

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of

Enseo, Inc.

Petition for Waiver of Sections 15.118(b),
15.123(b)(1), 15.123(c) and 15.123(d) of the
Commission's Rules

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MB Docket No. _____

To: The Secretary's Office
Attn: The Media Bureau

PETITION FOR WAIVER

Enseo, Inc.

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June 19, 2012

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SUMMARY

Enseo, Inc. (“Enseo”) is a privately held, minority- and woman-owned leader in providing equipment platforms exclusively for in-room entertainment and digital signage in hotels, retail outlets, healthcare facilities, cruise ships, cinemas, stadiums, arenas, the military, and NASA. Enseo is prepared to offer its commercial and governmental clients an all-digital CableCARD device — the HD4000 — which promises improved functionality, reduced cost, and greater energy efficiency. To bring this innovative new product to market, however, Enseo requires a waiver of the Commission’s “Digital Cable Ready” certification, marketing, and labeling rules (the “DCR Rules”). Under the current Rules, CableLabs cannot certify, and Enseo cannot verify, a unidirectional digital cable product (“UDCP”) such as the HD4000 unless it includes an analog tuner.

Application of the DCR Rules to the HD4000, however, would be inconsistent with Congress’s and the Commission’s consumer protection policies underlying the DCR Rules because the HD4000 will be sold directly to sophisticated commercial and governmental purchasers rather than retail consumers. A strict application of the rules threatens to stifle innovation in the navigation devices market by preventing competitive companies like Enseo from serving entities that receive and distribute all their programming and other video services in digital format and therefore have no need for legacy analog tuners. In addition, application of the DCR Rules in these circumstances would have significant negative effects on Enseo’s commercial and governmental clients and their ultimate customers. Requiring an analog tuner for the HD4000 would increase production costs and the price to Enseo’s customers by \$40-50 — approximately a 25% increase above Enseo’s expected \$200 unit price — and would similarly increase the HD4000’s power consumption by 25%. Even if Enseo could market these more expensive, less energy efficient devices with a superfluous analog tuner, the result will be higher prices for hotel customers and other consumers purchasing services or products from entities using the HD4000. This added expense and power consumption would serve no justifiable purpose, however, because Enseo will only be marketing the HD4000 to commercial and governmental entities that provide all their video services in digital format and have no need or desire for equipment with analog tuning functionality.

To ensure that its sophisticated business customers fully understand the HD4000’s capabilities, Enseo will commit to ensuring that the HD4000 is sold only clients who receive service

from an all-digital cable system or other compatible video delivery system and who provide all-digital services to their customers; and that Enseo's sales and marketing department fully informs prospective purchasers of the HD4000's digital-only functionality.

Enseo respectfully request that the Bureau process this waiver request expeditiously — *i.e.*, before early September 2012 at the latest — so that Enseo may bring the HD-4000 to market by January 2013.

major multichannel and multiservice equipment supply firm for commercial and governmental entities and applications. Enseo today provides services and devices that are used in over 1,700,000 hotel rooms worldwide and has deployed over 450,000 STBs and digital media players. It is among the 5000 fastest growing companies ranked by *Inc.* magazine, is one of the top-100 privately held businesses in Texas, and is among the top-500 Hispanic-American owned businesses in the nation. Despite its rapid growth, Enseo remains a privately held, minority- and woman-owned business recognized by the *Dallas Business Journal* as one of Dallas's Best Places to Work.²

Innovation is a hallmark of Enseo's business operations and it consequently has been responsible for a number of "firsts" in the industry. For example, Enseo was the first to: (i) deploy Pro:Idiom,[®] a Digital Rights Management ("DRM") solution for industry; (ii) develop a system control server for cloning and firmware updates; (iii) deliver content and menu updates over QAM (Quadrature Amplitude Modulation); (iv) create an integrated Ethernet switch; (v) patent the integration, display, alert, and management of control devices *via* television receivers with device status, status changes, and control devices superimposed on the video feed; and (vi) develop and deploy integrated on-screen widget controls and solutions for in-room controls, including energy management (*e.g.*, automatically placing in-room televisions in their lowest power state) and thermostat adjustment.

