



HARNESS THE POWER OF PASSPORT CONTROL

## INTERACTIVE PROGRAMMING GUIDE (IPG)



View by Time



View by Theme

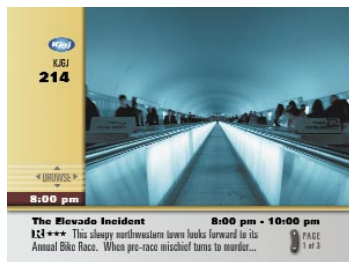


View by Title

## BANNER BROWSING CAPABILITIES



Banner Browser Navigation

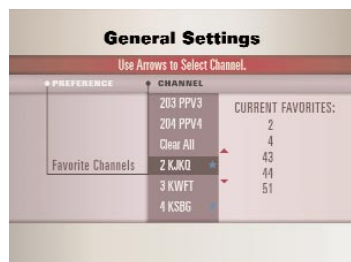


Show Information from Quick Info™

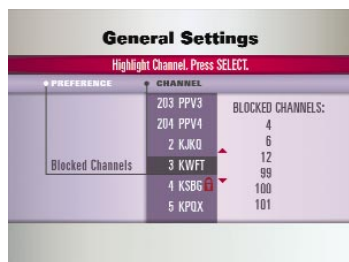


Instant Movies via Video-On-Demand

## POWERFUL SETTINGS



Favorite Channels Function



Blocked Channels Function



PIN Accessed Parental Controls



HOW INTERACTIVE BECOMES INTERACTION.

## KEY FEATURES

### Interactive Program Guide (IPG)

A powerful and feature-rich guide offering viewers precise control over detailed programming and schedule information.

### Quick Info™ Feature

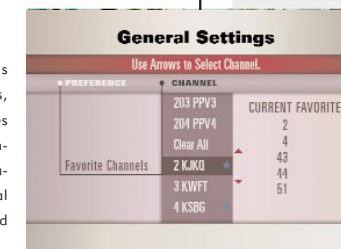
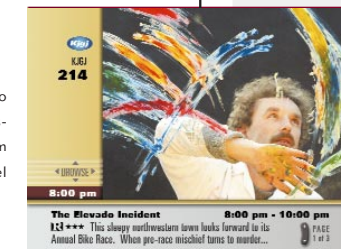
Video scales slightly to reveal side and bottom display bars with full program descriptions and channel browsing capabilities.

### General Settings

Highly-configurable controls and viewing parameters, offering users such features as: favorite channels, channel blocks, PIN security features for easier parental control, as well as TV and VCR timers.

### Ported Passport Power

Versions of our acclaimed Passport 2.0 Application Suite are now available on both SA's Explorer Series and Motorola's DCT-2000 models of set-tops.



# TURNING INTERACTIVE INTO INTERACTION.

With thousands of channels of programming available, the ease of "channel surfing" is becoming a thing of the past. As cable programming has grown, especially with the advent of high-volume digital channel capacities, so has the consumer demand for better and easier navigation solutions across platforms in the digital cable industry. In response to those demands Pioneer developed Passport.

## The Passport Application Suite

Passport is a powerful set of digital set-top applications created to offer customers easy-to-use, advanced control over digital entertainment and services, while offering cable providers the flexibility to expand as their system demands.

Unlike other guide solutions, Passport is a native platform that minimizes usage of network bandwidth, allowing for video and guide operations to work in unison—seamlessly. Passport is a reliable, industry-proven technology—well designed, highly extensible

software renowned for its quality and performance. With a variety of navigation options and control features, Passport 2.0 gives you the power to make the most of your digital cable capabilities.

## Feature-Rich Advanced Navigation

At its core, Passport's dynamic user interface is comprised of animated graphic transitions which provide intuitive cues for user navigation while emulating a broadcast TV experience. With this interactive approach, you can offer customers easier control over a comprehensive array of powerful digital capabilities.

The primary module of Passport's set-top applications is the Interactive Program Guide (IPG) – a quick and responsive interface to select, search, or purchase programming. Through the IPG, users will be able to review up to seven full days of programming data available for every channel, increasing PPV and VOD buy rates for cable providers and offering complete convenience to customers.

A quick access variation of Passport's IPG is available through Passports unique "banner browsing" feature. Banner browsing further extends customers programming review options while watching their current full-screen channel selection without program interruption.

