

Plaintiff again responds that Defendants are importing limits from the specification that are not present in the specification. Plaintiff also points out that Powell specifically told the PTO that the routing system was

"not limited to" the specification. [Pl.'s Reply Brief, at p. 31]. Finally, Plaintiff argues that "routing system" is sufficiently limited by other claim terms. According to the claims, the "routing system" must include "a plurality of wide area communication links" and must "generate network addresses" in response to the first signal. In claims other than claim 2, the routing system often "generates routing signals" (instead of generating network addresses) in response to the first signal. Plaintiff suggests that these are the only claim limits on "routing system."

Plaintiff's notion that "routing system" is a clear technical term that needs no definition makes little sense. Plaintiff is right that the claims themselves limit "routing system," but the question is *how* has "routing system" been limited-what do all those limits mean together in the context of the invention described in the specifications. Defendants argue persuasively that if "routing system" really includes any and all systems that route, "Powell would have had no need to include within the claims the intricate details of how data is transferred from one computer to the next." [Defs.' Reply Brief, at p. 32].

Despite Plaintiff's complaints, aside from one controversial point, Defendants' proposed construction for "routing system" is easily upheld. First, the "routing system" is clearly a "wide area network" in the specification, and the claim language itself supports that requirement since the routing system must include "a plurality of wide area communication links."

Second, Defendants are right that the routing system must include routing computers which have both a WAN and a LAN network address and which connect the WAN to one or more LANs. This is an accurate and fair description of the specifications. More importantly, these elements of the routing system are clearly contained within the claim language, since the routing system receives the first signal from a computer on a LAN, reads the inter-network address in that signal, and routes the signal based on that inter-network address.

The controversial part of Defendants' proposed construction is the construction that the routing system "uses direct addressing to transmit signals from one routing computer to another." This limitation reflects Defendants' contention that in the specification, the data packets "hop" from router to router in a manner inconsistent with normal Internet data transfer (see specification summary above).

Contrary to Plaintiff's counsel's averment during oral argument, the construction of routing system requires the court to consider whether the Softcard patents encompass or are equivalent to Internet data transfer. As Defendants suggest, there are potentially significant differences between contemporary Internet data transfer and the E-coupon data transfer described in the specifications. First, in the specifications, the data packets "skip" intermediate computers along the path from the coupon server to computer 276. The specification describes the data packets traveling from the coupon server, to Router 1, to Router 2, and to computer 276. However, according to Figure 2, Router 1 and Router 2 do not actually connect directly. There are intermediate computers that as a matter of logic, the packet would have to hop to between these steps. Yet these intermediate computers are never identified in the data packets. Instead, the packet is given a header identifying the next router even if the data packet necessarily passes through other computers before reaching that next router. In contrast, packets transferred over the Internet normally require that the header includes the addresses of the very next computer in the path. Moreover, Internet data packets normally do not include the headers for computers along the path that are neither the final destination nor the immediate next computer.

Second, the specifications never say anything about the first signal being split into smaller data packets in

order to be transferred over the networks and reassembled at the destination, as would normally occur during Internet data transfer (see above). In fact, in places the specification implies that every data packet transferred across the networks contains a complete electronic coupon as opposed to only a piece of the coupon data. *See, e.g.,* ['526, 7:59-61]("The circuitry [of the first computer] includes software for constructing a packet, having the packet format of network 115, containing a discount coupon identifying a product"); ['526, 9:30-31]("the preferred system may be conceptualized as computers sending packets containing electronic coupons").

It seems clear to the court, then, that the specification is describing a preferred embodiment that materially differs from Internet data transfer. During the claim construction phase, the question is whether these features of the data transfer are part of the invention claimed or simply part of the preferred embodiment. For a number of reasons, the court believes that direct addressing must be read to be part of the claims.

First, the patents describe the data transfer process in intricate detail. That process is clearly an integral part of what makes the inventions novel. The inventor himself said as much during claim prosecution: when amending his claims in response to the PTO's initial rejection Powell declared that "[t]he prior art of record does not suggest any of applicant's claimed interrelations of the recited signal communications schemes with the recited portable cards." [Defs.' Opening Claim Const. Brief, Exh. I, at p. 20]. The clear implication of Powell's statement is that he recognized that the originality of his inventions depended in part on the specific data transfer process outlined in the patents. The "signal communications schemes" which Powell included in the patents must be read into the claims themselves because Powell himself distinguished his invention on that basis. *See, e.g.,* Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir .1995) ("Arguments and amendments made during the prosecution of a patent application and other aspects of the prosecution history, as well as the specification and other claims, must be examined to determine the meaning of terms in the claims").

Second, the claim language itself strongly suggests that on each leg of its journey, the packet jumps to a routing computer in another network, as suggested by Defendants' proposed construction. According to the claims themselves, each network address generated by the routing system "correspond[s] to a *respective* computer in a *respective* computer network." ['526, Claim 2] (emphasis added). The parallel use of "respective" strongly suggests that each computer along the path is in a different network-i.e. each computer along the journey is a routing computer connected to another LAN. The claims do not suggest that additional network addresses are also generated to identify intermediate computers between any two routers. This feature of the specification is rightly read to be part of the claims themselves because the claim language refers to this feature in the specification.FN9

FN9. Plaintiff's expert, Dr. Ellen W. Zegura, testifies that the claim language is readily recognizable as describing a packet switching network such as the Internet. [Zegura Decl.]. However, much like Plaintiff in its briefs, Zegura never once refers to the specification as guidance for what the language of the claims mean. For this reason, Zegura incorrectly characterizes the patents in a number of key respects. Although Zegura tries to articulate in detail what the claim language means, all she really describes is a traditional packet switching network like the Internet, not the network described in the specification.

For example, Zegura asserts that "to cause the routing system to generate a plurality of network addresses, each of the plurality of network addresses corresponding to a respective computer in a respective computer network" simply describes a packet switching network. [Zegura Decl., at p. 6]. Yet in describing a packet switching network, Zegura states that "when the packet is received by one computer along the path, that

computer generates an address for the next computer along the path." *Id*. That is how the Internet functions, but decidedly not how the system in the specification functions. In the Powell system, the address of the next *routing* computer is generated, not the address of the next computer in the signal path. In fact, the signal travels through a number of intermediate computers whose network addresses are never mentioned. The court concludes that this specification feature is a limitation on the invention captured by the claim language "respective computer in a respective computer network." Without reviewing the specification, there is no way Zegura could fully appreciate the significance of this phrase.

Third, the specification itself distinguishes between the Internet and the routing system. The specification describes in great detail the transmission of the E-coupons without a single reference to the Internet. Later, however, the specification explicitly cites the World Wide Web and the Internet as means to transmit the customer's email address to the coupon server:

There are two preferred methods for getting the Email address for PC 400 [i.e. the customer's PC] to the coupon server on node 230, to allow the server to send a coupon to PC 400. The first preferred method is to program the coupon server using data collected from sources off of the Internet. The second preferred method is to allow the user of PC 400 to send her Email address, through the computer networks, to node 230.

['526, 13:5-11].

In other words, the specification itself distinguishes between sending data over the Internet and sending data "through the computer networks." While the customer's email address may be sent to the coupon server either over the Internet or over other (perhaps proprietary) computer networks, the E-coupons are sent only over the computer networks and not over the Internet.

