Pioneer *sound.vision.soul*

VOYAGER **HD**TV
HIGH DEFINITION DIGITAL CABLE SET-TOP

VOYAGER 3000 FEATURES & SPECIFICATIONS

VOYAGER 3510HD ADVANCED PRODUCT FEATURES

Latest High-Definition Capabilities – Decodes HDTV/digital/analog cable TV formats to provide maximum picture quality to a variety of video output devices (Plasma, HDTV-ready televisions, standard TV).

Advanced Chip Integration – Powered by an integrated **Broadcom's 7100** Dual-Processor CPU and **Broadcom's 7020** processor for HD decoding, the Voyager 3510HD offers dedicated processing power to both graphics processing over HD video and session-based applications. In addition, the multi-function CPU offers MPEG decoder and a higher level of DAVIC 1.2 implementation, all on one chip.

Conditional Access and Signal Security – Uses PowerKEY™ multi-layer encryption system. Compliant with Harmony / DVB / and DES Decryptor Codecs.

More Channels, More Programming – Allows for thousands of channels of programming, with full IPG graphics over HD channels, enabling operators to offer customers expanded VOD, PPV, interactive and session or venue-based services.

Enhanced Memory Configuration – The Voyager 3510HD is configured with 16MB RAM for applications/graphics, 2MB RAM for MPEG decoding (MP@ML or SD), 32MB RAM for HDTV MPEG decoding (MP@HL or HD), and 8MB Flash ROM.

Connections – The Voyager 3510HD supports USB, S-video, Composite and Component video, supporting a variety of video display formats. Input options allow for easy integration of other digital and analog A/V devices.

Operating System	PowerTV™ OS
Processor	Broadcom™ BCM7100 Dual-Processor; 81MHz clock, 85MIPS BCM7020 Processor for HD decoding
Frequency Range	54 MHz to 860 MHz
Modulation Format	ITU-T J.63 Annex B., 64/256 QAM
Copy Protection	Macrovision
Digital Video Format	MPEG-2 Video Decompression MP@ML (ISO/IEC 13818-2) Variable bit-rate 1.5 to 15Mbps, with various levels of resolution: 704 X 480, 352 X 480 and 544 X 480, MP@HL.
Digital Audio Format	Digital Audio Decompression Dolby AC3 (ATSC A/52), Musicam
Downstream Control Signal	DAVIC, 70 MHz to 130 MHz agile QPSK modulation 1.544/3.088 Mbps 1/2 MHz bandwidth
Upstream Control Signal	DAVIC 8 MHz to 26.5 MHz agile QPSK modulation 1.544/3.088 Mbps 1/2 MHz bandwidth
Input/Output (Rear Panel)	USB S/PDIF Digital output on analog & digital channels Baseband Video – (L/R) input Baseband Video – *Pass through to only Baseband output* Two sets Baseband Audio (L/R) – output S-Video output Component (YPbPr connection) – output Serial output Cable connection RF input DVI 1.0 with HDCP IR Blaster *(internal)* Smart Card slot
Memory	16MB SDRAM (Applications/Graphics), 8MB Flash ROM, 2MB MPEG (decoding MP@ML or SD), 32MB (HDTV MPEG decoding, MP@HL for HD)
Dimensions	380mm x 295mm x 48mm 15 in. x 11.6 in. x 2.7 in.

VOYAGER **HD**TV
HIGH DEFINITION DIGITAL CABLE SET-TOP

CONNECTING PEOPLE WITH ENTERTAINMENT.

Pioneer

VOYAGER HDTV

HIGH DEFINITION DIGITAL CABLE SET-TOP

KEY FEATURES

Maximize the HDTV cable viewing experience with the Voyager 3510HD's "Graphics over HD" capabilities, available through the Passport Application Suite.

Voyager 3000's four-digit tuning, provides increased bandwidth for a greater selection of customer programming and services.

The Broadcom 7100 & 7020 processor chipsets offer the multi-function CPU power to handle graphics processing, session-based applications, MPEG and HDTV decoding.

Offering the highest resolution of HDTV decoding (1080i signals) the Voyager 3510HD can down-convert signals based on the display.

THE PICTURE PERFECT HIGH-DEFINITION SOLUTION.

The **Voyager 3510HD** is Pioneer's latest digital cable set-top box designed for high definition decoding. Based on our next generation Voyager architecture, this new set-top boasts high definition decoding capabilities along with advanced processing power, enhanced memory configurations, and industry reknowned reliability.

Picture Perfect High Definition Cable ■

As the latest addition to Pioneer's Voyager series, this new feature rich, yet competitively priced HDTV enabled set-top offers cable viewers the ability to decode various high definition (HDTV) television formats. Even if cable viewers are not HDTV display ready, they can enjoy maximum picture quality from both analog and digital cable sources, in addition to HDTV programming.