Additional features, such as Passport's unique Quick Info™ and More Information, further extend Passport's value to customers, offering detailed program information and schedules, quickly and easily.

## Passport Offers Dynamic Flexibility

Passport also offers other advanced features such as on-demand downloadable applications, HTML-based virtual channels, advanced parental control, and a variety of other session-based capabilities. Through Pioneer's innovative software, your customers will learn how interactive truly becomes interaction.





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<br>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<br>MP@ML (ISO/IEC 13818-2)<br>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<br>Dolby AC3 (ATSC A/52), Musicam                                                                                                                                                                                                                                                                                                             |
| Downstream Control Signal | DAVIC, 70 MHz to 130 MHz agile<br>QPSK modulation<br>1.544/3.088 Mbps<br>1/2 MHz bandwidth                                                                                                                                                                                                                                                                                |
| Upstream Control Signal   | DAVIC 8 MHz to 26.5 MHz agile<br>QPSK modulation<br>1.544/3.088 Mbps<br>1/2 MHz bandwidth                                                                                                                                                                                                                                                                                 |
| Input/Output (Rear Panel) | USB<br>S/PDIF<br>Digital output on analog & digital channels<br>Baseband Video – (L/R) input<br>Baseband Video – Pass through to only Baseband output<br>Two sets Baseband Audio (L/R) – output<br>S-Video output<br>Component (YPbPr connection) – output<br>Serial output<br>Cable connection RF input<br>DVI 1.0 with HDCP<br>IR Blaster (internal)<br>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<br>15 in. x 11.6 in. x 2.7 in.                                                                                                                                                                                                                                                                                                                       |



CONNECTING PEOPLE WITH ENTERTAINMENT.





## 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 renowned 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.





## 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.

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



CONNECTING PEOPLE WITH ENTERTAINMENT.

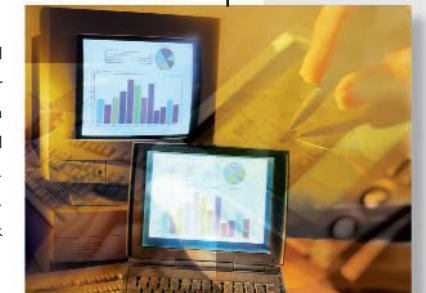




CoPilot's integrated DOCSIS 1.0/1.1 cable modem will give your customers blazingly fast Internet access whether on a desktop computer or via a PCMCIA enabled laptop.



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.



## HOW THE BROADBAND HOME BECOMES REALITY.

The advent of wireless computing, interactive digital cable, high-speed Internet access, portable digital A/V, has transformed our homes into hi-tech wonderlands. 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 broadband 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 broadband 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, initially 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.



**Pioneer**  
sound. vision. soul

**TIME WARNER**  
CABLE

*Now anything's possible ...*

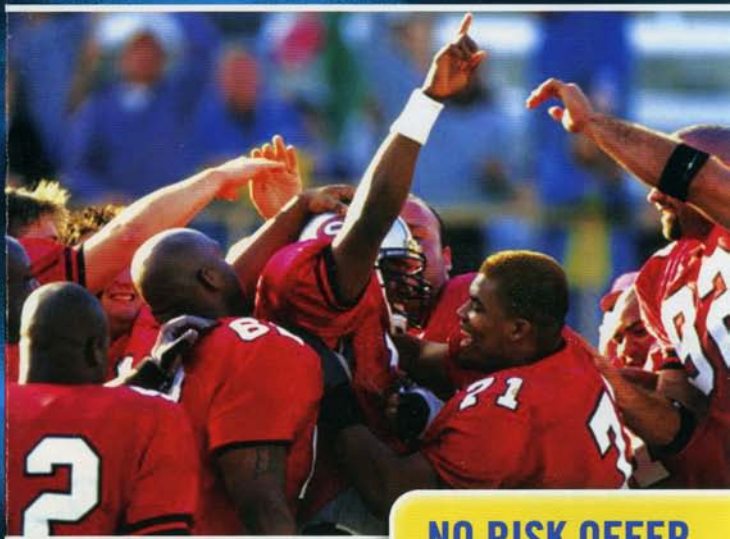
**PIONEER & TIME WARNER CABLE  
MAKE IT EASY TO GET INTO THE GAME.**

Purchase any eligible Pioneer® or Pioneer Elite HDTV and subscribe to Time Warner HD Digital Service and be eligible to receive:

- > \$500 Rebate from Pioneer\*
- > 6 months FREE HD Digital Service\*
- > FREE HD Digital Converter rental for 6 months\*
- > FREE standard installation from Time Warner Cable\*

*Call your Time Warner Cable representative  
to learn more about HDTV.*

**GET IN THE  
GAME WITH HDTV!**



**NO RISK OFFER**

- > \$500 Rebate
- > **FREE** 6 months  
HD Digital Service

*See back for details*

See salesperson for details. Please call Time Warner Cable to sign up.

\*See rebate coupon at a participating retailer for promotion details and restrictions.

**Pioneer**  
sound. vision. soul

**TIME WARNER**  
CABLE

*Now anything's possible ...*

 | **hdtv**

 | **digitalcable**

Eligible Pioneer models: PRO-1110HD, PRO-910HD, PRO-1000HDI, PRO-1000HD, PRO-800HD, PDP-5040HD, PDP-4341HD, PDP-4340HD, PDP-5031HD, PDP-5030HD, PDP-4330HD, PDP-4310HD, PRO-730HDI, PRO-530HDI, PRO-730HD, PRO-630HD, PRO-530HD, SD-643HD5, SD-533HD5



# HIGH DEFINITION IS HERE!

Ready to take the next step in your television viewing experience... get blown away by the unbelievable picture quality and amazing Dolby Digital Surround Sound that only High Definition TV can offer? Then look no further than Time Warner Cable. Watch your favorite shows, movies, sports and events in a theater-like experience with wider screen, startling picture and CD quality sound.

## HDTV Frequently Asked Questions

### What is HDTV?

HDTV is digital TV that combines extremely high resolution images, up to 5 times the resolution of standard TV, with amazing Dolby Digital Surround Sound capabilities. The result, startling crisp, clear images and sound.

HDTV screens are wider than a standard TV. A standard TV aspect ratio is 4:3, while a HDTV is 16:9. The aspect ratio is the ratio between screen width and screen height. This wider screen format provides viewers a theater like experience, by delivering more picture and enhanced images.

### What do I need to get a HDTV?

All you need to buy is an HDTV. Time Warner Cable will provide an HD Digital Converter which receives digital images and converts them into HD format for a low monthly fee.

### What affect does HDTV service have on local broadcast stations?

Many of your favorite shows are already being produced in HD format. By subscribing to Time Warner HD Digital Cable you'll be able to enjoy them with the highest quality detail images and sound.

### Will my Time Warner HD Digital Converter make my regular TV an HDTV?

No, you need an HDTV or HD Capable TV. Check out the special \$500 rebate that Pioneer is offering on several of their outstanding models on the back of this brochure.

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*Now anything's possible™*



## Enjoy the amazing quality of HDTV by subscribing to Time Warner Digital Cable.

- > Over 200 channels of programming with startling, clear, crisp images and remarkable Dolby Surround Sound.
- > More HD Programming – Get the best in HD programming from HBO, Showtime, Discovery Theater and local broadcast stations (where available).
- > No expensive equipment to buy - Simply upgrade to a new HD Digital Converter for a low monthly fee. (To view High Definition TV, consumers must own an HDTV set)
- > Hassle-free professional installation - There's no need to install and invest in a satellite dish. Everything you need for HD Digital Service is in the HD Digital Converter, provided by Time Warner Cable.
- > Theater-like experience – Time Warner HD Digital is TV at it's best. See movies the way they were meant to be seen with wide-screen viewing.





## VOYAGER™ 4000 HD-DVR

HIGH DEFINITION DIGITAL VIDEO  
RECORDER CABLE SET-TOP BOX

**Voyager™ 4000 HD-DVR** will revolutionize the standard definition of cable with an exciting new world of high-definition interactive entertainment.

The latest entry in the Voyager line of digital set-tops, this dual-tuner high definition digital video recorder set-top features an integrated high-definition (HD) decoder and a robust Hard Disk Drive (HDD) for digital video recording capabilities that will truly redefine the cable experience.