Finally there is a strong common sense argument in favor of limiting "routing system" to direct addressing. Put simply, if this routing system is just the Internet-or even if this routing system is meant to encompass the Internet-why don't the patents say so? The patentee chose to describe the data transfer in intricate detail, making the total non-reference to the Internet all the more conspicuous.FN10

FN10. Although the specifications refer to IP addresses during the E-coupon transfer, the specifications never suggest that the data is being transferred over the Internet-or even that such transfer might be one embodiment of the invention. IP addresses are used by data routing systems other than the Internet.

It is instructive to contrast the Softcard patents to the prior art patents related to E-coupons. Multiple prior art patents quite clearly refer to the Internet as their chosen method for transferring E-coupons. Both the abstract and the claims in Jovicic, a patent for an "Electronic Coupon Communication System" explicitly declare that the E-coupons travel across "a public computer network such as the Internet". [Defs.' Opening Claim Const. Brief, Exh. H, Abstract and Claim 1].FN11 Similarly, the very first sentence of the abstract to the Scroggie patent describes the invention as "A system and method for delivering purchasing incentives and a variety of other retail shopping aids through a computer network, such as by E-mail over the Internet or the World Wide Web." [Defs.' Opening Claim Const. Brief, Exh. G]. In contrast, the Softcard patents never mention even the possibility that the "routing system" might be the Internet or the World Wide Web.

FN11. Jovicic is "cited prior art"-i.e. Jovicic was considered during all three patent's prosecution. As such, Jovicic represents intrinsic evidence that may be consulted to limit the scope of the claims. *See* Vitronics

Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1585 (Fed.Cir.1996), *citing* Autogiro Co. of America v. United States, 181 Ct.Cl. 55, 384 F.2d 391, 399 (1967) ("In its broader use as source material, the prior art cited in the file wrapper gives clues as to what the claims do not cover.").

Including such a highly detailed description of data transmission just makes little sense if the entire description simply refers to the Internet. The Internet is not something that any user of the Softcard patent would ever need to build or replicate on his own; it already exists and functions. If the Softcard patents concerned Internet data transfer, there would be no need for the patentee to enable Internet networking and packet switching in such detail; no artisan would need to read and learn the precise method the Internet uses to transfer data. These details were not invented by Softcard and would not need to be described were they not referring to something narrower than the Internet.

To describe a data transmission system and method in such detail, as these specifications do, and yet not even to mention that the Internet is being used, would not only be exceedingly abnormal; it would likely mislead a reader about the scope of the patent. *See, e.g.,* Enzo Biochem, Inc. v. Gen-Probe Inc., 323 F.3d 956, 968 (Fed .Cir.2002)("the language of the specification, to the extent possible, must describe the claimed invention so that one skilled in the art can recognize what is claimed"). To work backwards from all the detail and conclude that the patent actually is broad enough to include Internet data transfer would be inconsistent with the idea that a patent's claims and specification are designed to put future inventors or manufacturers on notice of the scope of one's invention. *See, e.g.,* Markman, 52 F.3d 967 at 997 ("a patent may be thought of as a form of deed which sets out the metes and bounds of the property the inventor owns for the term and puts the world on notice to avoid trespass"); Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1561 (Fed.Cir.1991)(purpose of specification is to force the inventor to describe his invention in enough detail to disclose the means to practice the invention and to prevent the inventor from "pretending that his invention is more than what it really is").

The court finds that the highly specific data transfer described in the specifications differs materially from the functioning of the standard Internet. Moreover, the specifications simply do not suggest that there is any alternative transmission network that would similarly embody the claimed invention. Under these circumstances, it is proper and indeed required that the court construe the given term to be limited to what is described in the specification. *See, e.g.,* SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc., 242 F.3d 1337, 1341 (Fed.Cir.2001)("Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question").

Accordingly, "routing system" is construed to mean "A wide area network, connected by routing computers to two or more local area networks, that uses direct addressing to transmit signals from one routing computer to another and eventually to a final destination computer. A 'routing computer' is a computer with network addresses on more than one network. In order to communicate with each other, any two consecutive routing computers must be part of the same network. In order to send the signal further along the path, consecutive routing computers must also be part of at least one network not shared by each other. A routing computer uses routing tables or other means to choose the next routing computer in the signal path and direct the signal to that next routing computer."

" *To cause the routing system to generate a plurality of network addresses, each of the plurality of*

network addresses corresponding to a respective computer in a respective computer network "

This phrase appears in claims 2, 7, 20, 24, 28, 32, 44 and 48 of the ' 526 patent. According to the prosecution history, this phrase refers to the process in the specification where the data packets are moved across the WAN. Specifically, this claim phrase refers to when Router 1, upon receiving the first data packet from the coupon server, generates a WAN address identifying Router 2, adds it to the data packet, and sends this second data packet to Router 2. Then, Router 2 generates a LAN address for the destination computer, replaces the WAN address for Router 2 with the LAN address for the destination computer, and sends along this third data packet. [Defs.' Opening Brief, at p. 49-50].

Defendants propose a construction only of the shorter phrase "to cause the routing system to generate a plurality of network addresses." Based on the connection between the claim phrase and the specification, Defendants propose the claim phrase be constructed to mean "Using routing computers to create addresses for use in routing signals, each of which identifies the next computer in the signal path to the network shared by that computer and the routing computer that created the respective address."

Plaintiff responds that this term needs no construction and offers no further explanation for the phrase. [Pl.'s Reply Brief, at p. 33]. Plaintiff's argument is especially weak with regard to this term, a technical claim phrase with no general meaning to one skilled in the art. However, Defendants' proposed construction is confusing, especially because it changes the verb tense of the phrase to be construed.

Accordingly, the court construes the phrase "to cause the routing system to generate a plurality of network addresses, each of the plurality of network addresses corresponding to a respective computer in a respective computer network" to mean "to cause the routing computers in the routing system to generate network addresses, each of which identifies the next routing computer in the signal path. A 'routing computer' is a computer with network addresses on more than one network. In order to communicate with each other, any two consecutive routing computers must be part of the same network. In order to send the signal further along the path, consecutive routing computers must also be part of at least one network not shared by each other. A routing computer uses routing tables or other means to choose the next routing computer in the signal path and direct the signal to that next routing computer."

" *To cause the routing system to generate a plurality of routing signals, each of the plurality of routing signals corresponding to a respective portion of a signal path between the first and second computers* "

This is the first phrase discussed that is not found in Claim 2, the text of which is reprinted above. This phrase appears in claims 11, 16, 24, 36, 40 and 48 of the '526 patent. The only difference between claim 11 and claim 2 is that whereas in claim 2, the routing system generates the "plurality of network addresses," in claim 11, the routing system generates "routing signals," per the phrase being discussed here. The claims generally follow this pattern: all the '526 independent claims are fairly similar, varying from each other in only one or two phrases.

Plaintiff concludes that this entire phrase should "be afforded its plain and ordinary meaning, without further construction." [Pl .'s Opening Brief, at p. 20]. However, Plaintiff does offer some help in construction before reaching this unhelpful conclusion. First, Plaintiff states that a "routing signal" "controls the path that the first signal will take as it travels from the first computer to the second computer." [Pl.'s Opening Brief, at p. 18]. Plaintiff also argues that this term should be contrasted with the analogous limitations found in other claims (discussed in the immediately prior section). In other words, Plaintiff argues that in some claims, the routing system generates "routing signals," and in other claims, the routing system generates "network

addresses," so the two should not be construed identically.