Enseo's latest "first" is the development of the all-digital HD4000 series of STBs. The HD4000 is a UDCP (Unidirectional Digital Cable Product) CableCARD set-back device enabling High Definition cable and other digital content to be delivered directly to hotel rooms or multiple receivers in other commercial applications without the need for additional encryption equipment. It is designed specifically for hotel and similar commercial and governmental applications, and will be marketed solely to those entities rather than the general public. The general public nonetheless would realize tremendous benefits from widespread distribution of

² Enseo also is certified by the U.S. Small Business Administration ("SBA") as a HUB Small Business. SBA awards Historically Underutilized Business ("HUB") certifications to small businesses located in SBA-designated HUBZones if at least 35% of their employees reside in a HUBZone. The company employs fifty-one workers.

the HD4000, which will enhance competition in the STB market, significantly reduce cost and energy consumption, and improve the consumer experience while maintaining the on-screen service and control of individual television receivers.³

Absent a timely waiver, however, the Commission's Rules prohibit the production and marketing of the HD4000. Sections 15.118(b) and 15.123(b)(1) of the Commission's rules require UDCPs to have tuners capable of tuning analog cable television channels that are transmitted in the clear before they can be certified and marketed to the public as "Digital Cable Ready."⁴ Enseo's all-digital HD4000 series will have neither an analog (NTSC) nor a digital (ATSC) tuner; instead it will use QAM tuners to decode and display digital cable or other digital programming that the hotel or other entity provides. Section 15.123(c) of the Rules, however, only permits CableLabs (or any other testing body) to certify, and only allows Enseo to verify, devices that comply with *Uni-Dir-PICS-101-03903: Unidirectional Receiving Device: Conformance Checklist: PICS Proforma*, which requires an analog tuner.⁵ Section 15.123(d) requires post-sale material for "digital cable ready" devices to include language that states that the device is capable of "receiving analog basic . . . programming by direct connection to a cable system providing such programming."⁶ The ultimate result of these Rules is to prohibit Enseo's production and sale of digital-only UDCPs like the HD4000 to commercial and governmental

³ The HD4000 is an advanced all-digital device designed specifically for the commercial environment. Unlike the STBs available to retail consumers, it is a fully managed STB that can be controlled by RF and IP, includes a programmable interface allowing the development of custom GUI (Graphic User Interface) and applications, includes custom hardware and software supporting system integration such as TV monitor control, room thermostat control, and room automation, supports other commercially used content decryptions such as Pro:Idiom[®] and Verimatrix[™], can tune both RF and IP channels, includes a custom hardware/software interface supporting major hospitality and healthcare VOD systems such as LodgeNet, OnCommand, Seachange, N-Steam, Cerner, *etc.*, supports Wi-Fi integration as a client, wireless access point, or in direct mode, supports IP over Coax integration using the c.Link interface, and offers digital signage playback functions including "store and forward" playback capabilities working in conjunction with cable television functions.

⁴ See 47 C.F.R. §§ 15.118(b); 15.123(b)(1).

⁵ See 47 C.F.R. § 15.123(c). The *Uni-Dir-PICS-101-03903* specification similarly is incorporated by reference in the FCC's rules. See 47 C.F.R. § 15.38(c). This is identical to the situation TiVo[®] encountered prior to the Bureau's grant of a waiver for these same Rules. See *TiVo Waiver*, 26 FCC Rcd 12743.

⁶ 47 C.F.R. § 15.123(d).

entities operating in all-digital environments, where analog tuners are not only superfluous, but also are needlessly wasteful of money and electrical power.

Requiring an analog tuner would add significant unnecessary cost to the HD4000 while substantially increasing energy consumption, the costs of which ultimately would be borne by consumers and the environment. Incorporating an analog tuner in the HD4000 would add an estimated \$30-\$35 per unit to Enseo's production costs and \$40-\$50 to the price for Enseo's clients. For a device Enseo expects to market at a unit cost of approximately \$200, those increased costs would make the device considerably less attractive to Enseo's clients and potential clients. Including an analog tuner in the HD4000 also would require Enseo to develop a new printed circuit board, a process that could cost up to \$250,000. In addition, an HD4000 with an analog tuner would consume 25% more energy than the current digital-only design, which would further increase the recurring costs to Enseo's clients for operation of the equipment and burden the environment unnecessarily. Neither buyers of the HD4000 nor their customers would derive any benefit from these added costs because the analog tuner would add no functionality to the device, which is designed to provide only digital video and other digital services.

This result is contrary to the intent of the DCR Rules, which are meant to protect retail consumers in analog or hybrid digital/analog cable systems from unknowingly purchasing equipment without analog signal processing functionality.⁷ In the case of the HD4000, only sophisticated commercial and governmental purchasers will be acquiring the HD4000, and they will be doing so specifically and exclusively to provide the High Definition and other digital services the device offers. Thus, adherence to the current rule would take a valuable new choice away from Enseo's clients, and would impair their ability to provide innovative multichannel video and other digital services to their customers at a more reasonable cost. Enforcement of the DCR Rules in this manner would have the opposite effect of the policies these Rules are designed to implement: marketing of the HD4000 presents no risk to retail consumers of UDCPs, but prohibiting the HD4000 would have immediate negative effects by stifling an

⁷ See *TiVo Waiver*, 26 FCC Rcd at 12745, para. 4.

innovative new product. In contrast, a waiver of Sections 15.118(b), 15.123(b)(1), and 15.123(c) of the Rules would permit CableLabs to certify the HD4000 as DCR-compliant and bring an innovative new product to market. The Bureau should therefore grant a timely a waiver of the DCR Rules as requested herein.

