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**Pulitzer** (43) **Pub. Date: Feb. 2, 2006**(54) **GLOBAL A/V TELECOMMUNICATIONS  
MEDIA SYSTEMS AND SERVERS****Publication Classification**(76) Inventor: **J. Hutton Pulitzer**, Addison, TX (US)(51) **Int. Cl.****H04L 12/66** (2006.01)**H04L 12/28** (2006.01)(52) **U.S. Cl.** ..... **370/352; 370/401**

Correspondence Address:

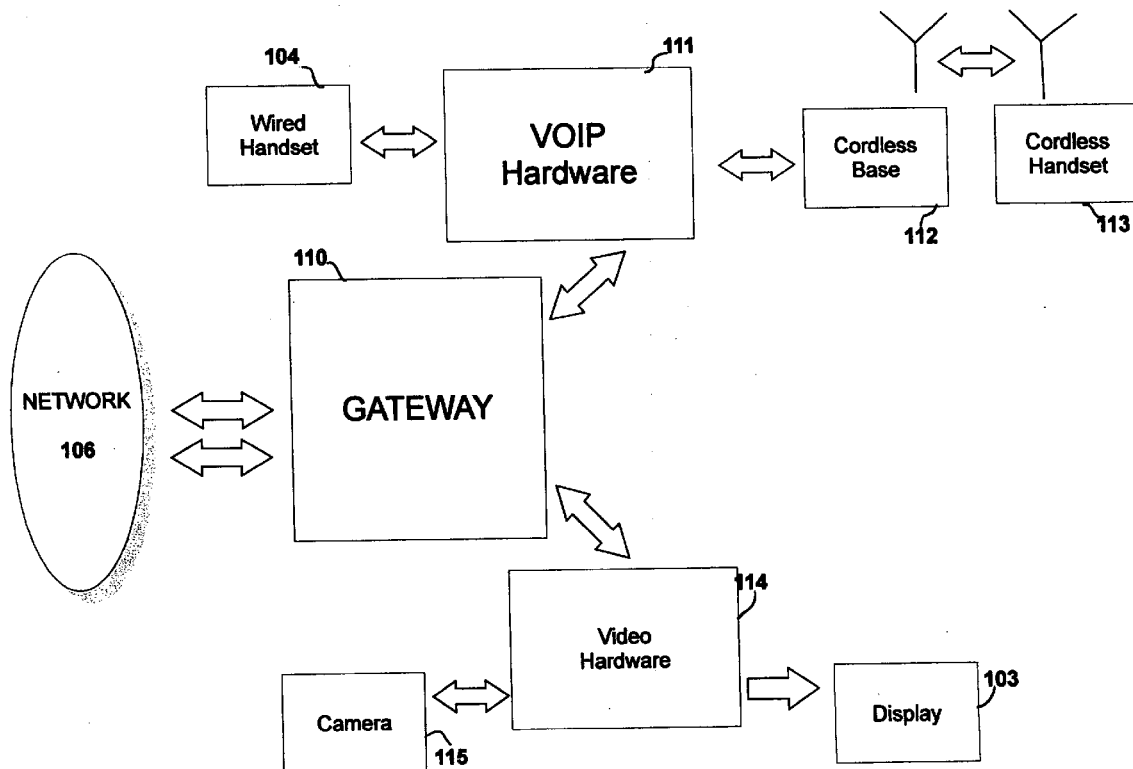
**JACKSON WALKER LLP****2435 NORTH CENTRAL EXPRESSWAY****SUITE 600****RICHARDSON, TX 75080 (US)**

(57)

**ABSTRACT**(21) Appl. No.: **11/194,218**(22) Filed: **Aug. 1, 2005****Related U.S. Application Data**

(60) Provisional application No. 11/184,030, filed on Jul. 30, 2004. Provisional application No. 11/184,031, filed on Jul. 30, 2004. Provisional application No. 11/184,032, filed on Jul. 30, 2004. Provisional application No. 11/184,033, filed on Jul. 30, 2004. Provisional application No. 11/184,034, filed on Aug. 3, 2004. Provisional application No. 11/184,035, filed on Aug. 4, 2004. Provisional application No. 11/184,036, filed on Aug. 5, 2004.

The method of providing audiovisual telecommunications to consumers is achieved by identifying the consumer, providing an information appliance having a network connection, and collecting fees from an audio-visual content provider. The information appliance has a telecommunications processor connected to the network connection and a video processor connected to the network connection. Audio-visual content is then provided to the information appliance. A network media bridge server is provided to manage the delivery of media to an A/V telecommunication device. The network media bridge uses a network connection to link the network to an A/V telecommunication device, and a media connection connected to a content provider. The network media bridge provide content to the A/V telecommunication device in response to processing commands.