Defendants propose a construction for the entire phrase: "Using routing computers to create data packets, each of which includes an address that identifies the next computer in the signal path to the network shared by that computer and the routing computer that created the respective data packet." [Defs.' Opening Brief, at p. 49]. Defendants also argue that Plaintiff never clarifies what a "routing signal" is. According to Defendants, the specification makes clear that a "routing signal" is "the data packet generated by a routing computer that includes the network address of the next computer in the signal path." [Defs.' Reply Brief, at p. 38].

First, " *routing signal* " is construed to mean "signal which defines a portion of the path that the first signal will take as it travels from the first computer to the second computer." This is the definition which Plaintiff concedes in its opening brief, and which is necessary to understand the entire phrase.

However, defining "routing signal" does not provide enough clarity to the entire phrase "To cause the routing system to generate a plurality of routing signals, each of the plurality of routing signals corresponding to a respective portion of a signal path between the first and second computers." This language must be construed as a single phrase. Moreover, additional limits to this phrase's scope are absolutely required because on its own the phrase simply does not describe the invention adequately. According to only this claim language, the routing system apparently generates routing signals describing the path between the first and second computer. Then, suddenly, the first signal reaches the second computer. The claim language does not clarify who receives these routing signals or how they achieve their goal of guiding the signal from the first to the second computer.

In other words, this claim language is incoherent without reference to the specification. There, it becomes clear that the routing signals are sent by routing computers and that each routing signal indicates the next computer in the signal path. The routing signal is comprehensible to the network shared by the next computer along the signal's path and the routing computer that sent the routing signal. [Defs.' Reply, at p. 38].

Accordingly, the court construes the phrase "To cause the routing system to generate a plurality of routing signals, each of the plurality of routing signals corresponding to a respective portion of a signal path between the first and second computers" to mean "to cause the routing computers in the routing system to create data packets, each of which includes an address that identifies the next routing computer in the signal path." Routing computer is defined identically as it was above.

" *Processors* "

"Processors" appear in Claims 2 and 11 of the '526 patent. According to the claims, these "processors" are each located in one of the homes or are attached to in-store computers; they are "responsive to a first signal received by the second computer;" and their purpose is "for sending a card signal to a portable card."

Defendants propose to construct the entire phrase "processors responsive to a first signal received by the second computer, for sending a card signal" as "CPUs adapted to translate an electronic coupon contained in an e-mail message into binary format and send the binary coupon data to the memory of a customer's card." [Defs.' Opening Brief, at p. 34]. Plaintiff proposes to define "processors" as "a device that performs one or many functions" or as "a program that transforms some input into some output." [Pl.'s Opening Brief, at p.

21].

Plaintiff's dictionary definition of "processor" is unhelpful, but Defendants have gone too far in limiting the "processors" phrase. In particular, Defendants are misreading the specification diagrams to suggest that the entire customer PC or store computer is the "processor." On the contrary, according to the diagrams and specification, a processor is decidedly not a CPU; it is simply the device that attaches to a computer, accepts the smart cards, and can read data from and write data onto the cards. [See '526, Fig. 4: 415 is the "coupon writing device," i.e. the processor, whereas the whole figure is the personal computer].

The specification does make clear that the data written onto the cards is in binary format; indeed, the binary format of the data is described in great detail. However, the binary format of the data written to the card is neither expressed nor even implied by the claim language itself.

"Email" should not be imported into the "processor" construction because although the specification clearly involves emailing the E-coupons, the email elements of the specification are not closely related to the card writing device.

Finally there is no need to require the "processor" to read "Electronic coupons" since an E-coupon limitation will apply to the whole system on account of the construction of other terms. Including it here would needlessly clutter the construction.

In sum, the court construes "processor" to mean "computer hardware which can be attached to a computer such as a home PC or an in-store check-out computer. The processor can read data from the memory of a customer's card and can write data onto the memory of the card."

" Card signal "

Every independent '526 claim uses the term "card signal." Only Claim 1 of '038 uses the term "card signal." The processor sends a "card signal corresponding to the product" to the smart cards. Also, the cards send a card signal to the second processor, which is the machine that reads the card at the store check-out counter.

Defendants propose that "card signal" be defined as "A signal transmitted to or from a card that contains electronic coupon data consisting of a UPC code or other universally recognized identifier unique to a product along with discount data." Defendants argue that "card signal" is not a term of art and should therefore be defined as it is used in the specification. [Defs.' Opening Brief, at p. 31].

Plaintiff again responds that Defendants are improperly importing limits from the specification. [Pl.'s Reply Brief, at p. 18]. Plaintiff proposes that "card signal" means simply "a signal capable of being sent to or received from a portable card." [Pl.'s Opening Brief, p. 23].

The problem with Defendants' construction is that it makes "corresponding to a product" redundant by reading into "card signal" the requirement that the card signal include coupon data. Defendants are right that the card signal includes coupon data; however that limitation derives from the claim phrase "corresponding to a product." Thus "card signal corresponding to a product" should be construed as a single phrase. However, this is easily done because "signal corresponding to a product" was already construed above to mean "A signal containing electronic coupon data consisting of a UPC code or other identifier unique to a product along with discount data."

The court construes "card signal" to mean "a signal transmitted to or from a card." Thus a "card signal corresponding to a product" means "A signal corresponding to a product transmitted to or from a card."

2. *Terms from Dependent '526 Claims*

" *Purchase signal corresponding to a product* "

This phrase does not appear in Claim 2, nor in the other independent '526 claims. However, this phrase appears in almost every dependent claim: claims 4, 8-10, 13, 17-19, 21-23, 25-27, 29, 33-35, 37, 41-43, 45-47, and 49-51. The phrase also appears in '038 claims 7, 12, 13, 19, 29, 31, and 34.

Claim 4 from '526 is representative. This dependent claim adds as a further limit to the system described in claim 2 that "the store includes a receiver for receiving a purchase signal corresponding to a product." A "determiner" at the store determines the product's price "depending on whether the card signal, received by the [check-out smart card reader] corresponds to the purchase signal." ['526, 19:10-14].

Based on this language and on the specification, Defendants propose that "purchase signal corresponding to a product" be defined as "a signal transmitted at the time of purchase that contains the UPC code of a product selected for purchase by a customer," i.e. the signal "of a product scanned by a bar code reader during checkout." [Defs.' Opening Brief, at p. 39].

Plaintiff protests Defendants' definition for the usual reasons, but doesn't offer any other definition of "purchase signal corresponding to a product." [Pl.'s Reply Brief, at p. 26]. Plaintiff says "purchase signal" is easily understood and requires no construction. [Pl.'s Reply Brief, at p. 26]. On the contrary, "purchase signal" has no ordinary meaning outside this patent and must be construed. It is entirely clear that the "purchase signal" is the information scanned from a product a customer is buying.

The court construes "purchase signal corresponding to a product" as "a signal transmitted at the time of purchase, for instance by a check-out scanner device, that contains information about a product selected for purchase by a customer."