DISCUSSION

I. Waiver Of The DCR Rules For Enseos HD4000 Series Is Consistent With Commission Policy And Precedent And Would Further The Public Interest.

Pursuant to well-established precedent, the Commission waives its rules upon a showing that circumstances “warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the general rule.”⁸ “[T]he Commission adopted Sections 15.118(b), 15.123(b)(1), and 15.123(c) to achieve two purposes: (1) to establish standards for compatibility between retail electronics equipment and cable services, and (2) to prevent consumer confusion.”⁹ The Bureau should waive the Rules here because enforcement in these circumstances would further neither of these goals and instead would harm the public interest.

A. Enforcement Of The Rules Is Unnecessary To Ensure Compatibility Of Retail Electronics Equipment Or Prevent Consumer Confusion.

The Commission’s DCR Rules are primarily designed to protect consumers from purchasing retail electronics equipment that lacks the functionality consumers expect.¹⁰ In particular, the Commission sought to ensure that consumers relying in part on analog cable service are not misled into purchasing retail equipment that is incompatible with those cable systems still using analog transmission technology.¹¹ Enseos HD4000 presents no risk of consumer confusion because it will not be sold to individual consumers at retail outlets. Instead, it will be sold to sophisticated commercial and governmental purchasers that will know exactly what they are buying and will be keenly aware of the functionality they need from the devices

⁸ *Comsat Corp.*, 12 FCC Rcd 12059, 12066, para. 14 (1997); *see also, e.g., Intel Corp., et al.*, 25 FCC Rcd 7539, 7542, para. 7 (2010); *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153, 1157(D.C. Cir. 1969).

⁹ *TiVo Waiver*, 26 FCC Rcd at 12746, para. 7.

¹⁰ *Id.* at 12745, para. 4

¹¹ *Id.* at 12748, para. 10.

they are purchasing. Enseo's clients are purchasing equipment to facilitate a video platform that is an important part of the more comprehensive services or products they offer. The risk that they would mistakenly purchase the all-digital HD4000 when they require equipment with analog functionality is practically nonexistent.

In fact, the HD4000 will provide the all-digital services that Enseo's sophisticated purchasers expect and desire. The HD4000 will provide a full suite of CableCARD-enabled digital video services as well as the capacity to provide location-specific services such as Video-On-Demand, custom signage, and non-video services such as on-screen checkout and the ability to manage temperature control and other functions through a remote control.¹² And, the HD4000 of course will implement features such as closed captioning and emergency alert system messages, *etc.* as required under the Commission's Rules. Indeed, other than the waiver requested herein, the HD4000 will comply with all FCC requirements.

B. Enforcement Of The DCR Rules In This Case Would Harm The Public Interest.

As described above, the HD4000 promises to provide substantial benefits to purchasers in terms of functionality, cost savings, and energy consumption when compared to a similar device that includes an NTSC tuner. These benefits ultimately will inure to the general public in the form of, among other things, enhanced and less expensive video services. But these benefits can only be achieved if the Commission grants the requested waiver.

Absent the waiver, however, none of these benefits would be realized and, in fact, significant harms would flow to consumers. When the general public encounters the HD4000, it will be in an environment where they are receiving a seamless video product from a hotel or other provider. They will not be using the device in their homes or any other venue where analog/digital cable compatibility could be an issue. Nonetheless, without a waiver, Enseo's clients would be forced to purchase a more expensive, less energy efficient device, and would likely pass these added costs on to consumers in the form of higher prices for their products or services. Inasmuch as the HD4000 is designed for use only with digital video systems, both

¹² See n.3 *supra*.

Enseo's clients and their customers would be paying these higher prices for an analog functionality they neither need nor expect to receive. In other words, the rote enforcement of legacy regulations in this case would impose unnecessary and destructive costs on producers like Enseo, its clients, and the general public.

C. Waiving The DCR Rules In This Case Is Consistent With Congressional Policy And Commission Precedent.

In addition to satisfying the Commission's traditional waiver standards, Enseo's request also is consistent with congressional policy and Commission precedent. As the Commission has recognized, the DCR rules were adopted to implement statutory directives to foster the development of a retail market for cable-ready devices.¹³ These Rules implement Sections 624A and 629 of the Communications Act (the "Act"),¹⁴ which focus exclusively on ensuring the availability of advanced, cable compatible equipment for the retail market.¹⁵ Neither the statute nor the DCR Rules were designed to thwart the development of advanced digital set-top devices for sale in the commercial wholesale market that Enseo serves, and certainly did not envision applying the DCR Rules to Enseo's HD4000 and other similar products used exclusively in commercial applications. That, however, would be the unfortunate result of blindly applying the DCR Rules in these circumstances. Therefore, waiving the DCR Rules to permit production and sale of Enseo's HD4000 will be entirely consistent with statutory directives and the Commission's navigations devices policies.