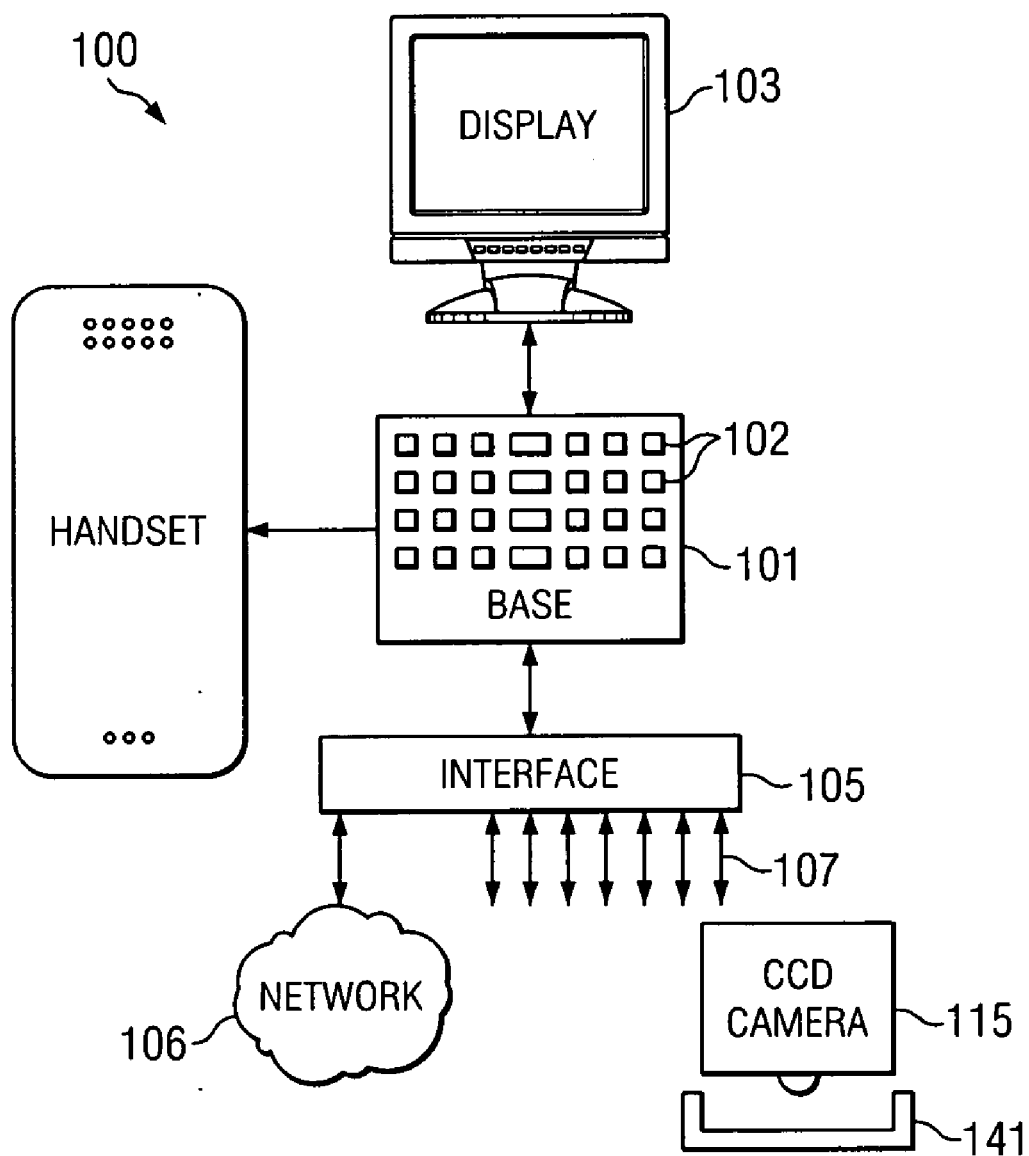


Figure 1

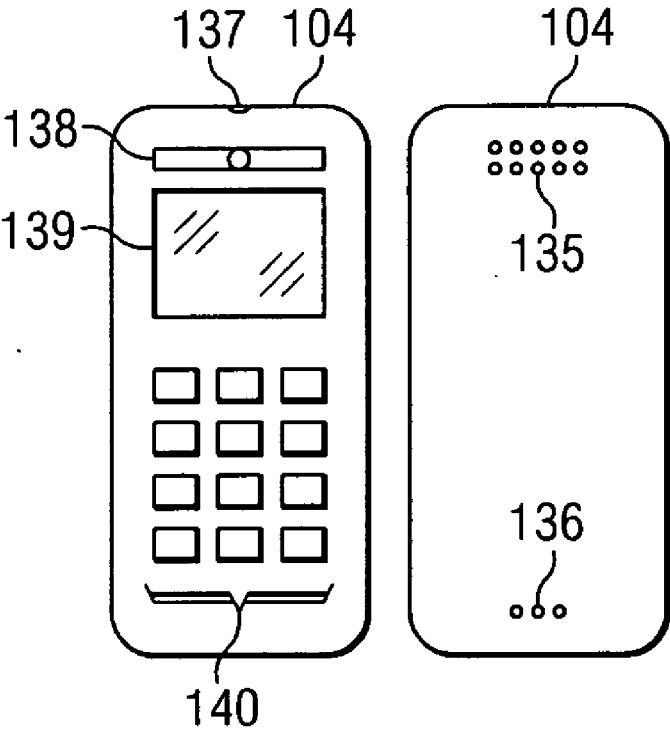


Figure 1a

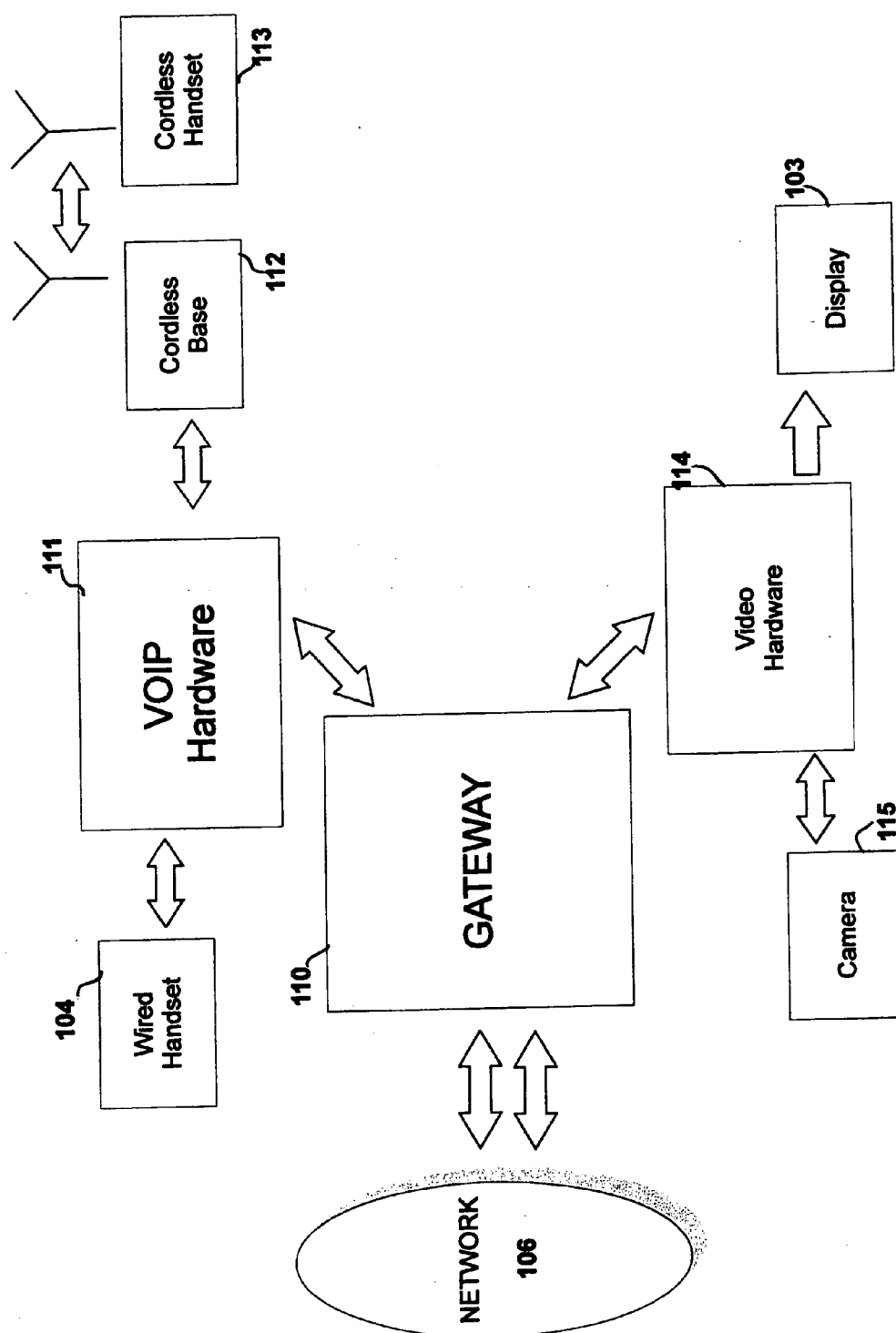


Figure 2

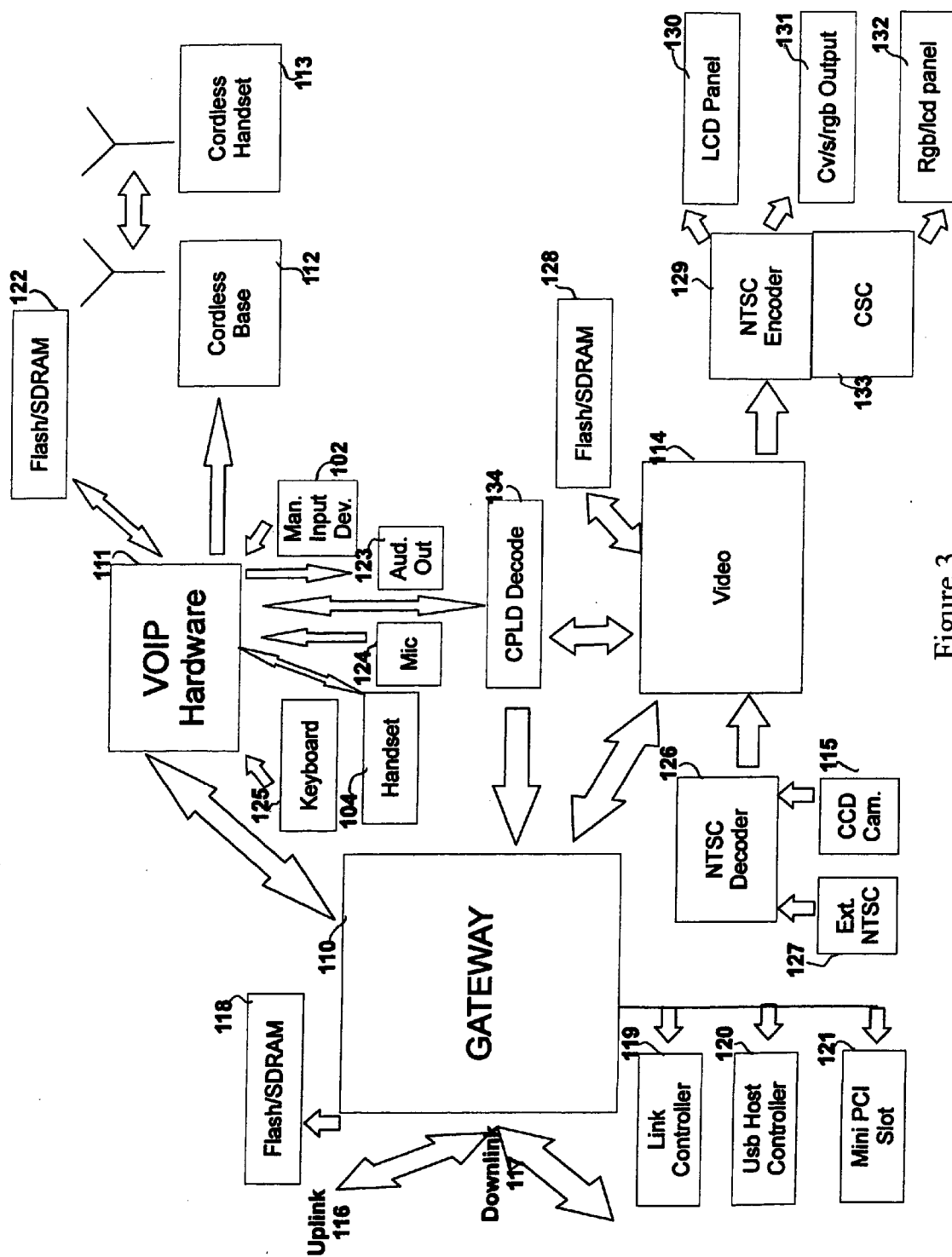


Figure 3

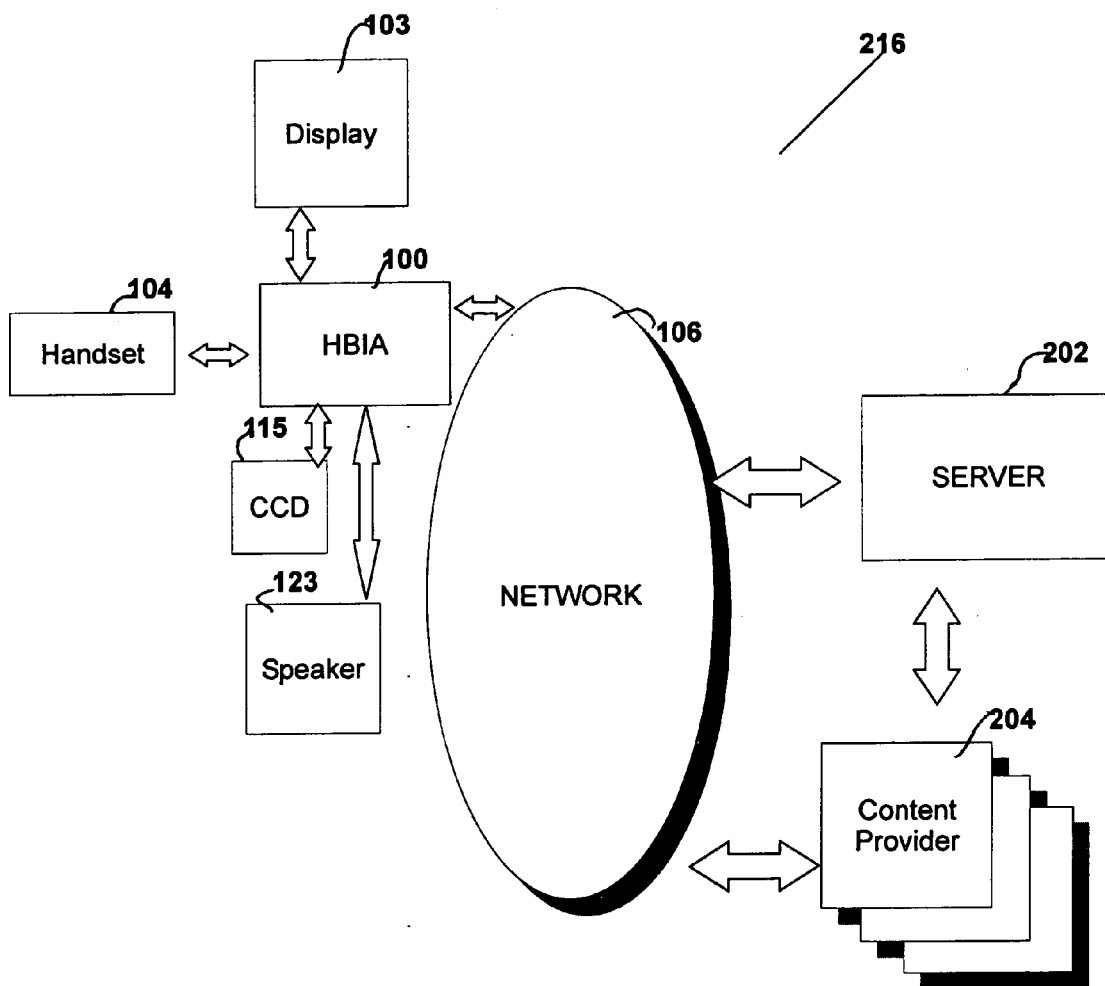


Figure 4a

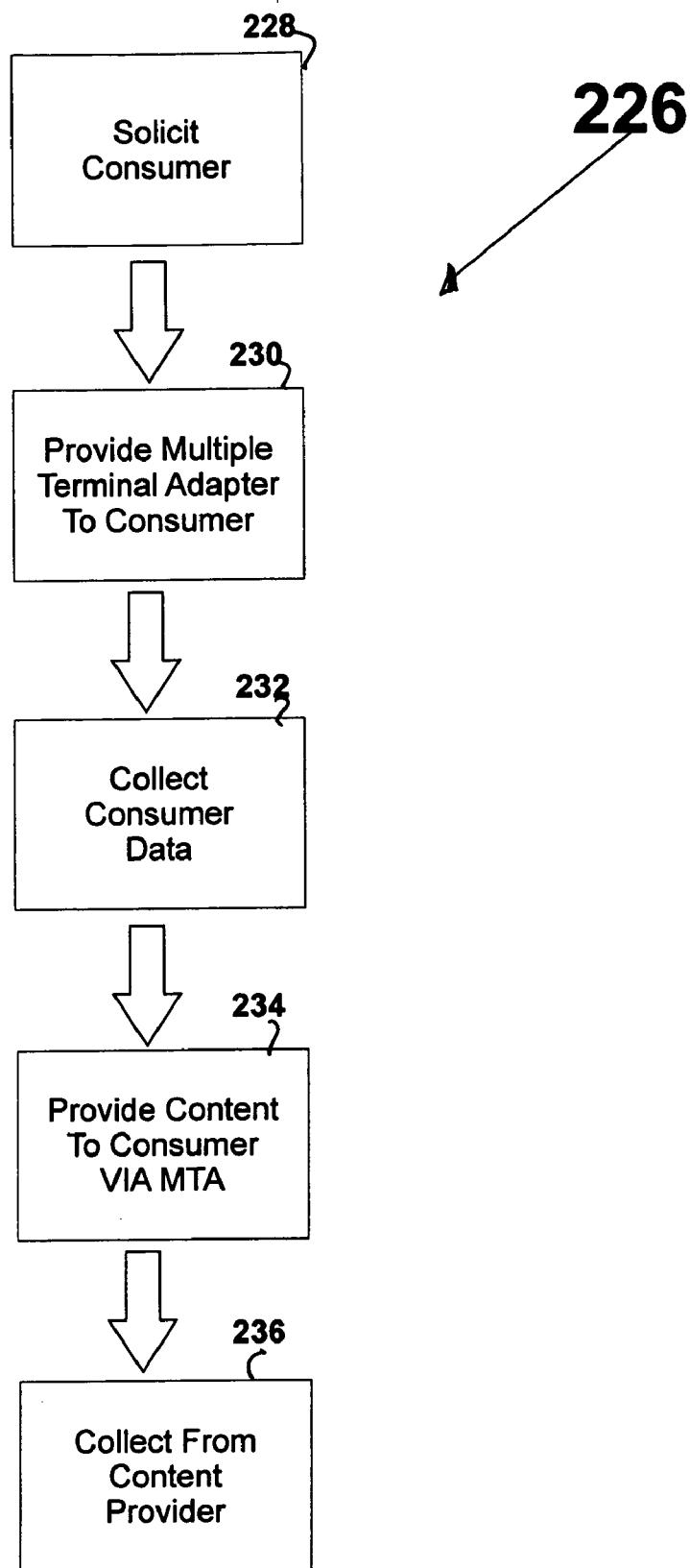


Figure 4b

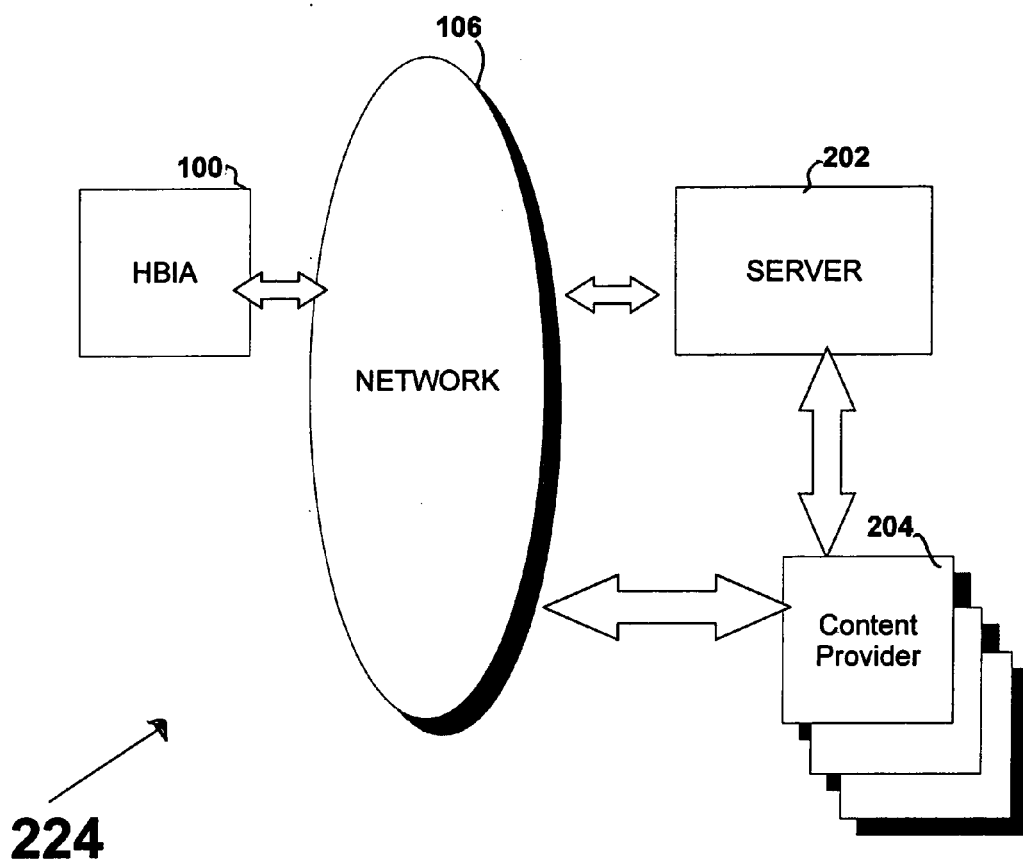


Figure 5



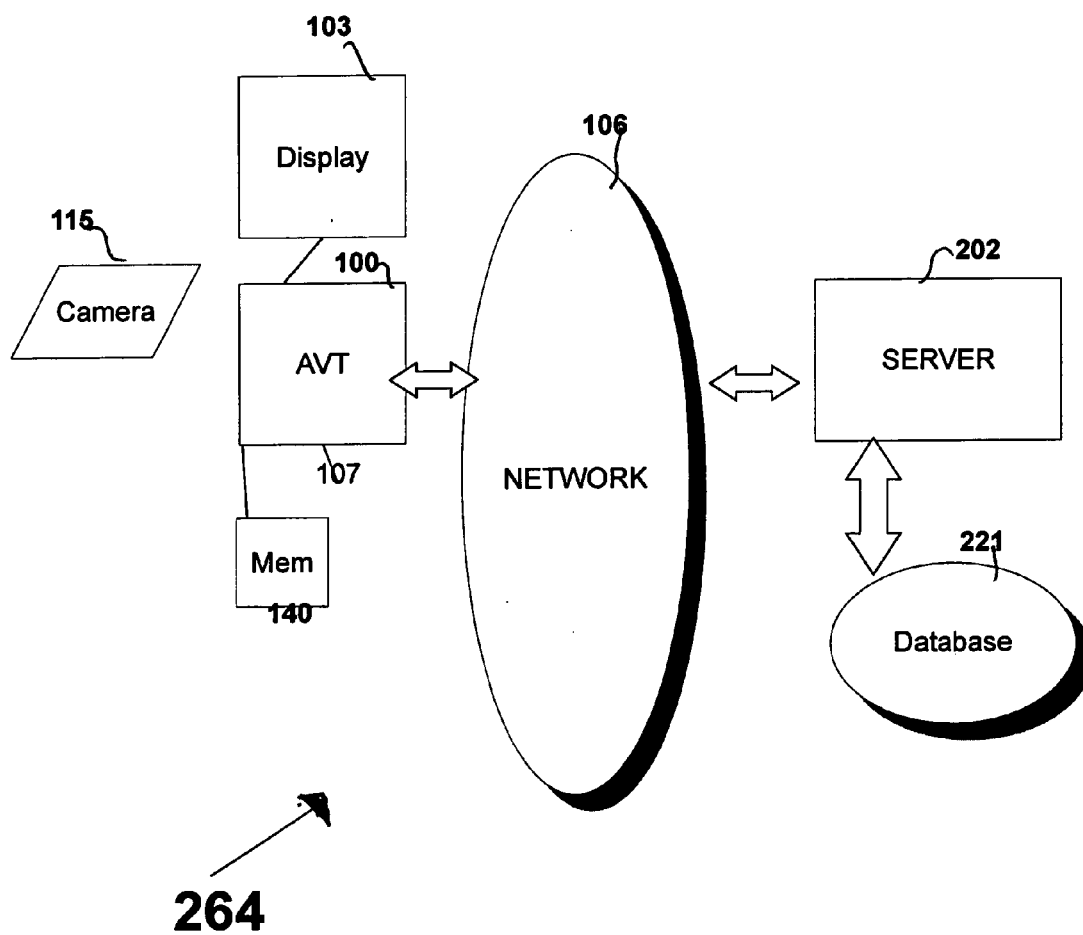


Figure 6

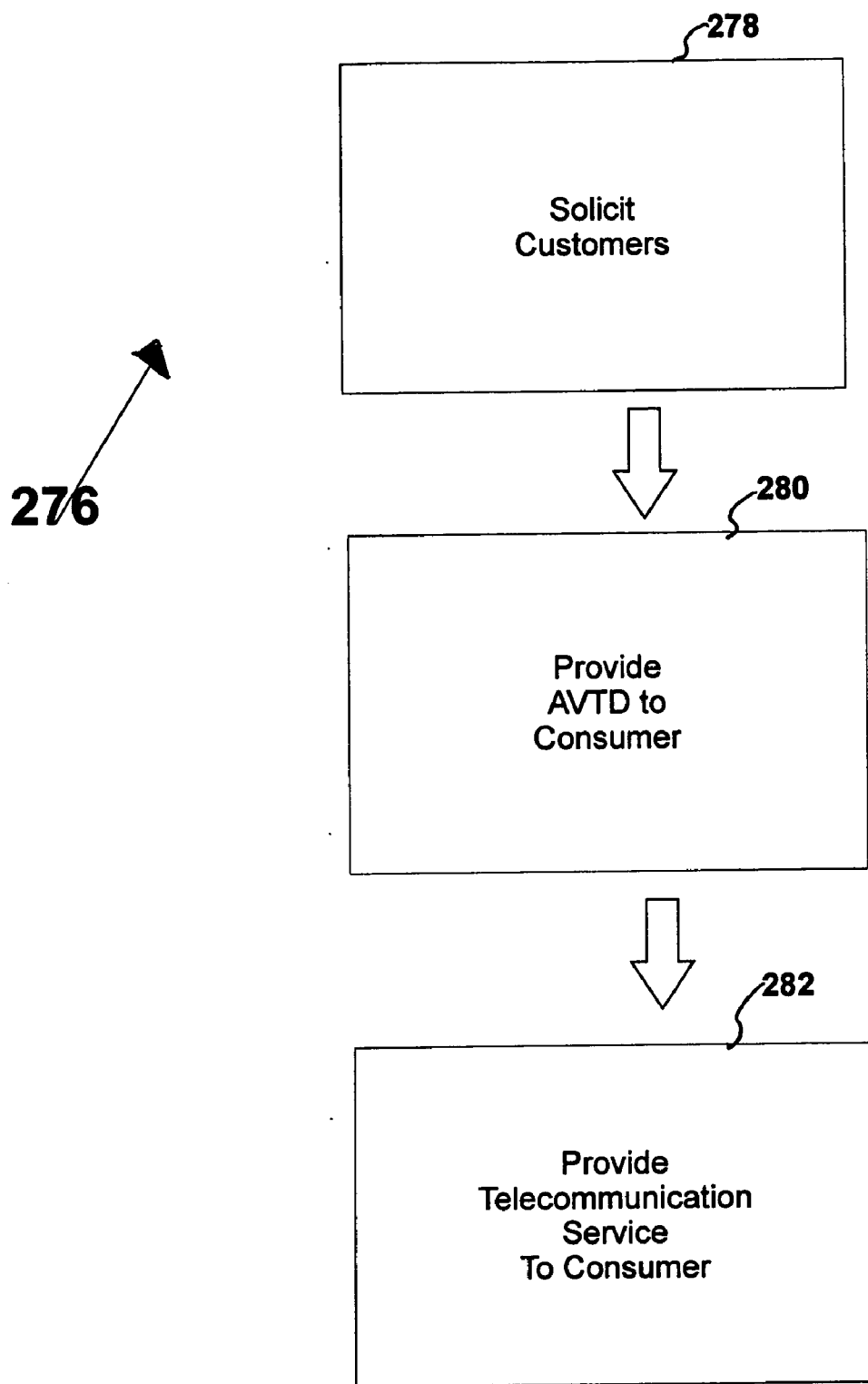


Figure 7

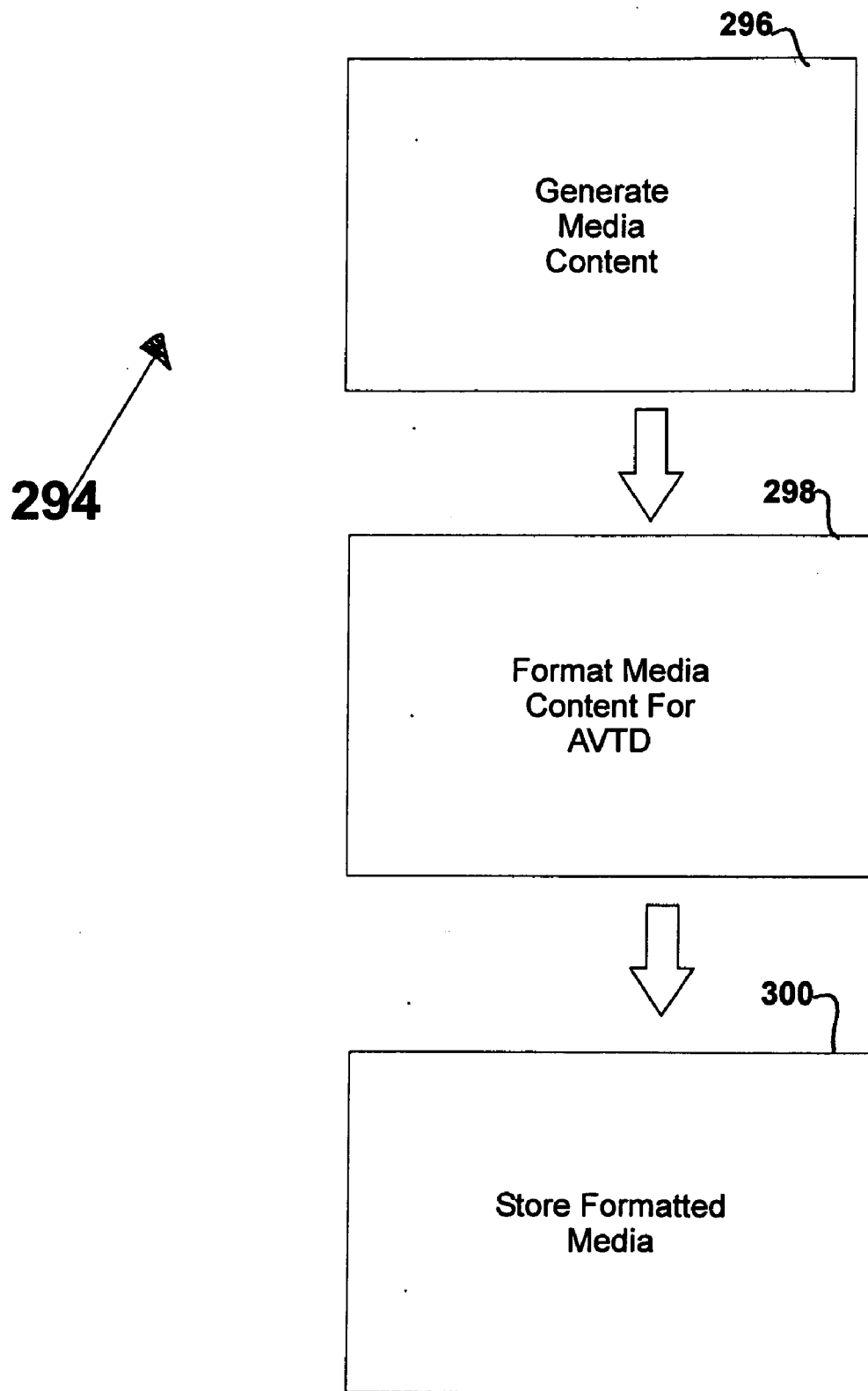


Figure 8

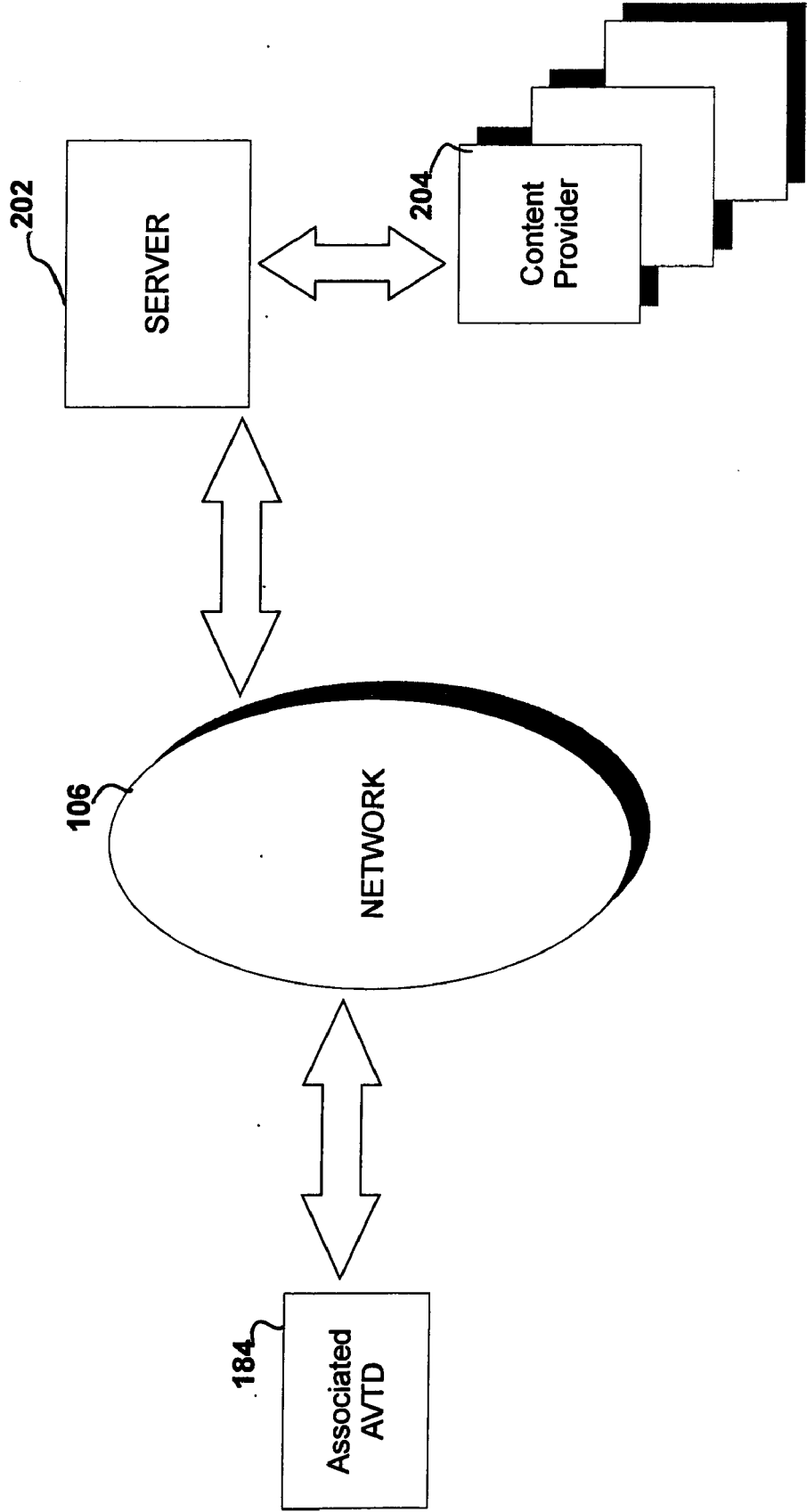


Figure 9

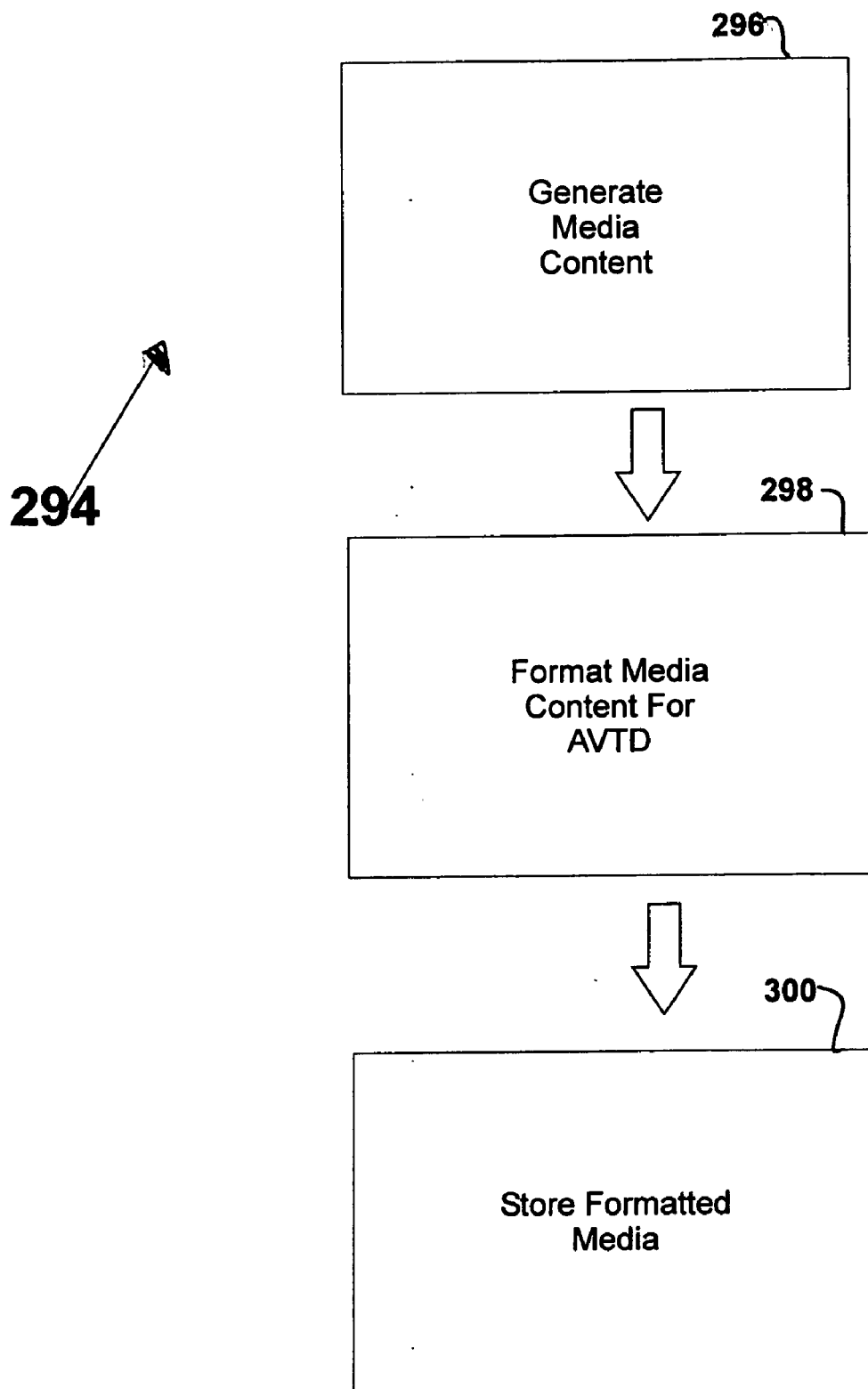


Figure 10

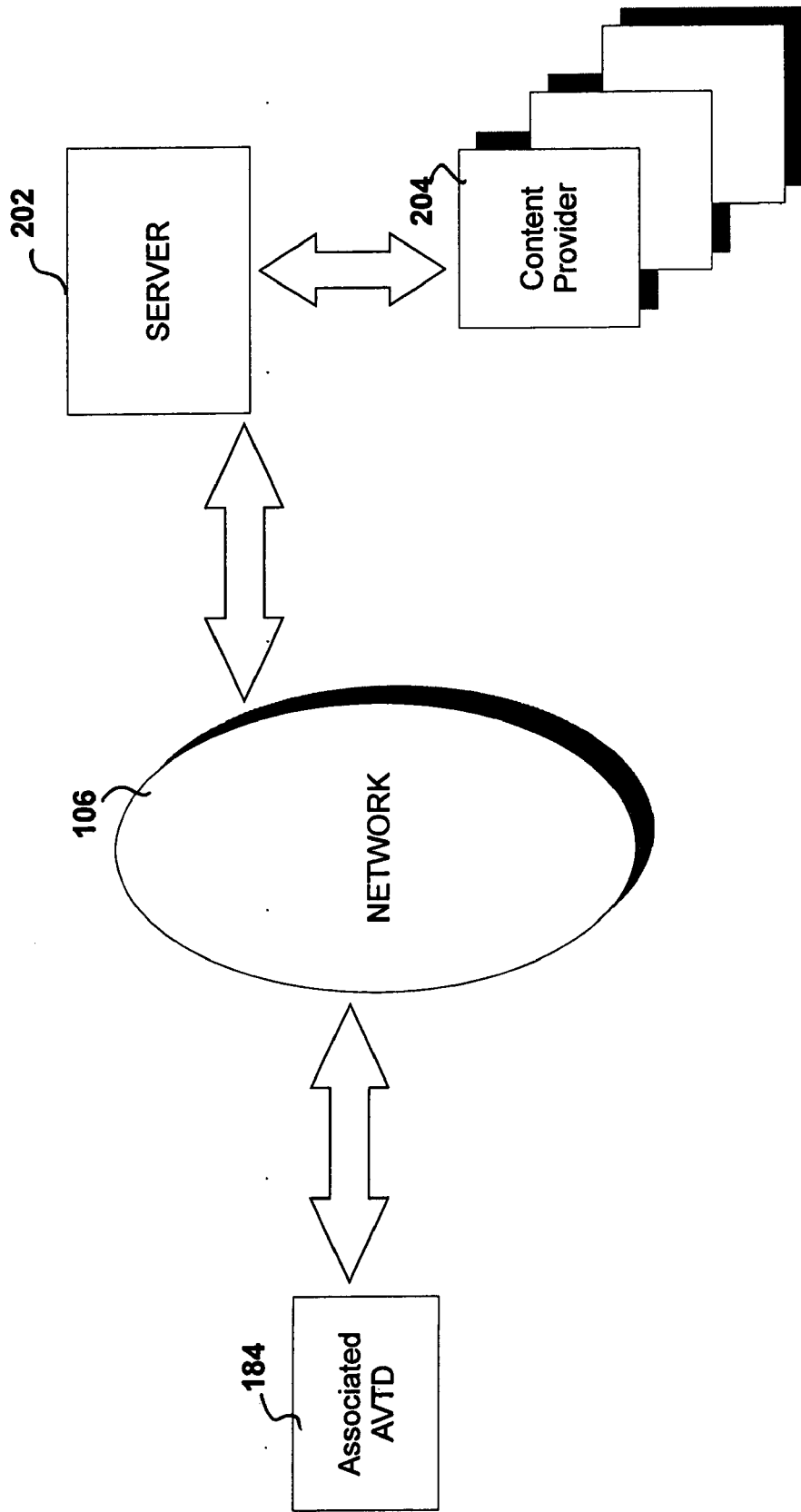


Figure 11

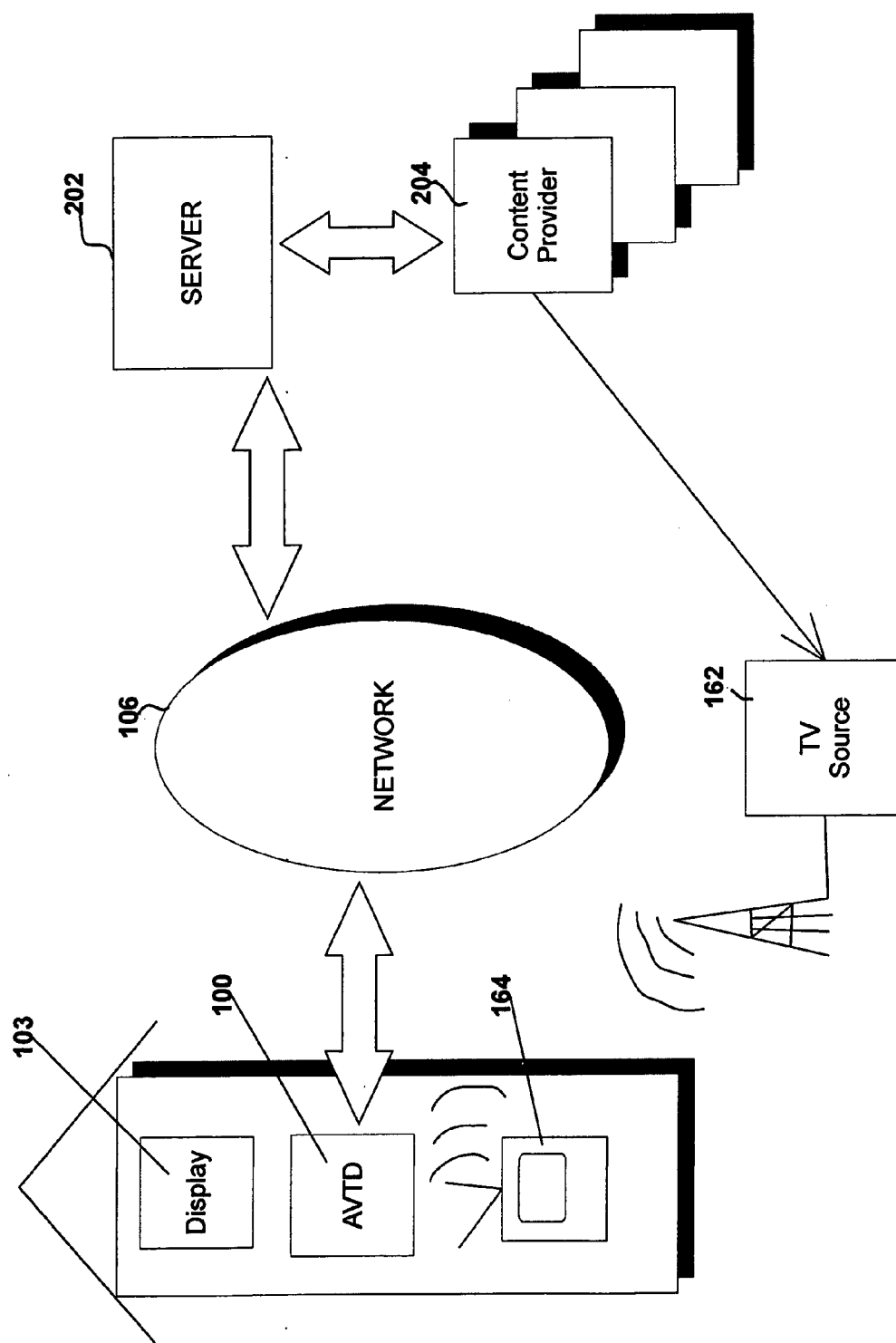


Figure 12

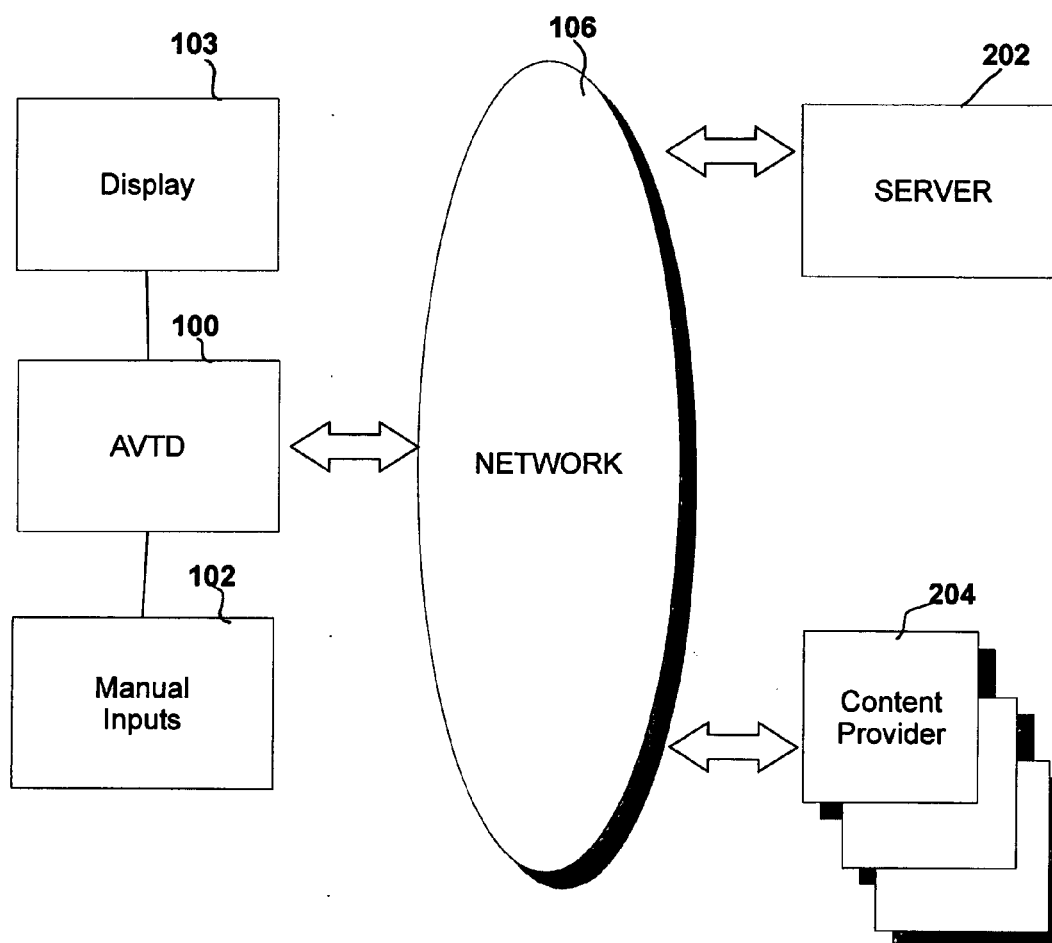


Figure 13



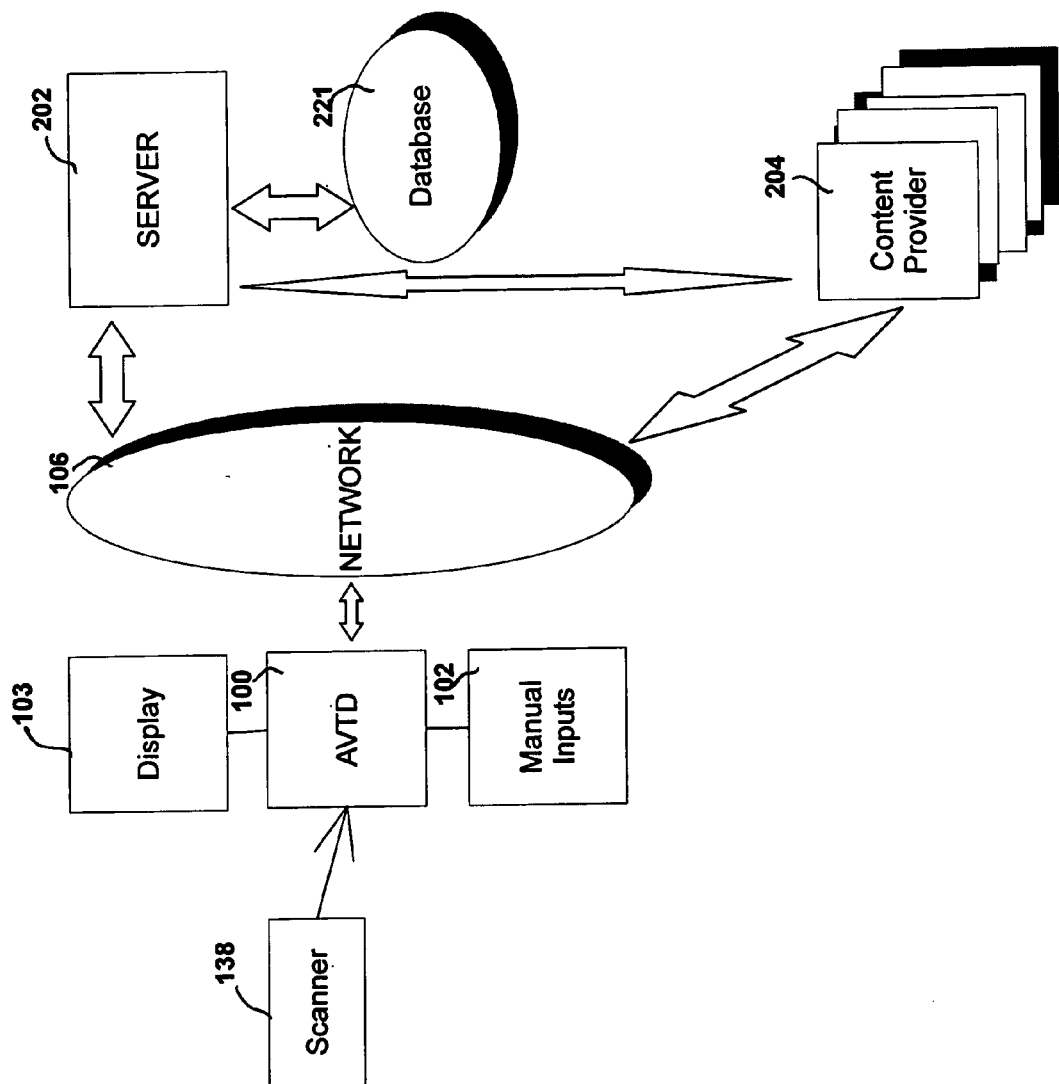


Figure 14

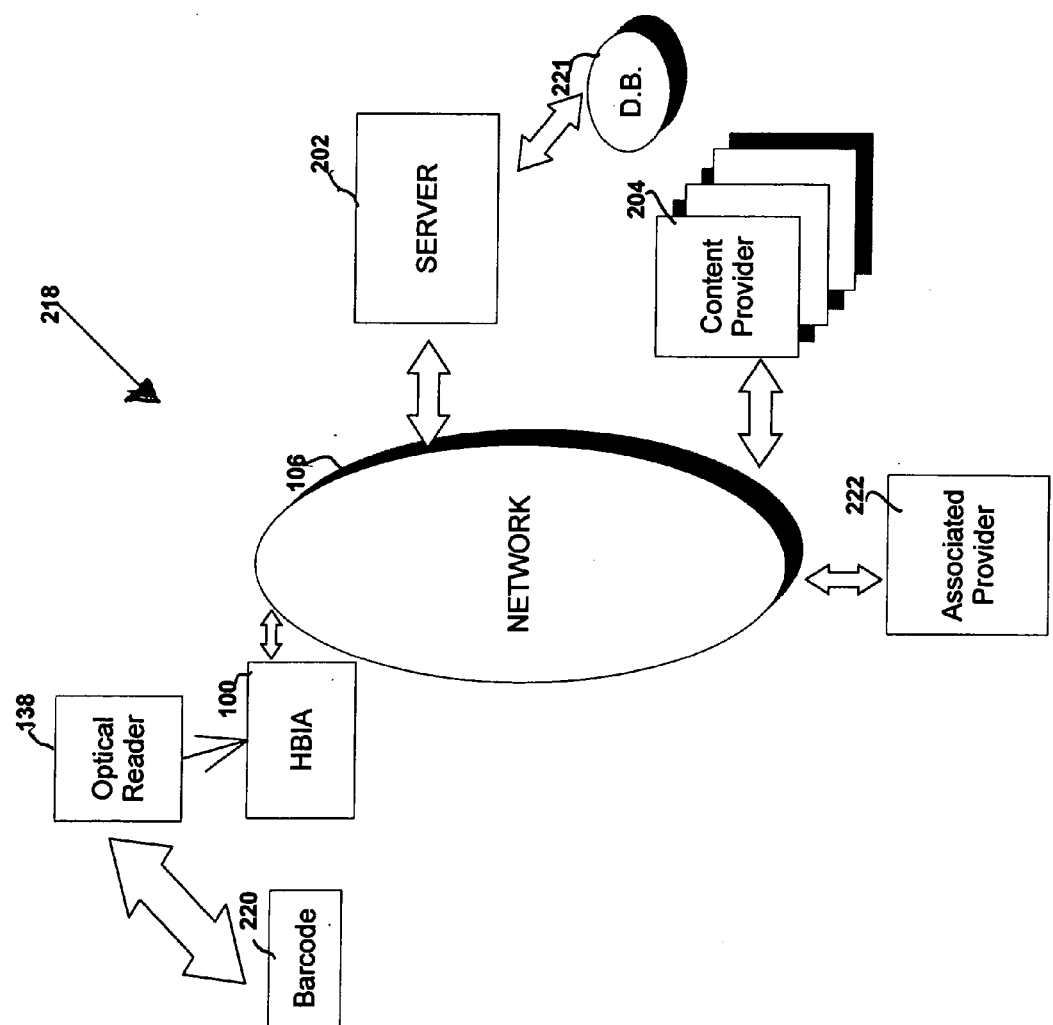


Figure 15

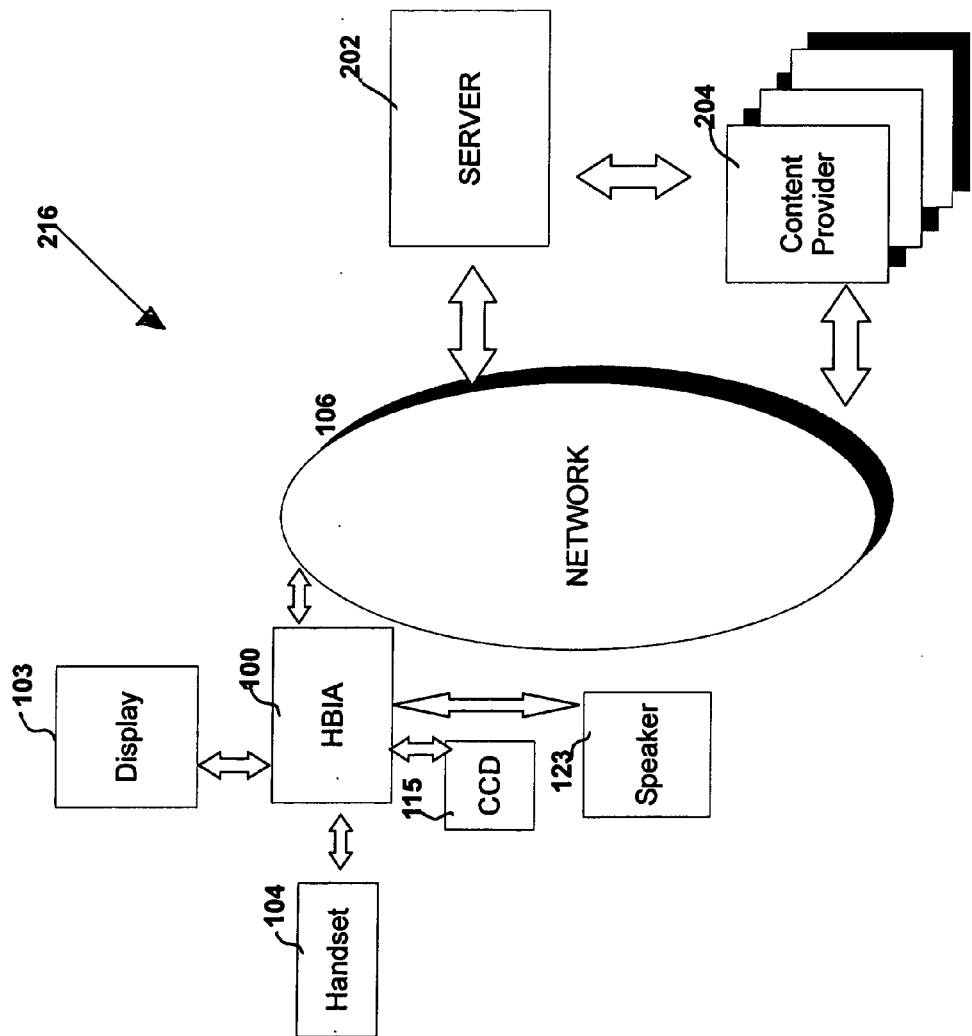


Figure 16

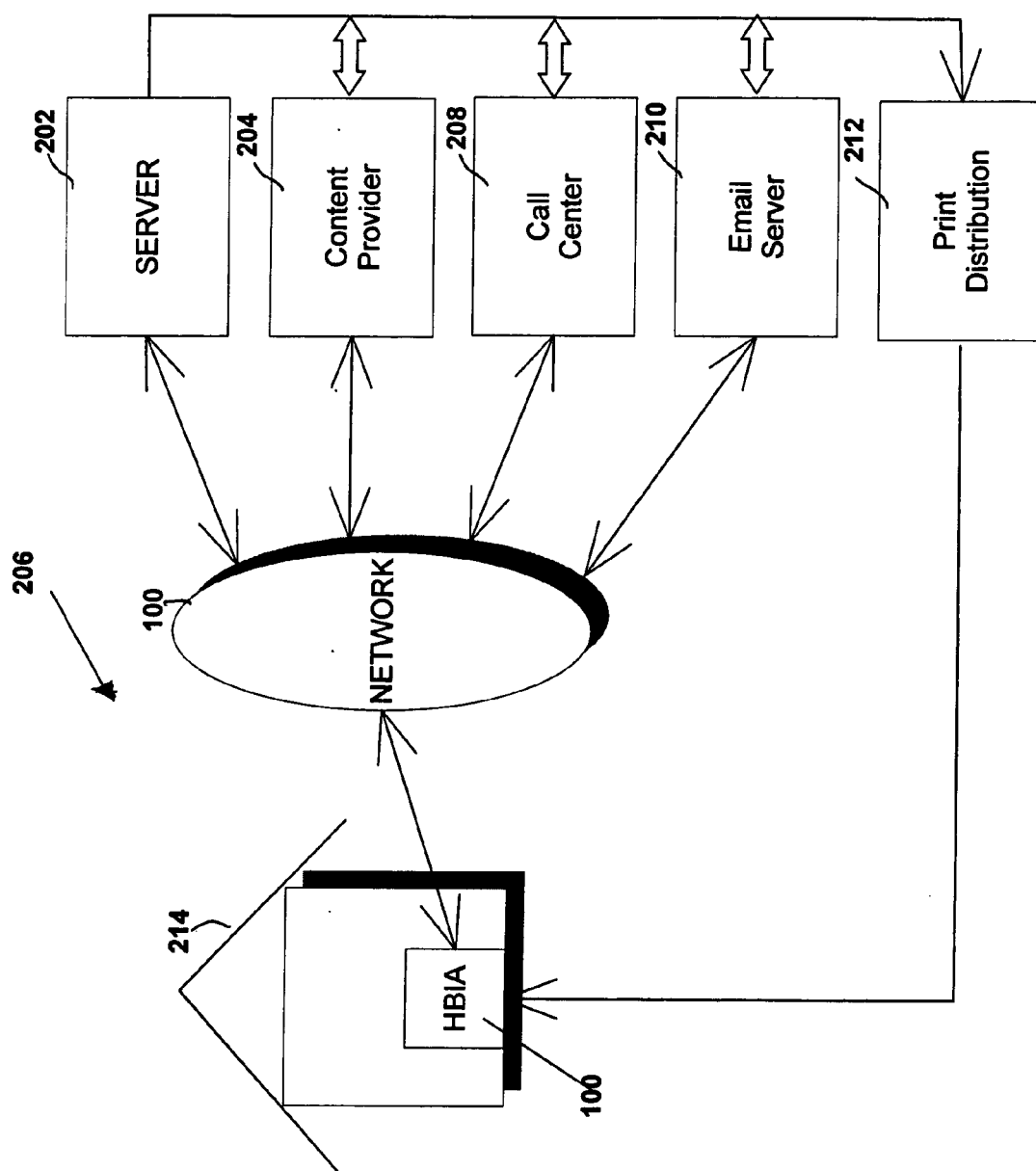


Figure 17

## GLOBAL A/V TELECOMMUNICATIONS MEDIA SYSTEMS AND SERVERS

### RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Patent Application, Ser. No. 60/592,845, entitled "DISPARATE NETWORK COMMUNICATIONS INTEGRATION DEVICE" filed on Jul. 30, 2004, having J. Hutton Pulitzer, listed as the inventor Ser. No. 60/592,793, entitled "ALWAYS-ON AUDIO/VISUAL COMMUNICATION NETWORK DEVICE" filed on Jul. 30, 2004, having J. Hutton Pulitzer, listed as the inventor Ser. No. 60/592,847, entitled "A/V NETWORK USING A TELECOMMUNICATION DEVICE" filed on Jul. 30, 2004, having J. Hutton Pulitzer, listed as the inventor, and Ser. No. 60/598,504, entitled "METHOD OF PROVIDING A/V TELECOMMUNICATIONS TO CONSUMERS" filed on Aug. 3, 2004, having J. Hutton Pulitzer, listed as the inventor, the entire content of each of which is hereby incorporated by reference.