" *Determining a price for the product depending on whether the card signal corresponds to the purchase signal* "

This phrase does not appear in Claim 2, nor in the other independent '526 claims. However, this phrase appears in many of the '526 dependent claims: claims 8-10, 17-19, 33-35, and 41-43.

Defendants offer the construction "Comparing the UPC code of the purchase signal with the UPC code read from a customer's card and, if there is a match, applying the discount read from the customer's card to calculate the price of the product identified by the purchase signal." [Defs.' Opening Brief, at p. 40]. Plaintiff disputes the need to offer any construction for this phrase.

At oral argument, Defendants conceded that a UPC code limitation was unwarranted and thus little remaining dispute exists over this term. However, construction of this phrase is still warranted only in order to clarify its meaning.

The court construes "determining a price for the product depending on whether the card signal corresponds

to the purchase signal" to mean "determining a price for the product by comparing the purchasing signal with the product data read from a customer's card and, if the products are the same, applying a discount read from the customer's card."

3. *Potential Means-Plus-Function Elements in the '526 Claims*

A number of elements of the '526 claims are written in "means-plus-function" format. An "element in a claim for a combination may be expressed as a means or step for performing a specific function without recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. s. 112, para. 6. The construction of means-plus-function terms is a two-step process. First, the court should determine the function of the term based purely on the language of the claims and without reference to the specification. Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1113 (Fed.Cir.2002). Second, the court determines which structure from the specification corresponds to that function, and that function is part of the claim term. *Id*. If the embodiment does not disclose a corresponding structure that performs the recited function, the claim term is invalid for failing to satisfy the definiteness requirement in 35 U.S.C. s. 112, s. 2. Cardiac Pacemakers, 296 F.3d at 1113.

Sometimes it is unclear whether a claim is presented in "means-plus-function" format or not. The word "means" in a claim creates a rebuttable presumption that the term is means-plus-function claim. Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1358 (Fed.Cir.2004). When a claim term does not include the term "means," the opposite is true: the term is presumed not to be a means-plus-function claim. *Id*. However, even a term lacking the word "means" can be a means-plus-function term if the term "fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Id*. Similarly, a term containing the word "means" can be found not to be a means-plus-function term if the term also describes sufficient structure, material, or acts within the claim itself to perform entirely the recited function. Apex, Inc. v. Raritan Comp., Inc., 325 F.3d 1364, 1372 (Fed.Cir.2003).

Thus the most important fact in determining whether a claim is a means-plus-function claim is whether the claim uses the word "means" or not. Lighting World, 382 F.3d at 1358. However, the use of the word "means" is not dispositive. As an aid to determine whether the claim recites sufficient means to perform the cited function, the court also looks to whether the disputed claim terms name the structure to perform the function in a way that would be sufficiently understood in the art. Watts v. XL Systems, Inc., 232 F.3d 877, 880 (Fed.Cir.2000). Following is a discussion of terms from the '526 claims which either the parties agree are means-plus-function claims, or which Defendants allege are means-plus-function claims.

" *Means for sending first signals from a first computer to the routing system* "

Claims 20 through 27 and 44 through 51 of the '526 patent are system claims written using the word "means" repeatedly. Otherwise, the claims closely parallel earlier claims in '526. For instance, claim 20 parallels claim 2; both are independent claims following roughly the same pattern, but with claim 20 using the "means" format. Claims 21-23 are dependent claims adding additional "means" limits to claim 20. Claim 24 is an independent claim using the word "means" repeatedly, exactly like claim 20, except claim 24 uses the "routing signals" rather than the "network addresses." This difference is much like the difference between independent claims 2 and 11. Claims 25-27 are dependent "means" claims adding additional limits to claim 24. Claims 44 through 51 follow a roughly similar pattern. In other words, these claims only slightly differ from each other. "Means for sending first signals from a first computer to the routing system"

is an element of independent claims 20, 24, 44, and 48. Claims 1 and 18 of '038 include the similar but shorter phrase " *means for sending a first signal*." Plaintiff acknowledges that this is a means-plus-function term. [Pl.'s Opening Brief, at p. 26]. Plaintiff cites two structures from the specification which should be construed to be included in the term: (1) "a computer capable of constructing an IP packet and including circuitry for sending a data packet," and (2) "a coupon dispensing computer [that] stores electronic coupons and distributes them via telephone signal paths." [Pl.'s Opening Brief, at p. 26]. Plaintiff has taken these from the specifications of '526 and '135, respectively.

Defendants accept most of Plaintiff's construction but argue that the data packet itself-the one sent by the first computer-is also a structural element of this "means" that should also be construed to be included in the term "means for sending first signals." [Defs.' Reply Brief, at p. 55]. Plaintiff concedes as much because Softcard states that "to properly construe the mean-plus-function claim terms, the Court should combine all the structures identified by both Softcard and Defendants for each term." [Pl.'s Reply Brief, at p. 40].

Accordingly, two structures from the specification are construed to be included in the term "means for sending first signals from a first computer to the routing system": (1) a coupon dispensing computer that stores electronic coupons and distributes them via telephone signal paths. The computer is capable of constructing an IP packet and includes circuitry for sending a data packet; and (2) a data packet including information defining the packet's final destination as well as the next routing computer to which the data packet will travel. ['526, 8:30-34; 8:45-56].

" *Means for receiving first signals* "

Independent claims 20 and 24 of the '526 patent include this element. Plaintiff argues that despite the fact that this element includes the word "means," it should not be construed as a means-plus-function term, because the claims sufficiently delineate the structure that performs the receiving function. [Pl.'s Opening Brief, at p. 27]. Namely, the claims make clear that it is the second computer that receives the first signals. Plaintiffs contend that "means for receiving first signals" should just be interpreted to mean "second computer."

Defendants argue that it is the customer's PC, not the second computer, that receives the first signal. [Defs.' Reply Brief, at p .54]. Defendants' argument is confusing, since Defendants themselves argue elsewhere that the "second computer" should be construed as "the destination of the first signal." [Defs.' Opening Brief, at p. 47]. This confusion arises because in claims 20 and 24, unlike in most other claims, there are no "means" mentioned to describe the customer PCs. After the first signal is received, the immediate next means is transmission of the card signal to the customer's card. As such, "means for receiving first signals" must be construed to include all necessary structure, i.e. both the second computer and the home PCs.

Two structures from the specification are construed to be included in the term "means for receiving first signals": 1) a second computer; and 2) a home PC with a modem that can connect to the second computer through telephone lines. ['526, 11:38-40].

" *A receiver that receives first signals* "

A number of claims include "receivers that receive." The parties dispute whether this is a means-plus-function term. Defendants argue that notwithstanding the absence of the word "means," these terms are means-plus-function because a "receiver" is not sufficiently clear as a structure to perform the recited function. [Defs.' Reply Brief, at p. 49]. Plaintiff argues that "receiver" sufficiently describes the structure to

perform the function of receiving. For three reasons, the court concurs with Defendants.

First, the dictionary definition Plaintiff offers actually illustrates that "receiver" does not sufficiently identify the structure entailed by the patents. Plaintiff's dictionary defines a "receiver" as "an apparatus, as part of a radio, television set, or telephone, that receives incoming electromagnetic signals and converts them to perceptible form." [Pl.'s Opening Brief, at p. 35]. This definition does not mention computer signals at all, leaving the structure involved in the functions from the patent very unclear.