Grant of the requested waiver also would support the Commission's policies promoting the transition to all-digital cable service.¹⁶ This transition is well underway and the introduction of all-digital devices like the HD4000 can only hasten the process. Enseo has long been in the

¹³ See *TiVo Waiver*, 26 FCC Rcd at 12743-44, para. 2.

¹⁴ 47 U.S.C. §§ 544A, 549.

¹⁵ For example, Section 624A(c)(2)(A) of the Act directs the establishment of regulations as necessary "to specify the technical requirements . . . [for equipment] to be sold as 'cable compatible' or 'cable ready'; Section 629(a) of the Act similarly requires "regulations to assure the commercial availability[] to consumers . . . of converter boxes, interactive communications equipment, and other equipment used by consumers" from vendors unaffiliated with the local cable television operator. See 47 U.S.C. §§ 544A(c)(2)(A), 549(a).

¹⁶ See *Commercial Availability of Navigation Devices, Third Report and Order and Order on Reconsideration*, 25 FCC Rcd 14657, 14662, 14679-80 at paras. 7, 45 (2010) ("*Third Report and Order*").

forefront of developing and providing new devices that exploit the full range of services made possible by digital technology. Requiring Enseo to install vestigial analog functionality in equipment that will never use it, however, would undermine rather than support the Commission's goals. In the new digital environment that the Commission has played such a large role in creating, having an analog tuner in every UDCP no longer is necessary or desirable. Therefore, permitting Enseo to market the all-digital HD4000 series to its commercial and governmental clients would promote the Commission's policies.

A waiver here similarly would be entirely consistent with the Commission's recent *TiVo Waiver* precedent.¹⁷ In that case, TiVo® demonstrated that eliminating an analog tuner requirement for its advanced all-digital STB/Digital Video Recorder ("DVR") sold at retail provided consumers greater functionality at less cost and with decreased power consumption.¹⁸ The Commission held that with appropriate retail customer notification and marketing conditions, waiving the rules to permit the retail sale of TiVo's all-digital STB/DVR would serve the public interest.¹⁹ Enseo's waiver request offers many of the same benefits that the Commission supported in the *TiVo Waiver*. Enseo's request, however, does not implicate the consumer confusion and notification issues that were central to the *TiVo Waiver* because Enseo's devices are sold exclusively to sophisticated commercial and governmental purchasers rather than retail consumers. Unlike the *TiVo Waiver* case, therefore, an Enseo waiver would entail no risk of customer confusion regarding device functionality or compatibility.

The significant benefits and the absence of harms associated with Enseo's request strongly supports grant the requested relief as consistent with the Act, the Rules, and the Commission's *TiVo Waiver* precedent.

D. Enseo Will Ensure That The HD4000 Is Deployed Only In Compatible Video Systems.

Although Enseo's HD4000 does not present the same risk of consumer confusion as retail devices, Enseo nevertheless will ensure that its clients fully understand the functionality of the

¹⁷ 26 FCC Rcd 12743.

¹⁸ *TiVo Waiver*, 26 FCC Rcd at 12747, para. 8.

¹⁹ *Id.* at 12748-49, para. 11.

HD4000 and do not deploy it where an analog tuner is necessary. Enseo's economic self-interest will ensure that it does not permit clients to purchase the HD4000 or other similar devices where analog functionality is required. The added costs to Enseo of device returns and lost customer goodwill if Enseo fails to properly educate its customers would make it uneconomical for Enseo to offer an all-digital device. Enseo therefore will take the steps necessary to ensure that its customers recognize the capabilities of the HD4000 and purchase it only where it will be deployed in a compatible digital cable or other video system.

- First, Enseo will market the HD4000 only to customers that purchase it for use with an all-digital cable system or other compatible video delivery system.
- Second, Enseo will develop clear and easily understood brochures and marketing scripts and will educate its sales and marketing staff about the HD4000's functionality. Enseo's marketing and sales teams work directly with purchasers to ensure they only obtain devices that will provide the services and functionalities they expect. For clients seeking a device compatible with analog and hybrid analog/digital cable systems, a wide variety of compatible Enseo's models will remain available,²⁰ and Enseo's sales and marketing representatives are trained to recommend appropriate equipment to those clients.

Given the important policies that grant of the requested waiver would further, the declining importance of the analog tuner requirements embodied in the CableCARD labeling and marketing rules, and Enseo's commitment to ensuring that its clients are fully informed and about the HD4000's capabilities, a waiver of Sections 15.118(b), 15.123(b)(1), and 15.123(c), 15.123(d) would better serve the Commission's policies and the public interest than strict adherence to the rules.