### TECHNICAL FIELD OF THE INVENTION

[0002] The invention relates to the field of video telephony, in particular to an integrated multi-network video telephones.

### BACKGROUND OF THE INVENTION

[0003] The combination of video and audio channels provide a unique platform for interpersonal communication. With the availability of broadband Internet network connections in the home, there is an opportunity to provide further methods of interaction between content providers and consumers.

[0004] What is needed, therefore, is a system and method of providing a broadband information appliance.

### SUMMARY OF THE INVENTION

[0005] Audio-visual telecommunications are provided to consumers by identifying a consumer and providing an information appliance comprising a network connection, a telecommunications processor connected to the network connection, and a video processor connected to the network connection. Audio-visual content is provided to the information appliance and fees are collected from an audio-visual content provider.

[0006] The network media bridge server provides content to the A/V telecommunication device in response to processed commands.

[0007] The picture files stored in memory are displayed by the video processor on a video display.

[0008] A method of developing a VOIP network includes identifying a potential VOIP customer.

[0009] Each customer may be provided with an A/V telecommunication device and with VOIP telecommunication service.

[0010] A method of transforming general media content for delivery to an A/V telecommunication device is performed by inputting general media content and transforming

the general media content to an A/V telecommunication format. The transformed content is delivered to an A/V telecommunication device.

[0011] A method of generating media content for an A/V telecommunication device is performed by generating media content and formatting the generated media content in an A/V telecommunication format. The formatted media content is then stored for delivery to an A/V telecommunication device.

[0012] A method of providing content at a remote location may be performed by providing an A/V telecommunication device at a remote location and sending content to said A/V telecommunication device. The content provider may receive inputs from said remote location. An A/V communication session may be established with said A/V telecommunication device in response to said inputs.

[0013] A method of presenting promotional content on an A/V telecommunication device including a network connection, a telecommunications processor connected to the network connection, and a video processor connected to the network connection, may be performed by providing first promotional content to a television at a predetermined time and providing related promotional content to the A/V telecommunication device at about the same time.

[0014] A method of requesting media content on an A/V telecommunication device including a network connection, a telecommunications processor connected to the network connection a video processor connected to the network connection and manual inputs communicably connected to the . . . network connection may be performed by engaging a manual input to send a request for media content and receiving media content at the A/V telecommunication device in response to the request.