Second, the fact that the claims, at various points, mention multiple "receivers" receiving different types of signals with very different types of equipment is a strong indication that this word is not on its own sufficiently descriptive of a particular structure.

Third, as Defendants correctly note, Plaintiff acknowledges that the "second receiver that receives" is a means-plus-function term (see below). If "receiver that receives" does not sufficiently identify a structure in one instance, it stands to reason that all "receivers that receive" should be considered means-plus-function terms.

Accordingly, the "receiver that receives first signals" must be limited to the structure described in the specification which performs the stated function. The same means as discussed immediately previously are construed as part of this term: 1) a second computer; and 2) a home PC with a modem that can connect to the second computer through telephone lines. ['526, 11:38-40].

" *Means for sending, responsive to a first signal received by the previous means, a card signal to a portable card* "

Independent claims 20 and 24 of the '526 patent include this element. Independent claims 44 and 48 include the similar phrase "means for sending, responsive to a first signal received by the second computer, a card signal to a portable card." Plaintiff admits that this is a means-plus-function term. [Pl.'s Opening Brief, p. 28, p. 40]. Plaintiff proposes and Defendants do not object that the structures included in the construction of this term are (1) a card writing device, (2) memory that stores a driver program for sending coupons to the card-writing device, (3) a CPU that executes the driver program, (4) a computer and special processor with hardware and software for receiving a coupon from a network and storing the coupon on a portable card, and s. 5) the act of the device writing a received product signal onto the customer card. [Pl.'s Opening Brief, p. 28-29, p. 40].

Plaintiff proposes the identical construction for a nearly-identical means-plus function term in Claim 1 from '038: " *Means, responsive to the signal corresponding to the product from the second signal, for sending a card signal, to a portable card in the plurality of cards*." The court concurs.

" *Means for receiving the card signal from the portable card* "

Independent claims 20 and 24 of the '526 patent include this element. Independent claim 1 of the '038 patent includes almost exactly the same phrase, i.e. " *means for reading the card signal from the portable card*."

Plaintiff admits that this is a means-plus-function term, and accepts quite a detailed limitation on the meaning of the term [Pl.'s Opening Brief, p. 29]. Defendants complain, however, that the limitations Plaintiff recites refer to a card writing device, whereas the function described here is reading the cards. [Defs.' Reply Brief, at p. 55-56]. Defendants are correct, but the difference between the parties' positions is

of minimal importance.

Two structures from the specification are construed to be included in the term "means for reading the card signal from the portable card": (1) a check-out station including a CPU and program for communicating with the memory on customer cards (2) a card interface slot in which a customer can insert her card and which allows the CPU to read customer cards. ['526, 14:43-64].

" *Means for generating a purchase signal with an electromagnetic detector* " **(and)** " *Means for generating a purchase signal with a bar code reader* "

Dependent claims 22, 23, 26, 27, 46 and 50 of the '526 patent include one of these two elements. Plaintiff argues that despite the word "means," the structure required to carry out the described function is sufficiently outlined in the claim terms-i.e. either an "electromagnetic detector" or a "bar code reader." [Pl .'s Opening Brief, at p. 37-38]. Plaintiff therefore proposes that these be construed simply as "an electromagnetic detector (or bar code reader) for generating a purchase signal."

In this case Plaintiff is correct that the structure that carries out the function is described sufficiently to overcome the presumption that these are means-plus-function claims.

" *Means for receiving a purchase signal corresponding to a product* "

Dependent claims 21 and 25 of the '526 patent include this element. Plaintiff accepts that this is a means-plus-function term. [Pl.'s Opening Brief, at p. 38]. Plaintiff cites as the means that should be included in the court's construction (1) a CPU and program that act to receive a purchase signal identifying a product, and (2) a processor connected to the point of sale device that receives scanned product information. [Pl.'s Opening Brief, at p. 38].

Plaintiff offers the exact same construction of the similar claim terms " *means for receiving the purchase signal* " (claims 22 and 26) and " *means for receiving a purchase signal* " (claims 23 and 27). Defendants don't dispute any of these constructions and the court adopts them.

" *A second receiver that receives a purchase signal corresponding to a product* "

This phrase appears in dependent claims 29, 37, 45 and 49 of the '526 patent. Plaintiff asserts with little further explanation that this is a means-plus-function term, even though it does not include the word "means." [Pl.'s Opening Brief, at p. 40]. Plaintiff cites as the means that should be included in the court's construction (1) a CPU and program that act to receive a purchase signal identifying a product, and (2) a processor connected to the point of sale device that receives scanned product information. [Pl .'s Opening Brief, at p. 40]. This is exactly the same construction Plaintiff offered for "means for receiving a purchase signal corresponding to a product" (see previous), and is adopted by the court.

" *A receiver for receiving a purchase signal corresponding to a product* "

Dependent Claims 4 and 13 of the '526 patent include this element. Essentially, claim 4 adds this and a few other elements as limitations to independent claim 2; claim 13 adds this and a few other elements as limitations to independent claim 11. Claims 29, 37, 45, and 49 of the '526 patent include the briefer "a *receiver that receives a purchase signal,*" all adding this required element to a previous independent claim. This phrase also appears in claims 7, 22 and 29 of '038.

Plaintiff argues that these are not means-plus-function terms because they lack the word "means." As discussed above, the court finds that all "receivers that receive" are means-plus-function terms. Plaintiff argues that "receiver" sufficiently describes the structure to perform the function of receiving. Certainly, the term "receiver" would not normally be thought to include a check-out UPC scanner, as is indicated as the relevant structure from the specification. Despite the presumption that a term lacking the word "means" is not a means-plus-function term, these claim terms have no meaning without reference to the specification. Accordingly, the "receiver that receives a purchase signal" must be limited to the structure described in the specification which performs the stated function.

The same means as discussed immediately previously are construed as part of this term: (1) a CPU and program that act to receive a purchase signal identifying a product, and (2) a processor connected to the point of sale device that receives scanned product information. ['526, 14:43-61].

" *A determiner for determining a price for the product* "

Dependent Claims 4 and 13 of the '526 patent include this element, as do multiple claims in '038. Moreover, other claims recite two other "determiners," for which the analysis here applies equally and which are construed below. *See* Defs.' Reply Brief, at fn.6, p. 50. As with "a receiver for receiving," Plaintiff argues that these "determiners for determining" are not means-plus-function terms because they lack the word "means." Plaintiff proposes that the court construe "determiner" to mean "software to perform the function stated within the claim." [Pl.'s Opening Brief, at p. 37].

Defendants are correct that this must be construed as a means-plus-function term. "Determine" is not a term of art; it is a general word used solely to connote a means to perform a function in the vaguest sense, as evidenced by Plaintiff's proposed construction. These claim terms are sufficiently amorphous to overcome the presumption that a term lacking the word "means" is not in means-plus-function format.