II. The Commission Should Grant the Requested Waiver Expeditiously.

Enseo respectfully requests that the Bureau process this waiver request expeditiously. To have CableLabs certify the HD4000, Enseo must submit an application no later than August 15,

²⁰ Exhibit 1 contains a sampling of information regarding Enseo's products.

2012 for the November Certification Board, or no later than September 22, 2012 for the December Certification Board. As discussed above, a waiver is required for CableLabs to certify the HD4000. If Enseco is unable to obtain a waiver before early September 2012, it will be impossible to obtain certification before December, which would cause a significant loss of revenue and opportunity for Enseco in addition to the significant investment it has already made to bring the HD4000 to market. The timing is important for Enseco because it must have its device lineup available for delivery to major cable operator customers as soon as possible to ensure that they have an adequate opportunity to preview and purchase Enseco equipment for hotels and similar venues. Enseco needs the waiver by September 22, 2012 so it can produce sufficient HD4000 inventory to be ready for preview and sale to customers making purchasing decisions in late 2012 and early 2013. Absent a grant of the waiver before early September 2012, therefore, Enseco would be unable to manufacture and distribute the HD4000 in this time frame. Given the lead times required for component ordering, production, and deployment, this would eliminate any real hope of bringing the HD4000 to market within the next eighteen months. Under these circumstances, the absence of harms associated with the requested waiver, and the substantial public interest benefits a grant of the waiver would produce, Enseco requests a timely grant of the instant waiver request.

CONCLUSION

For the reasons stated above, the Bureau should expeditiously grant a waiver of Sections 15.118(b), 15.123(b)(1), 15.123(c), and 15.123(d) of the FCC's rules to permit Enseo to introduce all-digital products to its consumer in accordance with Congressional and Commission policy.

Respectfully submitted,

Enseo, Inc.



Gary S. Lutzker
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Its Attorneys

June 19, 2012

Verification

To the best of my knowledge, information and belief formed after reasonable inquiry, this Petition for Waiver is well grounded in fact and is warranted by existing law or a good faith argument for the extension, modification or reversal of existing law, and it is not interposed for any improper purpose.



Gary S. Lutzker

June 19, 2012

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of

Enseo, Inc.

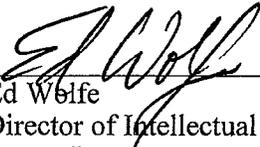
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Commission's Rules

MB Docket No. _____

To: The Secretary's Office
Attn: The Media Bureau

DECLARATION OF ED WOLFE

1. My name is Ed Wolfe, and I am Director of Intellectual Property Rights for Enseo, Inc.
2. I have read the foregoing Petition for Waiver and I am familiar with the contents thereof. The facts contained herein and within the foregoing Petition are true and correct to the best of my knowledge, information, and belief.
3. I declare under penalty of perjury that the foregoing is true and correct.



Ed Wolfe
Director of Intellectual Property Rights
Enseo, Inc.

Executed On: June 19, 2012

CERTIFICATE OF SERVICE

I, Sandra Dallas Jeter, a secretary at the law firm of Dow Lohnes PLLC, certify that on this 19th day of June 2012, I caused the foregoing Petition for Waiver to be served by hand delivery on the following:

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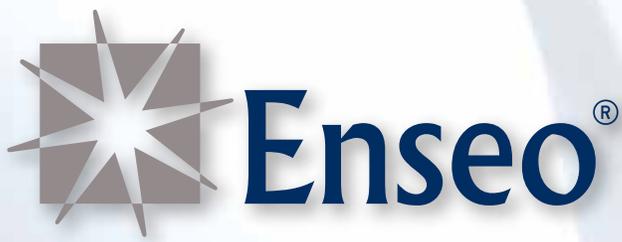
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Sandra Dallas Jeter



HOSPITALITY IN-ROOM ENTERTAINMENT PLATFORM

Preferred by the world's largest hotel groups, Enseo's hospitality platform includes reliable set-back boxes with customizable Welcome Channels and Interactive Program Guides.



SET-BACK BOXES

Enseo powers more than 1.7 million hotel rooms worldwide. From select service to full service, hotels utilize Enseo's equipment to receive and display HD programming. Now, Enseo adds CableCARD™ support to family of proven hospitality solutions.

COMPATIBILITY

Enseo's technology is compatible with an extensive list of integrators, displays, decryption, and in-room control partners.* Enseo gives hotels the choice over in-room entertainment solutions.

HOTEL-DRIVEN MESSAGES

With Enseo, hotels can now send branded messages to each guest with a customized Welcome Page and Interactive Program Guide, previously available only from expensive and proprietary VOD vendors. Enseo's solutions, deliverable on both coax and IP systems, only require an Enseo set-back box, an inexpensive monitor TV, and a hospitality systems integrator for content and integration services.**

HD4000 Featured



*More than 350 approved displays.