[0015] A method of requesting product information in an A/V telecommunication system having an A/V telecommunication device with a network connection, a telecommunications processor connected to the network connection and a video processor connected to the network connection, may be performed by recognizing input as a product information request and sending a product information request to a server. The A/V telecommunication device receives A/V media content in response to said product information request.

[0016] An information appliance includes a network connection, a telecommunications processor connected to the network connection to provide two-way communication and a video processor connected to the network connection. Audio and video communications are sent from a content provider to the network connection. Audio and video communications are distributed to a information appliance. Audio and video communications are sent from the information appliance via the network to a content provider.

[0017] An information appliance includes a network connection, a telecommunications processor connected to the network connection to provide two-way communication and a video processor connected to the network connection. When information appliance sends a media request through the network connection to a server such that media is sent from a variety of media sources to the information appliance in response to said media request.

[0018] An information appliance includes a network connection, a telecommunications processor connected to the network connection to provide two-way communication and a video processor connected to the network connection.

[0019] The information appliance remains in a powered state such that media may be continually sent to the information appliance from a variety of media sources.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0020] For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following description taken in conjunction with the accompanying Drawings in which:

[0021] **FIG. 1** illustrates a household broadband information appliance;

[0022] **FIG. 1A** illustrates a handset for a household broadband information appliance;

[0023] **FIG. 2** illustrates a block diagram of one aspect of a household broadband information appliance;

[0024] **FIG. 3** illustrates a block diagram of another aspect of a household broadband information appliance;

[0025] **FIG. 4A** illustrates a flowchart for a method of providing A/V telecommunications to a consumer;

[0026] **FIG. 4B** illustrates a flow chart for another method of providing a/v telecommunications to a consumer;

[0027] **FIG. 5** illustrates an A/V telecommunication system including a networked media bridge

[0028] **FIG. 6** illustrates a system including an integrated photo server and A/V telecommunication **FIG. 7** illustrates a flowchart of a method of developing a VOIP network.

[0029] **FIG. 8** illustrates a flowchart defining a process of transforming general media content to an A/V telecommunication format.

[0030] **FIG. 9** illustrates a flowchart defining a process of transforming general media content to an A/V telecommunication format device.