To achieve optimum high definition performance, the **Voyager 3510HD** features a built-in (HD) High Definition decoder with a variety of video outputs that can pass native 1080i signals (1,080 lines of resolution)— the highest resolution of HDTV transmission to a video display, or down-convert those signals based on display limitations.

High Definition. Beyond Definition. ■

To maximize the HDTV cable viewing experience, Pioneer has developed the Voyager 3510HD with full graphics support over HD video allowing consumers to manage program content via Pioneer's Passport Application Suite. In addition HD formats are software selectable for multiple display options and video formats.

Powered by Broadcom's™ BCM7100 Dual-Processor CPU with Broadcom's BCM7020 processor for HD decoding, the Voyager 3510HD offers "system-on-a-chip" functionality with dedicated processing power for graphics over HD capabilities, session-based applications and much more.

The Voyager 3510HD's expert design is a result of Pioneer's extensive experience with high definition products. Thousands of HD set-tops have already been deployed by Pioneer in Japan, and Pioneer is also a distinguished manufacturer of high definition plasma television screens.

Pioneer

Connecting people with entertainment.

You've spent years and millions paving the way to your customers' digital doorstep. For that, we congratulate you... Now what?

The success of your broadband system relies on more than the capacity of your build, but in what you can offer your customers on the other side of that digital doorstep. With the Voyager™ 3000 digital set-top and Passport™ (IPG) application suite, Pioneer is ready to show you not only the latest in digital cable capabilities, but the means to make digital convergence and integration a reality.

Visit Pioneer at booth #2001 at the Western Show in Anaheim, Nov. 27th-30th, or call us at 800-421-6450.

VOYAGER 3000 & PASSPORT FEATURES

- TWO-WAY IPPV
- FOUR-DIGIT TUNING
- MOVIES ON-DEMAND
- DUAL PROCESSOR
- EXPANDED MEMORY
- MULTIPLE EXT. PORTS

FLUKE ®

It was the kind of week that grinds you down.

**Hard on the back.
Hard on the family.**

Machines have no respect for your personal life.

Still, I'm proud of the job I do. I just want to spend less time doing it.

So a Fluke Graphical MultiMeter is the tool I carry.

It speeds up the work.

Now maybe I'll get home while there's still some daylight left.

Yeah, you'll probably have other tough weeks. But try spending one with a Fluke Graphical MultiMeter (on us). It'll change your attitude.

This tool does it all. It's a 4-2/3 digit multimeter, a 1 MHz scope, a counter. It's a recorder, an in-circuit component tester and logic probe.

Plus it's graphical. You're not just reading numbers. You're seeing problems. And solving them faster.

And this isn't just any tool. It's a Fluke. So you know it's as reliable as it gets.

We could go on and on here. But we'd rather have you try it — free for a week. Call 1-800-59-FLUKE.

Take it easy next week.

HIGH-SPEED MEMORY IS COMING.

Here's how to avoid the risks.

Download Kingston's white paper "SDRAM and Beyond" from www.kingston.com/tech/memo.htm.

A NEW and different kind of technology is stirring up the memory business: 100 MHz SDRAM. The more you know about it, the more success you will have selling it. SDRAM is so precise that timing errors as small as a nanosecond can lead to undetected data corruption. That's why superior design and manufacturing are essential. Shortcuts, cost-cutting measures, or a lack of expertise could lead to an unreliable module. If you want a partner with a strong foundation, you should choose Kingston. We started researching and perfecting our SDRAM designs two years before most other manufacturers.

Our specifications are far more stringent than current industry standards. We impose circuit controls to guarantee truly synchronous timing, and use state-of-the-art routing typographies for optimal signal integrity. How do we maintain these high standards? We've invested millions of dollars upgrading our manufacturing process. Our newest generation of custom-designed testers stress the memory far beyond the demands of a worst case system environment. Don't take a chance on compatibility problems. Call Kingston at (800) 567-2340. And let us help you weather this storm.

THE MEMORY ZONE

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TECHNOLOGY ®

COMPUTING WITHOUT LIMITS.

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COPILOT™ FEATURES & SPECIFICATIONS

COPILOT™ ADVANCED PRODUCT FEATURES

'Three-in-one' Broadband Connectivity – This stand-alone modem-based product fully integrates a DOCSIS 1.0/1.1 cable modem with router/gateway technology and a wireless base station that enables both wired and wireless networking capabilities.

Signal Security, inside and out! – 40/128-bit WEP encryption, and the use of triple DES algorithms, ensures data privacy and allows your customers safe and secure networking for both WLAN devices and external network services available through broadband cable Internet access.