**A list of Enseo approved Systems Integrators is available upon request.
All specifications are subject to change without notice.

Enseo[®] HD4000[®] Series

CableCARD[™] Set-Back Boxes

The preferred in-room room entertainment and digital signage platform, Enseo has deployed more than 450,000 IP and/or RF HD set-back boxes. Now, Enseo adds CableCARD support and IP over coax to a family of proven hospitality, healthcare, and MDU solutions.

The HD4000 and HD4020 allow cable content to be delivered directly to the room, eliminating on-premise transcoding equipment typically required in head-end. A direct cable feed to the guest/patient room gives the ability to offer guests hundreds of channels with no additional expenses.

The HD4020's IP over coax technology adds the ability to deliver IP bandwidth to rooms that were previously unreachable due to lack of CAT5/6 infrastructure.

With integrated IP, IP over coax, and wireless technologies, the HD4000 series makes it easy to offer Internet bandwidth to the guest room in addition to broadcast content. In addition, the HD4000 series provides TV control for more than 350 TV models, simplifying integration.



AVAILABLE OPTIONS:

- HD4000 - CableCARD
- HD4020 - CableCARD + IP Over Coax

*A list of Enseo approved Content Providers and Systems Integrators is available upon request.
Actual CableCARD provided by cable MSO.*

HD4000 SERIES KEY FEATURES

High Definition Video

Hardware video processing that supports full-frame rate playback of HD video up to 1080p resolution. The quality of video playback meets or exceeds software and PC solutions.

Reliability

Embedded platform with no fan or moving parts, offering the highest reliability for a scalable roll-out. Implementation is easy to configure, install and remotely manage to lower the total cost of ownership and operation.

CableCARD™

Unidirectional Digital Cable Product (UDCP) support for Cisco and Motorola CableCARD provides the ability to deliver a complete digital cable lineup to the guestroom.

IP Over Coax (HD4020)

Delivery of an IP data stream over a coax infrastructure allows the penetration of applications that were previously only available to properties with Cat5/6 wiring.

IP Streaming

Support of HD streaming media using UDP or RTP/RTSP protocols. Supports up to 20Mb/s streaming HD media for the highest quality.

Commercial Display Control

Integrated control configurations to support more than 350 displays from industry leading display manufacturers. Please check with an Enseo representative for a list of more than 350 approved TVs.

Control Options

Supports the following device control methods:

IP control from central control center, IR remote control at display, RS232 serial control, and touch panel support.

Integrated Ethernet Switch

Supports three 10/100 switched Ethernet ports allowing sharing of the network connection with other devices. Can operate as a transparent switch or support VLAN configurations on individual ports.

HD4000 SERIES TECHNICAL SPECIFICATIONS

Media Distribution/Signals

IP Protocols	UDP, RTP, RTSP
Coax	64/256 QAM, c.Link (IP over coax)

Media Types

Video Codecs	MPEG-2, H.264
Audio Codecs	AC3, PCM, MP3 (optional), AAC (optional), MPEG-1 (layer 2)

Decryption

Pro:Idiom®	Optional
Verimatrix™	Optional

Inputs

Coax	F-Connector
IR Control	Embedded IR Receiver
IR In	3.5 mm

Outputs

HDMI	HDMI 1.3a (HDCP)
Audio	S/PDIF TOSLINK (Optical)

Other Interfaces

Ethernet	3x 10/100 LAN (RJ45)
CableCARD	MCard
Display Control	MPI, Smart Port or RS232 (RJ11)
Serial Control	RJ45 (RS232)
SDHC Card	Optional
USB	3x USB 2.0