Three structures from the specification are construed to be included in the term "a determiner for determining the price of a product": (1) a card interface, attached to the point of sale device, which can read customer cards; (2) a processor connected to the point of sale device that receives scanned product information; and (3) a CPU and program that determines the price of the scanned product based on product-specific information from the customer card. ['526, 14: 43-61].FN12

FN12. These exact same structures are also construed as part of two very similar means-plus-function terms from the '038 and '135 patents:

" *A determiner that determines whether a transmitted coupon corresponds to the purchase signal*," ['038, 16:54], and " *A determiner means for determining a price for the product depending on whether the first signal corresponds to the third signal*." ['135, 18:10].
" *Means for determining a price for the product depending upon whether the card signal corresponds to the purchase signal* "

Dependent claims 21-23 and 25-27 of the '526 patent include this element. Plaintiff accepts that this is a means-plus-function term. [Pl.'s Opening Brief, at p. 38]. The court construes the term to require the identical structure as previously described. ['526, 14:53-64].

B. *Disputed terms in the* '038 patent

Patent '038 shares the same specification as '526, but the claims are structured somewhat differently. However, Claim 1 of '038 stands out from the other '038 claims in that it is structured much more like the '526 claims than are any of the rest of the '038. The court will therefore begin with '038 claim 1, and then proceed to the bulk of the '038 claims. '038 includes 39 claims in all, consisting of 2 independent method claims (9 and 31), 4 independent system claims (1, 2, 18, and 24), and 33 dependent claims.

1. *Claim 1 of the* '038 Patent

Claim 1 of '038 parallels the '526 claims, except that it talks about the first and second networks rather than just the first and second computers. Also, at the end of claim 1, the terms are written with the word "means." There are numerous terms that will be familiar from above and which are therefore not discussed again, including "signal corresponding to a product," "network address," and "inter-network address." Also, a number of "means" phrases such as "means for sending a first signal" and "means for reading the card signal from the portable card" were discussed above in the context of nearly identical language from '526.

Below is the full text of '038 claim 1.

1. A system comprising:

a plurality of portable cards;

a first computer network including a first plurality of computers, each having a respective first network address, the plurality of first computers including a first computer having means for sending a first signal including a first network address, an inter-network address corresponding to a computer on another network, and a signal corresponding to a product;

a second computer network including a second plurality of computers, each having a respective second network address;

means, responsive to the inter-network address from the first signal, for sending a second signal including a second network address and the signal corresponding to the product; and

means, responsive to the signal corresponding to the product from the second signal, for sending a card signal, to a portable card in the plurality of cards; and

means, spatially removed from the previous means, for reading the card signal from the portable card.

Following is a discussion of all remaining disputed claims from this patent.

" *First network address* "

Plaintiff proposes that "first network address" be construed to mean "a network address on the first network." [Pl.'s Opening Brief, at p. 31]. This is fair in light of the previous discussion of "network address" (see above).

" *Means for sending a first signal including a first network address, an inter-network address corresponding to a computer on another network, and a signal corresponding to a product.*"

A construction for "means for sending a first signal" is provided above (discussion of '526). However, for clarity this entire phrase should be construed together. Plaintiff acknowledges that this limitation is in means-plus-function format and attests (correctly) that this means describes the routing system. [Pl.'s Opening Brief, at p. 32],

Plaintiff cites the following structures from the specification to be construed to be included in the term: (1) "a computer reading [an] IP address, (2) determining that the IP packet should travel over a network, and (3) sending [a] packet addressed to the next computer." [Pl.'s Opening Brief, at p. 33],

Defendants accept that Plaintiff is pointing to the right part of the specification to determine the structures that correspond to the function described in the claims. [Defs.' Reply Brief, at p. 56]. However, Defendants don't believe Plaintiff has described the structures with sufficient specificity. [Defs.' Reply Brief, at p. 56]. Plaintiff acknowledges as much by saying that "to properly construe the mean-plus-function claim terms, the Court should combine all the structures identified by both Softcard and Defendants for each term." [Pl.'s Reply Brief, at p. 40].

Accordingly, the following structures from the specification are construed to be included in the term: (1) a coupon dispensing computer that stores electronic coupons and distributes them via telephone signal paths. The computer is capable of constructing an IP packet and includes circuitry for sending a data packet; and (2) a data packet including an inter-network address defining the packet's final destination and a network address defining the next routing computer to which the data packet will travel. ['526, 8:30-34; 8:45-56].

" *Means, responsive to the inter-network address from the first signal, for sending a second signal including a second network address and the signal corresponding to the product* "

This is a clear means-plus-function term. The court construes the term to include the following structures: (1) One or more routing computers; and (2) a data packet including an inter-network address defining the packet's final destination and a network address defining the next routing computer to which the data packet will travel. ['038, 4:23-42].

2. Independent Claims (Besides Claim 1) in the '038 patent

Claim 2, an independent system claim for '038, will serve as a guide to terms from the remaining '038 claims. The full text of '038 claim number 2, which is fairly representative of the rest of the '038 claims, is:

2. In a system including a computer network, a plurality of customers, and a computer that sends a coupon signal in a first signal on the computer network, the first signal including a respective destination signal corresponding to a customer in the plurality of customers, a coupon processing system comprising:

a receiver that receives the coupon signal sent in the first signal;

a determiner that determines whether a coupon, corresponding to the coupon signal, has been previously processed; and

a transmitter that conditionally transmits the coupon, if the coupon has not been previously processed.

As will be noted, some of the terms in this claim were construed above, in connection with parallel terms

from '526; these will not be discussed again.

"*Coupon signal*"

While every independent '526 claim refers to a "signal corresponding to a product," the '038 claims use the term "coupon signal." This is one of a number of differences between the claims in the two patents.

Defendants propose that "coupon signal" be defined identically with "signal corresponding to a product" as "a signal containing electronic coupon data consisting of a UPC code or other universally recognized identifier unique to a product along with discount data." [Defs.' Opening Brief, at p. 30]. Defendants point to the same points of the specification and prosecution history. The '038 specification is identical to the '526 specification, so the '038 claims are also describing that same invention.

Plaintiff argues again that Defendants' proposed construction imports limitations from the specification that aren't present in the claims. [Pl.'s Reply Brief, at p. 17]. Plaintiff argues that "coupon" and "signal" are easily understood; according to Plaintiff, "coupon signal means simply a signal that contains information about a coupon. No further construction is needed." Id.

Despite Plaintiff's assertion to the contrary, like "signal corresponding to a product," "coupon signal" is a term that means nothing outside of the patents. The term has neither technical nor general meaning and can only be understood with reference to the patent specification. To say that "coupon signal" means only "a signal with information about a coupon" is really not to construct the term at all.

Accordingly, the court construes "coupon signal" identically to "signal corresponding to a product" to mean "A signal containing electronic coupon data consisting of a UPC code or other identifier unique to a product along with discount data."

"*Destination signal corresponding to a customer*"

In the '526 claims, the coupon server sends a "first signal" which contains two things: (1) a "signal corresponding to a product" and (2) "an inter-network address corresponding to the second computer." In the specification, this translates to the coupon server sending an email containing both (1) an E-coupon and (2) the IP address of an email server.

In the '038 claims, the claims describe the same part of the invention by saying that the coupon server sends "a coupon signal in a first signal on the computer network, the first signal including a respective destination signal corresponding to a customer in the plurality of customers." In other words, the '038 claims again mention two components of the first signal, this time (1) a "coupon signal" and (2) "a destination signal corresponding to a customer."