[0031] **FIG. 10** illustrates a flowchart of a process for generating media content for an A/V telecommunication device.

[0032] **FIG. 11** illustrates an A/V telecommunication system from providing private network broadcasts.

[0033] **FIG. 12** illustrates a system for providing synchronized promotional content.

[0034] **FIG. 13** illustrates an A/V telecommunication system.

[0035] **FIG. 14** illustrates a system for requesting product information.

[0036] **FIG. 15** illustrates an optical command telecommunications system.

[0037] **FIG. 16** illustrates a disparate network communication system.

[0038] **FIG. 17** illustrates an always-on A/V communication network device.

#### DETAILED DESCRIPTION OF THE INVENTION

[0039] Referring now to the drawings, wherein like reference numbers are used to designate like elements throughout the various views, several embodiments of the present invention are further described. The figures are not necessarily drawn to scale, and in some instances the drawings have been exaggerated or simplified for illustrative purposes only. One of ordinary skill in the art will appreciate the many possible applications and variations of the present invention based on the following examples of possible embodiments of the present invention.

[0040] With reference to **FIG. 1**, a functional depiction of a broadband information appliance **100** is shown. The broadband information appliance **100** includes a base unit **101**. The base unit **101** typically houses the processing circuits, memory storage, interfaces **105**, manual inputs **102** and power connections. The base unit **101** may be attached to a display **103**. The display **103** may be integral with the base unit **101**. The display **103** may be an independent unit fixedly attached to the base unit **101**. The display **103** may be interchangeably attached to the base unit **101** such that the display **103** may be easily exchanged for a different display **103**.

[0041] Base unit **101** may include manual inputs **102**. Typically the manual inputs **102** may include a standard telephone keypad with ten numeric buttons plus “#” and “\*” buttons. The manual inputs **102** may further include any number of other buttons, switches, thumbwheels or other appropriate manual input devices. A wide variety of functions and features may be controlled using the manual inputs **102**. Manual inputs **102** may include navigation keys or a joystick for up, down, right and left selections, programmable soft keys. Power and status LEDs may also be provided.

[0042] Base unit **101** may be connected to a handset **104**. Handset **104** may be substantially a standard telephone handset including a microphone and speaker. Handset **104** may be directly connected to the base unit **101**. A handset **104** directly connected to the base unit **101** may be called a “tethered” or “wired” handset. Handset **104** may also include a wireless transceiver for wireless connection to a base unit including (or connected to) a wireless transceiver. The wireless transceivers may be a 2.4 gigahertz transceivers or may use any other suitable wireless transceiver frequency. The wireless transceivers may be spread spectrum transceivers. A handset **104** wirelessly connected to the base unit may be called a “wireless” handset.

[0043] Base unit **101** may be connected to an interface **105**. Typically, interface **105** will be integral with base unit **101**. Interface **105** includes an interface for connection to network **106**. Network **106** may be an open network such as the Internet. Interface **105** includes interface connections **107** for connecting the base unit **101** to a variety of peripherals or networks. Typically, the interface **105** will provide Ethernet ports, telephone handset and keypad support, video capture and display ports including NTSC composite input and output ports, S-video ports, NTSC camera ports and LCD display ports. The interface **105** may include audio capture and reproduction ports, an external microphone port, an external speaker port, two audio line level inputs, a handsfree speakerphone,

[0044] A digital video camera 115 may be connected to base unit 101. Typically digital video camera 115 is a CCD camera device. The digital video camera 115 may be integral with the base unit 101 or the display 103. An additional digital video camera 137 may be integral with the handset 104. A privacy shield 141 may be a cover provided to disable the digital video camera 137 by covering the lens of the digital video camera 137.

[0045] With reference to FIG. 1A, a more detailed depiction of the features that may be incorporated into handset 104 is shown. The handset 104 typically includes a speaker 135 and a microphone 136 to provide standard audio communication. Handset 104 may include a digital video camera 137, typically at one end of the handset 104. A scanner 138 may be provided on the handset 104 to read machine readable codes or to scan image data. An LCD display 139 may be provided on the handset 104 to allow the user to see the input from digital video camera 137, show video data being shown on display 103 when the handset 104 is being used remotely from the base 101. The handset display 139 may also show alternate visual data. The handset 104 may include further manual inputs 140 to control the video camera 137, handset display 139, scanner 138.

[0046] With reference to FIG. 2, a functional block diagram of a basic broadband information appliance 100 is shown. A gateway 110 provides an interface to network 106. The gateway communicates with voice over-internet-protocol (VOIP) hardware 111 and video hardware 114. The VOIP hardware 111 may be directly connected to wired handset 104 or may be connected to a cordless base unit 112 which provides wireless communication with a cordless handset 113. The video hardware 114 may be connected to a video camera 115 and a display 103.

[0047] With reference to FIG. 3, a more detailed functional block diagram of a broadband information appliance 100 is shown. A gateway 110 provides communication with one or more networks 106. Gateway 110 may be a Micrel KS8695P processor. The gateway 110 typically acts as the master boot processor for the broadband information appliance 100. The gateway 110 is typically an integrated, multi-port PCI bridge system on a chip. The KS8695P integrates an ARM922T CPU, a PCI bridge that can support up to 3 external PCI masters and a 5-port switch with integrated media access controllers and low power Ethernet PHYs. The PCI interface can be connected gluelessly to miniPCI or cardbus wireless LAN cards that support 802.11 a/b/g. Those skilled in the art will recognize that other processors, chips or configurations could be used for the gateway 110.

[0048] The KS8695P gateway processor includes five Ethernet MAC and PHY, 10/100 Base-Transceivers. It includes a PCI bridge and Master arbiter of up to 3 external PCI 2.1 compliant controllers, supporting a 32 bit data bus as 33 MHz clock speed. The processor includes a memory controller for glueless synchronous DRAM support at 133 MHz access of up to 32 MB. The processor has a standard memory bus for SRAM and flash ROM, 32 bit address, 32 bit data up to 32 MB, with general purpose I/O pins and a JTAG port.

[0049] Gateway 110 provides one or more external Ethernet ports. Gateway 110 includes Ethernet ports for both uplink 116 and downlink 117 connections. Typically, uplink

116 and downlink 117 are integrated, however according to some embodiments, separate communication links may be provided for the uplink 116 and downlink 117, particularly where bandwidth limitations make it advisable to provide greater bandwidth for the downlink 117 than the uplink 116.

[0050] Gateway 119 may be connected to a link controller 119, a USB host controller 120, a miniPCI slot 121 or other interfaces. Gateway 119 may be connected to gateway memory 118. Gateway memory 118 may be flash memory, SDRAM or other suitable memory device.

[0051] Gateway 119 may be connected to a VOID processor 111. A VOIP processor 111 is a communication processor for audio codec and telephone management. The VOID processor 111 may be a Tology TNETV 1050 DSP. The VOIP processor may include a MIPS32 reduced instruction set computer processor and a C55 DSP. The RISC processor software supplies overall system services and performs user interface, network management, protocol stack management, call processing and task scheduling functions. The DSP software provides real-time voice processing functions such as echo cancellation, compression, pulse-code modulation data processing and tone generation and detection.

[0052] Two 10/100 Base-T Ethernet MAC and PHY are included with integrated layer-2 three-port Ethernet switches. On-chip peripherals include an 8x8 keypad interface, USB controller host, universal asynchronous receiver/transmitter serial interface, a programmable serial port, several general-purpose input outputs and integrated voltage regulator.

[0053] The integrated dual channel 16-bit voice coder/decoder integrates the critical functions needed for IP phone applications, including two analog-to-digital converters and two digital to analog converters. Other features include analog and digital sidetone control, filter, programmable gain options, a programmable sampling rate, 8-speaker driver, microphone, handset and headset interfaces.

[0054] The VOIP processor 111 may include dual Ethernet MAC and PHY, 10/100 base transceivers. The VOIP processor 111 may include a speaker and microphone for handset, headset, and optional input and output sources. The VOID processor 111 may include a PC and Palm compatible IrDA transceiver, a RS-232 serial port, a USB host port, general purpose I/O pins for LED and configuration options. The VOIP processor 111 may include synchronous DRAM, 133 MHz up to 128 MB, a standard memory bus, a JTAG port and HP Logic analyzer connectors. Those skilled in the art will recognize that other VOID processors may be used as suitable.

[0055] VOID processor 111 may be connected to a VOIP memory 112-VOID memory 112 may be a flash memory, SDRAM or other suitable memory devices. The VOID hardware 111 may be connected to a handset 104 or a cordless base 112 which provides wireless communication with a cordless handset 113. The VOID hardware 111 may be connected to manual input devices 102, a microphone 124, a speaker 123. VOIP hardware 111 may be connected to an alpha-numeric keyboard 125.

[0056] Gateway 110 may be connected to video processor 114. The video processor 114 is a video codec and LCD panel controller. The VOID processor 111 may be a TI TMS320DM642 digital signal processor. The digital signal

processor may be based on the second-generation high-performance advanced Velocin very-long-word-instruction (VLIW) architecture. The digital signal processor may provide 4800 million instructions per second at a clock rate of 600 MHz. The DSP offers operational flexibility of high speed controllers and the numerical capability of array processors. A DSP core processor has 64 general purpose registers of 32-bit word length and eight independent functional units including two multipliers for 32 bit word length and six arithmetic logic units. The DSP provides extensions in the eight functional units including new instructions to accelerate performance in video and imaging applications to extend parallelism. The DSP can produce four 32-bit multiply accumulates per cycle for a total of 2400 million MACS per second or eight 8-bit MACs per cycle for a total of 4800 million MACs. The DSP may have application specific hardware logic, on-chip memory and additional on-chip peripherals.

[0057] The DSP typically uses a two-level cache-based architecture. A Level 1 program cache is a 128-Kbit direct mapped cache and a Level 1 data cache is a 128-Kbit 2-way set associative cache. A Level 2 memory cache consists of a 2-Mbit-memory space that is shared between program and data space. Level 2 memory can be configured as mapped memory.

[0058] The peripheral set may include configurable video ports; a 10/100 Mb/s Ethernet MAC; a management data input/output; a VCXO interpolated control port; a multi-channel buffered audio serial port; an inter-integrated circuit bus module; two multichannel buffered serial ports; three 32 bit general purpose timers; a user-configurable 16-bit or 32-bit host port interface; a peripheral component interconnect; a 16-ping general-purpose input/output port with programmable interrupt generation modes; and a 64-bit glueless external memory interface which is capable of interfacing to synchronous and asynchronous memories and peripherals.

[0059] The DSP may have three configurable video port peripherals. These video port peripherals provide a glueless interface to common video decoder and encoder devices. The DSP video port peripherals support multiple resolutions and video standards. The video ports peripherals are configurable and can support video capture and video display modes. Each video port may include two channels with a 5120 byte capture/display buffer that is split-able between the two channels.

[0060] The DSP may include three video ports including a capture port interfaced with a Philips SAA7115 decoder with integrated multiplexer for NTSC, S-video sources; display port interfaced with Philips SAA7105 NTSC and S-video encoder and a third port dedicated to an LCD panel. The DSP may include Ethernet MAC 101100 Base-Transceivers. The DSP may include general purpose I/O pins and a JTAG port. The DSP may be a synchronous DRAM 64-bit wide, 133 MHz up to 1 GB support. The DSP may include a standard asynchronous memory bus 32 bit. The DSP may include HP logic analyzer connectors for memory bus address, data and control signals. Those skilled in the art will recognize that other DSP processors may be implemented.

[0061] The video processor 114 may be connected to a video memory 128. Video memory 128 may be a flash memory, SDRAM or other suitable memory device. The

video processor 114 may be connected to an video decoder 126. Video decoder 126 may be a NTSC decoder. Video decoder 126 may receive video signals from an external source 127 or a video camera 115. The video processor 114 may be connected to a video encoder 129. The video encoder 129 may be an NTSC encoder. The video encoder 129 may be integral with a CSC 133 to provide video signals to an RGB/LCD panel 132. The video encoder 129 may provide video signals to an LCD panel 130 and a CV/S/RGB output.

[0062] The gateway 110, VOIP processor 111 and video processor 114 may be mutually connected to a CPLD decoder 134.

[0063] The broadband information appliance 100 may include smart media access, an infrared transceiver, an unpowered firewire port, fast peripheral ports, a wireless interface, Bluetooth support and a HomePlug interface.

[0064] The broadband information appliance 100 may be an AC powered device, using residential power distribution of 120 VAC at 60 Hz or 230 VAC at 50Hz. A power adapter may convert the AC power to 12 volts DC.

[0065] The broadband information appliance typically includes three memory module, particularly the gateway memory 118, the VOID memory 122 and the video memory 128. SDRAM memory may be connected through each of the direct SDRAM interfaces in the DSP and gateway processors. SDRAM may be rated to operate at 133 MHz and terminated with discrete components. Dedicated SDRAM for each processor may be used.