One Size Fits All – Built with the growth of both wired and wireless networking in mind, **CoPilot** gives your customers a host of connectivity options. Offering wired and wireless network ports, plus a USB "plug and play" connection for your PC, **CoPilot** can provide data transfer rates of up to 11Mbps to clients supported by optional 802.11b remote access PCMCIA cards.

Administration Made Easy – **CoPilot** makes management of a home gateway a snap, with DHCP (Browser configuration), transparent bridging for IP traffic and remote operating firmware download and update capability to optimize your broadband network and services.

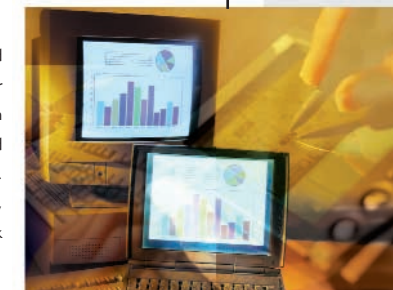|	
System:	Broadcom processor, DOCSIS certified cable modem with 802.11b wireless LAN Access Port
Wireless:	Built-in IEEE802.11b Wireless Access Port function
	Modulation 2.4GHz Direct Sequence Spread Spectrum (DSSS)
	Up to 11Mbps/ 5.5Mbps/ 2Mbps and 1Mbps wireless connectivity to wireless clients
	Support Wired Equivalent Privacy Algorithm (WEP)
	Roaming by Association/Re-association/De-association Bridging wired and wireless segments of network
Router/Firewall:	Four ports 10/100BaseT Ethernet switch with auto-negotiation function and auto-media dependent interface cross over (MDIX)
	USB 1.1 PC Connector for USB interface
	Home PNA 2.0 support
	NAT (Network Address Translation) to support multiple users with one IP account for routing mode
	Transparent bridging for IP traffic for bridge mode
	DHCP addressing
	IP packet filtering
Security:	RSA and 56-bit DES data encryption
	Interoperable with any DOCSIS and CableHome compatible cable routers and headend equipment
	SNMP v1/v2/v3 network management support
	Remote operating firmware downloading
	Support web pages and private DHCP server for status monitoring
	LED displays for power on, cable connection, data transport, and wireless operating mode
	2 internal PCB antennas
	Interoperable with WiFi compliant IEEE802.11b wireless LAN cards
Cable Modem:	DOCSIS1.0/1.1, CableHome 1.0 compliant
	Up to 42.88Mbps downstream and up to 10.24Mbps upstream, two-way cable residential gateway
	F-connector for the cable interface
Other Features:	FCC Part15, Class-B
	UL1950
	CE, Class-B
	Self-diagnostics auto run at start up

WIRELESS
STATUS
CABLE
COMM
POWER

Pioneer

copilot ™

CoPilot's integrated DOCSIS 1.0/1.1 cable modem will give your customers blazingly fast Internet access whether on a desktop computer or via a PCMCIA enabled laptop.

CoPilot's router/gateway and wireless capabilities give your customers complete freedom to network their wired and wireless computing devices. Desktop computers, laptops, PDA's— all can utilize network and Internet access.

CoPilot is WiFi compliant making home networking and broadband Internet access available anytime, anywhere throughout the home with IEEE802.11b wireless LAN or PCMCIA cards.

Offering wired and wireless network ports, plus a USB "plug and play" connection for your PC, CoPilot can provide data transfer rates of up to 11Mbps to clients.

H O W   T H E   B R O A D B A N D   H O M E   B E C O M E S   R E A L I T Y .

The advent of wireless computing, interactive digital cable, high-speed Internet access, portable digital A/V, has transformed our homes into hi-tech wonder-lands. As the adoption of these technologies grows, so too, does the demand for greater synergy between these digital products—streamlined interoperability for easier convergence.

Home Sweet Networked Home

Broadband connectivity takes another huge leap forward with the introduction of Pioneer's **CoPilot™** WLAN DOCSIS Cable Modem. Designed and developed by Pioneer, this wireless gateway device was created specifically to meet the broad-band needs and expectations of the burgeoning residential gateway market.

With **CoPilot's** capabilities, you can help bridge your customers' home networks with the digital content and external network services you provide, all through a

The CoPilot Gateway Solution

robust unified gateway solution. Your customers can now enjoy the unfettered freedom of wireless broad-band connectivity anywhere in or around their home.

CoPilot offers a host of wired and wireless connection options including Ethernet and USB, circumventing the need for multiple devices. **CoPilot's** software control, ini-tially configurable through a Web browser, gives customers an easy-to-use interface for set-up and administration.

Pioneer is of the few cable manufacturers to provide a fully integrated wireless cable networking solution. **CoPilot** is a gateway/ router, with wired and wireless networking capability, combined into a DOCSIS compliant cable modem and all included in a single desktop device. This convenience alone allows consumers to replace up to 3 separate devices with one streamlined unit.

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