Resolutions

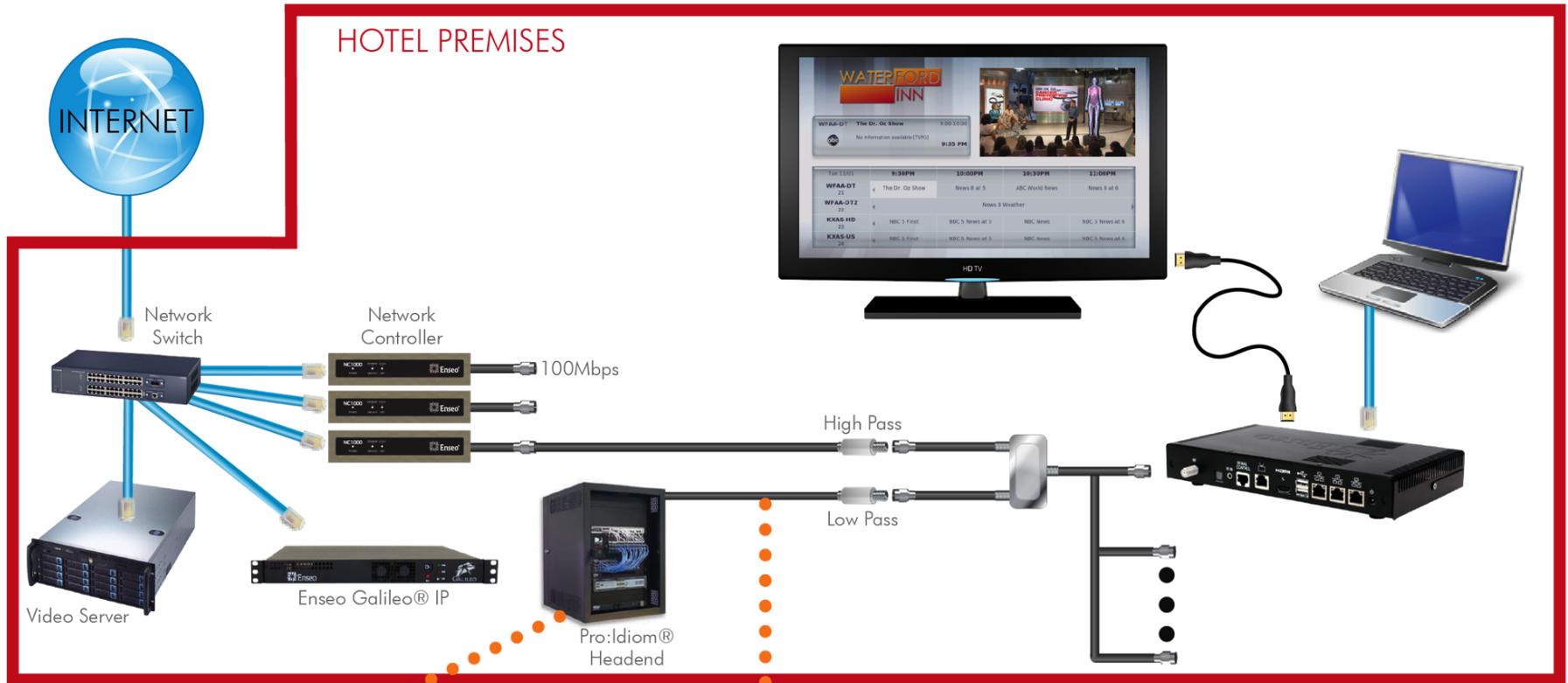
Video Input	480i, 480p, 720p, 1080i
Video Output	480p, 720p, 1080i, 1080p
Graphics	720p

Physical/Environmental

Dimensions	10.5" x 5.75" x 1.5" (LWH) 266.7 mm x 146.1 mm x 38.1 mm (LWH)
Power Input	7VDC/TBC Watts
Environmental	RoHS compliant
Regulatory	FCC Class B