In terms of the specification, according to Defendants, the "destination signal corresponding to a customer" is a customer's email address. [Defs.' Opening Brief, at p. 35]. However, Defendants propose to define the "destination signal corresponding to a customer" as simply "a signal that identifies a customer." They do not ask the court to confine the destination signal to an email address. [Defs.' Opening Brief, at p. 35].

Plaintiff still complains that "identifies a customer" limits the phrase improperly. [Pl.'s Opening Brief, at p. 42]. Softcard contends that "corresponding to a customer" needs no construction, and that "destination signal" should just mean "the destination of the first signal." [Pl.'s Opening Brief, at p. 43].

Plaintiff's argument is flawed in that "a destination signal corresponding to a customer" is not at all clear on its face and must be defined during claim construction. More importantly, even without reference to the specification and simply as a matter of logic, the "destination signal" could not correspond to a customer if it did not identify a customer. In any case, the specification makes clear what this very ambiguous term must mean.

Accordingly, the court construes "destination signal corresponding to a customer" to mean "a signal which identifies the customer to which the signal is finally destined."

" *A receiver that receives the coupon signal sent in the first signal* "

This phrase appears in claims 2, 18, and 24 of '038. For the same reasons discussed above, this "receiver that receives" must be considered a means-plus-function term. The structures involved are the same as those described above for the "receiver which receives first signals."

Accordingly, this term is construed identically to require the following structures: 1) a second computer; and 2) a home PC with a modem that can connect to the second computer through telephone lines. ['038, 7:56-58; 8:57-64].

" *A determiner for determining whether a coupon has been previously processed* "

This phrase appears in claim 2 of the '038 patent. Claim 18 of '038 contains the similar phrase " *means for determining whether a coupon, corresponding to the received coupon signal, has been previously processed.* " Claim 24 includes the similar phrase " *a determiner that uses a record for previous coupons to determine whether a coupon, corresponding to the coupon signal, has been previously processed.* All three phrases refer to the same features in the invention designed to prevent coupon fraud. When the customer attempts to print an E-coupon onto her smart card, this "determiner" determines whether the coupon has been used before or has been altered by the customer. If the E-coupon has been previously used or altered,, it isn't processed-i.e. it isn't stored on the card.

These phrases will be construed identically. As discussed above, all the "determiners that determine" are in means-plus-function format and must be construed to include the structures from the specification to which it corresponds.

Accordingly, the following structures from the specification are construed to be included in these terms: (1) a home PC with memory that stores a driver program; (2) a list, maintained by the driver, of all previously processed coupons; (3) the act, taken by the driver, of comparing an E-coupon which the customer attempts to write onto a portable card to the list of previously processed coupons; and (4) the act, taken by the driver, of ensuring that the E-coupon's time and date have not been modified by the customer. ['038, 8:59-9:14].

" *Determining whether a coupon has been previously processed* "

The parties also propose constructions for this shorter phrase describing the function performed by the determiner. Because the entire "determiner for determining" phrase is construed to be in means-plus-function format, there is no need to construe this sub-phrase as it appears in "determiner for determining" clauses. However, this shorter phrase also appears in claim 9 of ' 038, which is an independent method claim. Claim 9 just outlines steps and actions rather than a system, so it doesn't mention a "determiner".

Thus this phrase still needs to be interpreted on its own.

Plaintiff contends that all the words "determining," "coupon," "previously," and "processed" are "well-understood, commonly-used terms" that require no construction. [Pl.'s Opening Brief, p. 43]. This argument has no merit. Combined into a single phrase, these terms become utterly confounding without reference to the specification. *See, e.g.,* Hockerson-Halberstadt, Inc. v. Converse Inc., 183 F.3d 1369, 1374 (Fed.Cir.1999)("Proper claim construction, however, demands interpretation of the entire claim in context, not a single element in isolation"). Moreover, there is only one procedure described in the specification that corresponds with this claim language.

Accordingly, "determining whether a coupon has been previously processed" is construed to mean "Comparing a E-coupon to a list of previously received electronic coupons stored on a customer's computer to verify whether the coupon has been previously processed." ['038, 8:59-9:14].

*" **A transmitter that ... transmits ...** "*

This term appears in claims 2 and 24 of '038. Defendants submit that "a transmitter that transmits" is another means-plus-function term, because the term describes only a function, and does not convey any particular structure. [Defs.' Opening Brief, P.59].

Plaintiff responds by defining transmitter from a computer dictionary as "any circuit or electronic device designed to send electrically encoded data to another location." [Pl.'s Opening Brief, p. 45]; *Microsoft Press Computer Diction X* (2nd Ed.1994).

Defendants reply that not construing this term as means-plus-function would allow transmitter to encompass any structure that performed the transmitting function. [Defs.' Reply Brief, at p. 51]. Defendants' response is true, but misses the point. If this phrase is not a means-plus-function phrase, there is nothing wrong with the fact that any transmitter that performs the function would be within the claim's construction.

In this case, Plaintiff is correct that "transmitter" sufficiently describes a particular structure in this case because "transmitter" refers to a much more specific structure than "receiver" or "determiner." As such, the court construes "transmitter" to mean "any circuit or electronic device designed to send electrically encoded data to another location."

*" **Conditionally transmits the coupon, if the coupon has not been previously processed** "*

This phrase appears in independent method claims 2 and 24. The similar phrase *" conditionally processing the coupon, if the coupon has not been previously processed "* appears in claims 9, 18 and 31. For the most part these can be construed together.

Defendants offer a narrow construction of "conditionally processing the coupon" to mean "processing a coupon only if the card is eligible to receive electronic coupons." [Defs.' Opening Brief, at p. 37]. Defendants essentially contend that the claims require two conditions be met before a coupon is processed. First, the coupon must not have been previously processed; whether it has been processed before is determined by the "determiner" discussed previously. Second, the customer's card must be eligible to receive the coupon. Defendants point to the specification where it mentions "determin [ing] whether the card is a customer card that is eligible to receive electronic coupons." ['038, 11:54-12:1]. Most importantly, Defendants argue that if the card eligibility condition is not read into the claims, the word "conditionally"

becomes superfluous.

Defendants are correct that "conditionally processed" refers to a different condition than that the E-coupon has not been previously processed. The specifications confirm what the grammar of the phrase suggests: the step of conditionally processing the E-coupon is separate from the step of verifying that the E-coupon has not been previously processed. Flowchart Figure 14 is particularly instructive; it shows that whether the coupon has been processed is checked during step 14005, and then separately (in step 14020) the eligibility of the customer card is checked. Thus the specification makes clear beyond doubt that the condition is that the customer card must be eligible.

As such, the court construes "conditionally transmitting [processing] the coupon" to mean "transmitting [processing] a coupon only if the card is eligible to receive electronic coupons."

" *Determining whether a coupon, processed by the processing step, corresponds to the purchase signal* "

This term appears in dependant claims 12, 13 and 34 of the '038 patents. These claims add additional detail to independent method claims 9 and 31. Defendants suggest that this term be read to mean "comparing the UPC code in the purchase signal with the UPC code read from a customer's card to determine if there is a match." [Defs.' Opening Brief, at p. 40]. Plaintiff argues that this term requires no construction. [Pl.'s Opening Brief, at p. 44, Pl.'s Reply Brief, at p. 25].

During oral argument, Defendants disavowed the "UPC code" limitation. Therefore, "determining whether a coupon ... corresponds to the purchasing signal" is construed to mean "determining whether the product covered by an E-coupon matches the product identified in a purchase signal."