[0066] With reference to FIG. 4, a flowchart of a method of providing A/V communications to consumers 226 is shown. The household broadband information appliance 100 functions as a multiple-terminal adapter fully integrated with a telecommunications device. Customers are solicited and identified in function block 228. Each identified customer is provided with a household broadband information appliance 100 at function block 230. Typically, the hardware is provided for free in exchange for a subscription contract. It will be recognized by those skilled in the art that the household broadband information appliance 100 could be provided without cost to the consumer and without a subscription fee or contract. The household broadband information appliance collects data regarding the consumer, the consumers demographics and personal buying habits at function block 233. Audio-visual content is provided to the household broadband information appliance 100 at function block 234. The consumer data collected at function block 232 may be used to select or tailor the audio-visual content provided. The content-provider pays for access to the consumer via the household broadband information appliance at function block 236.

[0067] It will be appreciated by those skilled in the art having the benefit of this disclosure that this invention provides a broadband information appliance. It should be understood that the drawings and detailed description herein are to be regarded in an illustrative rather than a restrictive manner, and are not intended to limit the invention to the particular forms and examples disclosed. On the contrary, the invention includes any further modifications, changes, rearrangements, substitutions, alternatives, design choices, and embodiments apparent to those of ordinary skill in the art, without departing from the spirit and scope of this



invention, as defined by the following claims. Thus, it is intended that the following claims be interpreted to embrace all such further modifications, changes, rearrangements, substitutions, alternatives, design choices, and embodiments.

[0068] With reference to **FIG. 4**, a flowchart of a method of providing A/V communications to consumers **226** is shown. The household broadband information appliance **100** functions as a multiple-terminal adapter fully integrated with a telecommunications device. Customers are solicited and identified in function block **228**. Each identified customer is provided with a household broadband information appliance **100** at function block **230**. Typically, the hardware is provided for free in exchange for a subscription contract. It will be recognized by those skilled in the art that the household broadband information appliance **100** could be provided without cost to the consumer and without a subscription fee or contract. The household broadband information appliance collects data regarding the consumer, the consumers demographics and personal buying habits at function block **233**. Audio-visual content is provided to the household broadband information appliance **100** at function block **234**. The consumer data collected at function block **232** may be used to select or tailor the audio-visual content provided. The content-provider pays for access to the consumer via the household broadband information appliance at function block **236**.

[0069] With reference to **FIG. 4**, a household broadband information appliance system **206** is shown. A household broadband information appliance **100** at a physical location **214** is connected to a network **106**. A host server **202** is connected to the network **106**. The host server **202** receives signals from the household broadband information appliance **100** and sends information to the household broadband information appliance **100**. The server **202** is further connected, either directly or through a network **106**, to a content provider **204**, a call center **208**, an email server **210**, a print distribution center **212** or other media sources.

[0070] With reference to **FIG. 4**, an always-on A/V communication network system **216** is shown. The HBIA **100** is connected to a display **103**, a handset **104**, a video camera **115** and speaker **123**. The HBIA **100** is further connected to a network **106**. Because the HBIA **100** provides telephone service, it is typically left in a powered state, so that telephone calls may be received at any time. A host server **202** is connected to the network **106** and manages the supply of content to the HBIA **100** from one or more content providers **204**.

[0071] With reference to **FIG. 4**, a household broadband information appliance system **206** is shown. A household broadband information appliance **100** at a physical location **214** is connected to a network **106**. A host server **202** is connected to the network **106**. The host server **202** receives signals from the household broadband information appliance **100** and sends information to the household broadband information appliance **100**. The server **202** is further connected, either directly or through a network **106**, to a content provider **204**, a call center **208**, an email server **210**, a print distribution center **212** or other media sources.

[0072] Upon request from the household broadband information appliance **100**, the host server **202** communicates with one or more of the media sources to provide content to

the HBIA **100**. In response to a request for more information about a product, for example, the host server may connect the HBIA **100** to a call center **208** which provides a two-way interface with a human representative. The call center **208** may direct, in response to interaction with the HBIA, the delivery of other forms of media including video, email or print.

[0073] With reference to **FIG. 4**, an MV communication network **224** is shown. The AV communication network **224** includes an HBIA **100** connected to a network **106**. The HBIA **100** communicates via the network **106** to a host server **202**. Host server **202** communicates with a content provider **204** to provide content specific for distribution to the HBIA **100**. Because each HBIA **100** is uniquely associated with a household or user, the selection of content sent by the content provider **204** may be tailored for the demographics of the specific household or user.

[0074] With reference to **FIG. 4**, an A/V telecommunication system **200** with a network media bridge server **202** is shown. The network media bridge server **202** combines, schedules, directs or manages the delivery of content from various content providers **204** to the A/V telecommunication device **100** over network **106**. The content may include Internet media, web-based media, information, entertainment, communications and promotional content. The server **202** acts a bridge for the content provided by content providers **204**.

[0075] With reference to **FIG. 4**, a system **264** providing an integrated digital picture server and A/V telecommunication device **100** is shown. The A/V telecommunication device **100** includes a visual display **103** and a memory device **140** such as flash memory or a hard-drive. Still picture files taken with a video camera may be input to the A/V telecommunication device via the flash drive **140**, an I/O connection **107**, from CCD camera **115** or over the network **106**. The still picture files may be stored on the memory device **140** and displayed on display **103**. The display of the picture files may be manually directed or may be tied to automatic display functions so that the picture files are displayed at intervals on display **103**. The pictures files may be stored on memory **221** of the host server **202** and delivered to the A/V telecommunication device in a similar fashion.

[0076] With reference to **FIG. 4**, a flowchart **276** for a process of generating a VOIP network. To develop a network, customers with the A/V telecommunication device and a connection to a network is needed. Potential customers are identified at function block **278**. Each customer is provided with an A/V telecommunication device at function block **280**. The A/V telecommunication device may be provided to the customer at a discount, at cost, at below cost or for free. Each customer is provided with telecommunication service at function block **282**. The telecommunication service may be provided at a discount, free for a specified period or quantity of communication time, or may be provided without charge for an indefinite period.

[0077] With reference to **FIG. 4**, a flowchart **284** defining a process of transforming general media content to an A/V telecommunication format is shown. General media content, including television shows, movies, commercials, videos, print, web content, etc., is input at function block **286**. The general media content is transform or translated into an A/V

telecommunication format at function block 288. The transformed content is delivered to an A/V telecommunication device 100 at function block 290.

[0078] With reference to FIG. 4, a flowchart defining a method of providing individual consumer programmed and/or scheduled audio or video based media served over an A/V telecommunication device 100 in combination with VOIP and a multi-media viewing screen 294 is shown. The media content is generated at function block 296. The media content is formatted for the A/V telecommunication device 100 at function block 298. The formatted media content is stored at function block 300. The stored formatted media content may be delivered to an A/V telecommunication device 100.

[0079] With reference to FIG. 4, an A/V telecommunication system for the distribution of a private broadcasting network is shown. A content provider 204 typically establishes the presence of associated A/V telecommunication devices 184 in locations where consumers may desire information from the content provider 204. For example, a product manufacturer may provide associated A/V telecommunication devices 184 in retail locations where their products are sold. The associated A/V telecommunication device 184 may provide a constant audio-visual display of content from content provider 204. When a consumer input, through server 202 and network 106 requests communication with content provider 204 or further media content, the content provider 204 establishes communication with an associate or provides the requested media content.

[0080] With reference to FIG. 4, a system for synchronous promotional content broadcast on an A/V telecommunication device 100 is shown. An A/V telecommunication device 100 having a display 103 is connected to a network 106 such as the Internet. A host server 202 is communicably connected to the A/V telecommunication device 100 via network 106. The host server 202 is also in communication with a content provider 204. Cooperation between the host server 202 and the content provider 204 allows media content to be sent to a television 164 by a TV source 162 associated with the content provider 204 at the same time or in some synchronous relationship with the broadcast of the same or related promotional content to the A/V telecommunication device 100. For example, a commercial may be broadcast on television 164. When the commercial is finished playing on television 164, a related commercial may play on A/V telecommunication device 100, allowing the advertisers to reach consumer through coordinated media content.

[0081] With reference to FIG. 4, an A/V telecommunication system including the delivery of media content in response to a code input is shown. A/V telecommunication device 100 may include manual inputs 102 including a numeric keypad, a keyboard, an array of buttons, switches or other manual inputs. A user may request media content from a content provider 204 by pressing a key, or any predetermined sequence of manual inputs. The request may come through the host server 202 connected to the A/V telecommunication device 100 and the content provider by network 106.

[0082] When the media content has been requested, the content provider 204 sends the media content to the A/V telecommunication device 100, perhaps for viewing on display 103.

[0083] With reference to FIG. 4, a system for providing product information on an A/V telecommunication device 100 is shown. A/V telecommunication device 100 may receive product input as a result of a product code scan using scanner 138. The product code may be printed on the product, a catalog, an advertisement or any other form of distribution. The product code may be entered with a sequence of inputs using the manual inputs, such as entering a product identifier code. The input of a product code is recognized by the AVTD 100 and a request containing the product identifier is sent via network 106 to server 202. The server 202 may correlate the product identifier with a content provider 204 using relational data in memory 221. The product identifier may be an address and require no correlation for direct connection to the content provider 204. A connection is established between the content provider 204 and the A/V telecommunication device 100. The connection may typically be a two-way A/V communication connection, including the presentation of A/V media content. The content provider 204 may provide A/V media regarding the product including product information, in this way, a consumer can request product information by scanning a catalog and receive A/V media content or a two-way video telephony conversation regarding the product information.

What is claimed is:

1. A method of providing audio-visual telecommunication to consumers comprising the steps of:

identifying a consumer;

providing an information appliance comprising a network connection;

a telecommunications processor connected to the network connection; and

a video processor connected to the network connection; and

providing audio-visual content to the information appliance; and

collecting fees from an audio-visual content provider.

2. A network media bridge server to manage the delivery of media to an A/V telecommunication device comprising:

a network connection connected to a network connected to an A/V telecommunication device;

a processor for processing commands sent by said A/V telecommunication device;

a media connection connected to a content provider;

wherein said network media bridge server provides content to said A/V telecommunication device in response to said processed commands.

3. A method of developing a VOIP network comprises the step of:

identifying a potential VOIP customer;

providing said potential VOIP customer with an A/V telecommunication device; and

providing said potential VOIP customer with VOIP telecommunication service over said A/V telecommunication device.

4. A method of transforming general media content for delivery to an A/V telecommunication device comprises the steps of:

inputting general media content;

transforming said general media content to an A/V telecommunication format; and

delivering said transformed content to an A/V telecommunication device.

5. A method of generating media content for an A/V telecommunication device comprising the steps of:

generating media content;

formatting the generated media content in an A/V telecommunication format; and

storing said formatted media content.

6. A method of providing content at a remote location comprising the steps of:

providing an A/V telecommunication device at a remote location;

sending content to said A/V telecommunication device;

receiving inputs from said remote location; and

establishing an A/V communication session with said A/V telecommunication device in response to said inputs.

7. A method of presenting promotional content on an A/V telecommunication device including a network connection, a telecommunications processor connected to the network connection, and a video processor connected to the network connection, the method comprising the steps of:

providing first promotional content to a television at a predetermined time; and

providing related promotional content to the A/V telecommunication device at about the same time.

8. A method of requesting media content on an A/V telecommunication device including a network connection, a telecommunications processor connected to the network connection, a video processor connected to the network connection and manual inputs communicably connected to the network connection, the method comprising the steps of:

engaging a manual input to send a request for media content;

receiving media content at the A/V telecommunication device in response to said request.

9. A method of requesting product information in an A/V telecommunication system having an A/V telecommunication device with a network connection, a telecommunications processor connected to the network connection and a video processor connected to the network connection, said method comprising the steps of:

recognizing input as a product information request;

sending a product information request to a server;

receiving A/V media content in response to said product information request.

10. An information appliance system comprising:

a network connection;

a telecommunications processor connected to the network connection and providing two-way communication; and

a video processor connected to the network connection;

wherein audio and video communications are sent from a content provider to the network connection, such that the audio and video communications are distributed to a information appliance and audio and video communications are sent from the information appliance via the network to a content provider.

11. An information appliance system comprising:

a network connection;

a telecommunications processor connected to the network connection and providing two-way communication;

a video processor connected to the network connection;

wherein said information appliance sends a media request through the network connection to a server such that media is sent to the information appliance from a variety of media sources in response to said media request.

12. An information appliance system comprising:

a network connection;

a telecommunications processor connected to the network connection and providing two-way communication;

a video processor connected to the network connection;

wherein said information appliance remains in a powered state such that media may be continually sent to the information appliance from a variety of media sources.

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