Your customers can watch their favorite cable programming in eye-popping, high-definition color and clarity— sports, special events, movies, favorite series— *whatever they want, when they want it!*

The **Voyager 4000 HD-DVR's** dual-channel reception capabilities (analog/digital), dual MPEG-2 decoders and hard disk drive provide seamless *content storage* with DVD-like controls for time-shift capabilities, enabling viewers to store hours of their favorite entertainment directly on the set-top.

Redefining your digital entertainment experience is what the **Voyager 4000 HD-DVR** is all about— an all-in-one digital tour-de-force of advanced cable technologies that puts the power of control into your customer's hands.



**VOYAGER 4000**  
DIGITAL CABLE TERMINAL







# VOYAGER™ 4000 HD-DVR CABLE SET-TOP

## FEATURES & SPECIFICATIONS



**Program Storing Capabilities:** HD dual tuner allows for both high-definition and standard television signals to be stored to the hard disk drive simultaneously, so viewers can archive and view two programs at once.

**Picture-in-Picture:** Video in corner screen keeps viewers continuously connected to programming, enabling them to view both programs simultaneously. DVR features can be applied to both video windows.

**Video Up and Down Conversion:** Customer configurable controls enable the Voyager 4000 HD-DVR to output screen resolutions optimized for any display type from standard definition to high definition in a variety of formats. Video feeds are auto detected and up-converted or down-converted based on the configured output.

**Content Security:** The Voyager 4000 HD-DVR comes equipped with Macrovision, DVI (HDCP 1.0), and IEEE-1394 with 5C.

**Expanded Connectivity:** In addition to DVI and IEEE-1394, the Voyager 4000 HD-DVR comes equipped with a host of useful connections including component, baseband, SPDIF, USB and S-Video.

**Advanced Dual Processing Power:** This provides optimum display of high-resolution graphics simultaneously with HD video using a pallet of 65,000 colors.

**Supports Leading Audio Standards:** The set-top box provides CD quality, digital sound including Dolby® AC3®. Analog to digital conversion provides for optimum enjoyment of home theater systems' Hi-Fi digital capabilities.

|                           |                                                                                                                                                                                                                                                   |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating System          | Linux                                                                                                                                                                                                                                             |
| Processor                 | 64-bit MIPS RISC processor                                                                                                                                                                                                                        |
| Frequency Range           | 54 MHz to 860 MHz                                                                                                                                                                                                                                 |
| Modulation Format         | ITU-T J.83 Annex B., 64/256 QAM                                                                                                                                                                                                                   |
| Copy Protection           | Macrovision, HDCP, 5C                                                                                                                                                                                                                             |
| Digital Video Format      | MPEG-2 Video Decompression<br>MP@ML, MP@HL<br>Support for 480i, 480p, 720p and 1080i                                                                                                                                                              |
| Digital Audio Format      | Digital Audio Decompression<br>Dolby AC3 (ATSC A/52)                                                                                                                                                                                              |
| Downstream Control Signal | 70 MHz to 130 MHz agile<br>QPSK modulation<br>1.544 Mbps<br>1 MHz bandwidth<br>Input level: -16 to +15 dBmV RMS                                                                                                                                   |
| Upstream Control Signal   | 8 MHz to 26.5 MHz agile<br>QPSK modulation<br>1.544 Mbps<br>1 MHz bandwidth<br>Variable +60 dBmV RMS min.                                                                                                                                         |
| Input/Output (Rear Panel) | DVI 1.0<br>S-Video output<br>RF IN/OUT<br>Baseband Video and Audio (L/R) inputs<br>Baseband Output<br>YPbPr<br>Baseband Audio (L/R)<br>S/PDIF<br>USB<br>Dual IEEE 1394<br>IR blaster<br>Resident Application: Passport-Echo<br>Smart Card support |
| Hard Drive                | Hard disk capacity (please call for details)                                                                                                                                                                                                      |
| Memory                    | 64MB SDRAM, 16MB Flash ROM,<br>16MB Encoding DRAM                                                                                                                                                                                                 |
| Dimensions                | 406mm x 336mm x 81mm<br>16 in. x 13.25 in. x 3.2 in.                                                                                                                                                                                              |

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[www.pioneerbroadband.com](http://www.pioneerbroadband.com)

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