C. *Disputed terms in the* '135 patent

Patent '135 focuses on the in-store card-reading kiosks for displaying the coupons on the customer card. It includes 38 total claims: 2 independent method claims (1, 21 and 30) and 1 independent system claim (11). Claim 1 will serve as a model for discussing all claim terms:

1. In a system including a communication device and a plurality of portable cards each having a card memory, a method comprising the steps of:

reading a first signal from the memory of a card in the plurality of cards, in response to a person presenting the card at the communication device, the first signal corresponding to a product;

generating, responsive to the first signal, a second signal containing an image of the product;

displaying the second signal.

" *First signal* "

The "first signal" in patent '135 is not the same as the "first signal" in the other two patents. In '135, the "first signal" refers to a signal which comes from the smart card when it is inserted into the kiosk. Defendants propose as a construction of this term "A signal read that is from a card which contains electronic coupon data consisting of a UPC code or other universally recognized identifier unique to a product along with discount data." [Defs.' Opening Brief, at p. 51].

Defendants' construction is unnecessary. According to the claim itself, the first signal comes from one of the smart cards and the first signal is a "signal corresponding to a product." The fact that the first signal is an E-coupon is therefore already required per the construction of "signal corresponding to a product" (above). "First signal" as it appears in '135 therefore requires no construction.

" *Reading a first signal in response to a person presenting the card at the communication device* "

This phrase appears in independent claims 1, 21 and 30. Defendants propose that this phrase be construed to mean that "the first signal is read from the card automatically as a direct result of a person inserting a card into a communication device." [Defs.' Opening Brief, at p. 52]. Plaintiff argues that the term needs no construction [Pl.'s Opening Brief, at p. 45] and that Defendants are importing a limit from the specification that isn't even there [Pl.'s Reply Brief, at p. 35].

Plaintiff argues that the claim does not require that the card signal be read solely in response to the presentation of the card. However, Plaintiff's construction simply ignores the words "response to" altogether. If a customer inserts a card but the communication device does not read the card signal until the customer also presses a key on a keyboard, the signal is not being read "in response" to the person "presenting" the card; it is being read in response to the person typing on the keypad.

Any possibility that Plaintiff's reading of "response to" might be correct is eliminated by referring to the specification. Quite clearly, there is no intervening step between presenting the card and reading the signal. The customer inserts her card, a switch tells the communication device that a card has been inserted, and "the CPU then receives the contents of [the card's memory] ... and temporarily stores these table contents." ['135, 10:47-64]. There is no suggestion that an intervening step might even be a possible alternative embodiment; indeed such an intermediate step would contradict the claim language.

Accordingly, the court construes "reading a first signal in response to a person presenting the card at the communication device" to mean "automatically reading a first signal from the card as a direct result of a person inserting a card into a communication device."

" *A reader that reads a first signal from the card memory of a card in the plurality of cards, in response to a person presenting the card at the communication device, the first signal corresponding to a product* "

Independent claim 11 uses this very similar language to describe the element of the invention that reads the card signal. It can be construed identically as the term above.

" *Generating, responsive to the first signal, a second signal containing an image of the product* "

This term appears in independent claims 1 and 21. Defendants propose this term be construed as "A signal containing an image of a product is automatically created when the UPC code identifying that product is read from the memory of a customer card." [Defs.' Opening Brief, at p. 53].

While Plaintiff responds that the entire phrase needs no clarification, Plaintiff offers quite a specific definition of "image" to mean "graphical data stored as pixels, bit map, or a metafile, as opposed to data stored as alphanumeric characters." [Pl.'s Reply Brief, at p. 37]. At oral argument, Plaintiff defended this construction of "image" based on extensive reference to the specification. Plaintiff's argument is perplexing. After insisting throughout this litigation that the specification should be virtually ignored during claim

construction, Plaintiff chooses "image," far and away one of the clearest terms in the patents, as the one place where the court should import extensive detail from the specification. No consistent overall approach to claim construction could justify ignoring the specification when construing complex patent-specific language while drawing heavily from the specification to define easily comprehensible words like "image."

However, a construction of the entire phrase is warranted. As in the case of the "reading" of the card, the generation of the image happens automatically; otherwise it would not be "responsive" to the first signal. This is confirmed again by the specification. ['135, 11:67-12:4]. Accordingly, the court construes "Generating, responsive to the first signal, a second signal containing an image of the product" to mean "automatically generating a signal containing an image of the product when the unique identifier identifying that product is read from the memory of a customer card."

" *Displaying, responsive to the first signal, an image of the product* "

This term appears in independent claim 30. Defendants propose this term be construed as "An image of a product is automatically displayed when the UPC code identifying that product is read from the memory of a customer card." [Defs.' Opening Brief, at p. 54], Plaintiff responds that the term needs no clarification. [Pl.'s Opening Brief, at p. 48; Pl.'s Reply Brief, at p. 37].

Again, the automatic nature of the display is implied by the term "responsive to" and confirmed by the specification. There are quite clearly no intervening actions by either the customer or the communication device; the image displays automatically. ['135, Fig .l4A and 10:64-67].

Accordingly, the court construes "displaying, responsive to the first signal, an image of the product" to mean "automatically displaying an image of the product when the unique identifier identifying that product is read from the memory of a customer card."

" *Signal corresponding to pricing information for a product* "

This phrase appears in dependent claims 5, 12, 24 and 31. Defendants propose that this phrase be construed to mean that "a signal containing the discount data portion of an electronic coupon." [Defs.' Opening Brief, at p. 55]. Plaintiff argues that the term needs no construction [Pl's Opening Brief, at p. 46; Pl.'s Reply Brief, at p. 37].

This term is fairly straightforward and can be construed to mean simply "a signal that includes pricing information for a product."

" *Third signal, corresponding to a product* "

This phrase appears in claims 2, 13 and 21 of;038. In terms of the specification, the "third signal" equates to the signal the check-out scanner reads off the products being purchased.

Defendants propose that "third signal" be construed to mean "a signal transmitted at the time of purchase that contains the UPC code of a product selected for purchase by a customer." [Defs.' Opening Brief, at p. 56]. In other words, Defendants say the "third signal" should be defined exactly as the "purchase signal" in the other patents. Plaintiff argues that the term needs no construction [Pl.'s Reply Brief, at p. 38].

The "third signal, corresponding to a product" is quite clearly the same as the "purchase signal

corresponding to a product" from the other patents. As such, the whole phrase should be construed together to avoid confusion or redundancy. The court construes "third signal corresponding to a product" as "a signal transmitted at the time of purchase, for instance by a check-out scanner device, that contains information about a product selected for purchase by a customer."

IV. *Motion for clarification*

Defendants have also moved [# 113] asking the court to clarify its order rejecting Defendants' motion to compel further deposition of Kenneth Powell [# 106]. The court's order was clear. Defendants terminated Powell's deposition voluntarily when the original discovery dispute arose. Defendants could have continued with the questions they now seek to re-open deposition in order to ask, but Defendants chose not to. Moreover, Defendants have already deposed Powell for over ten hours. Powell shall not be deposed further on any topic. With this explanation in mind, Defendants' motion for clarification [# 113] is DISMISSED AS MOOT.

SO ORDERED.