Warranty

One year, including a one year software license/maintenance agreement
















OR

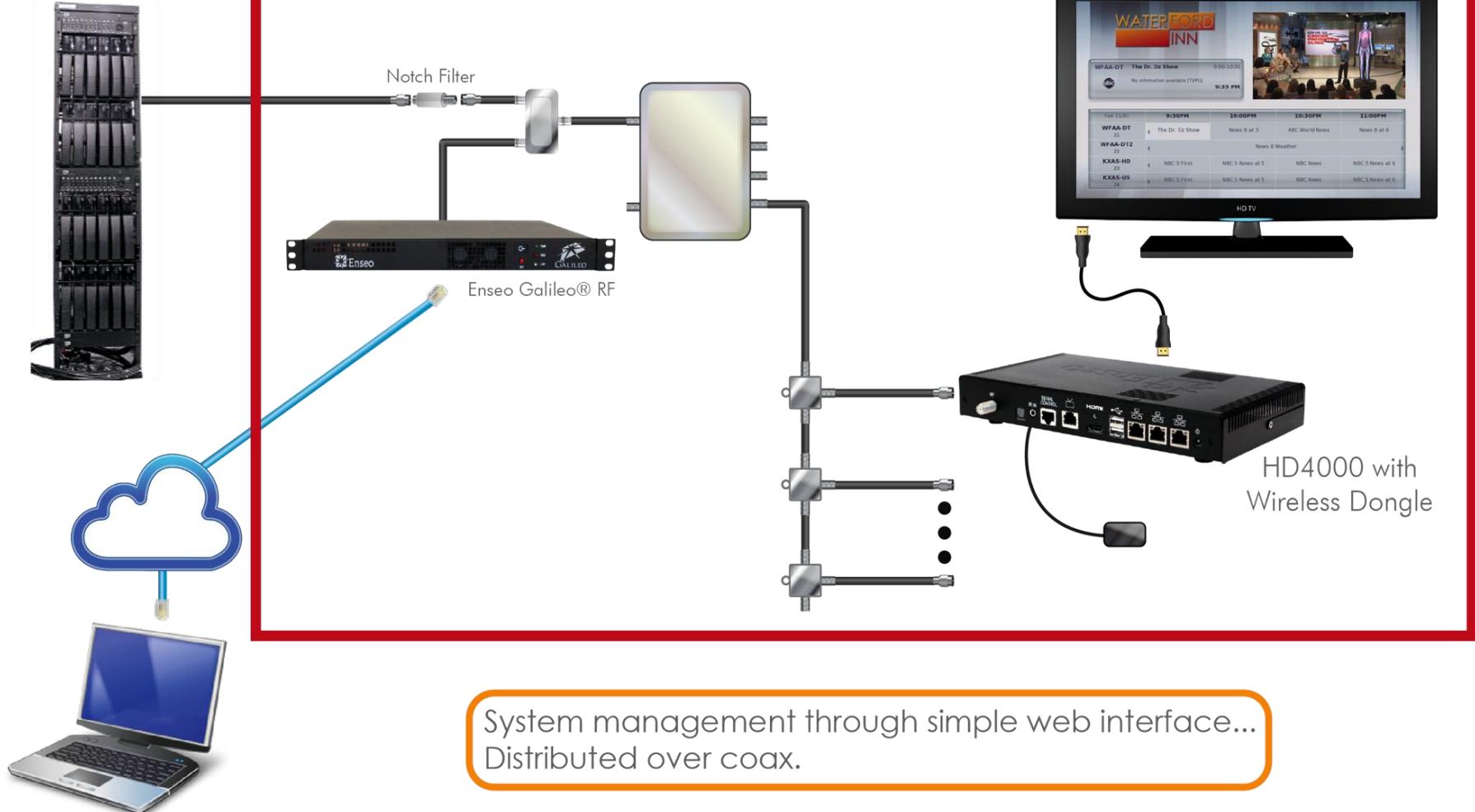





On Premise Pro:Idiom
OR
Direct Cable Feed

Cable Company Headend

HOTEL PREMISES





HD3000[®]

Set-Back Box

From select service to five-star hotels, Enseo is the preferred in-room entertainment platform. Enseo's set-back boxes, servers and applications offer the best in guest entertainment, regardless of hotel infrastructure.

Enseo's HD3000 is a simple yet powerful set-back box capable of combining and distributing content, hotel messages, and more to guests. The HD3000 supports Pro:Idiom[®] and Verimatrix[™] decryption*, is compatible with numerous content providers and integrators, and provides TV control for more than 350 displays. Enseo's platform compatibility simplifies integration and gives hotels more control.

With support for MPEG2, MPEG4 and H.264, as well as both RF and IP delivery methods, the HD3000 provides a solution for most in-room entertainment needs.



AVAILABLE OPTIONS:

- HD3000 IP only
- HD3000 RF/IP
- HD3000 RF only

**Licensed cost applies to decryption.
Enseo does not provide content or integration services.
Some features may require service fees.*

HD3000 KEY FEATURES

High Definition Video

Hardware video processing that supports full-frame rate playback of HD video up to 1080i resolution. The quality of video playback meets or exceeds software and PC solutions.

Reliability

Embedded platform with no fan or moving parts, offering the highest reliability for a scalable roll-out. Easy to configure, install and remotely manage to lower the total cost of ownership and operation.

IP and RF Capability

Enables the use of virtually any available content, including IP, live broadcast signals, and even mix and match.

Endless "channel line-up" options are available by assigning both IP and RF channels in a user-friendly Channel Map. Switching between different content sources is invisible to the end user.

Triband RF Tuner

NTSC/QAM/ATSC tuner for flexibility of receiving CATV, Off-the-Air, or internal closed circuit TV content.

IP Streaming

Support of HD streaming media using UDP or RTP/RTSP protocols. Supports up to 20Mb/s streaming HD media for the highest quality.

Commercial Display Control

Integrated control configurations to support more than 350 displays from industry leading display manufacturers.

Control Options

Supports the following device control methods:

IP control from central control center, IR remote control at display, RS232 serial control, and touch panel support.

HD3000 TECHNICAL SPECIFICATIONS

Media Distribution/Signals

IP Protocols	UDP, RTP, RTSP
Coax	NTSC, 64/256 QAM, 8VSB (ATSC)

Media Types

Video Codecs	MPEG-2, H.264
Audio Codecs	AC3, PCM, MP3 (optional), AAC (optional), MPEG-1 (layer 2)

Decryption

Pro:Idiom®	Optional
Verimatrix™	Optional

Inputs

Coax	F-Connector
IR Control	Embedded IR Receiver
IR In	3.5 mm

Outputs

HDMI	HDMI 1.3a (HDCP)
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Other Interfaces

Ethernet	10/100 LAN (RJ45)
Display Control	MPI, Smart Port or RS232 (RJ11)
Serial Control	3.5 mm (RS232)
AUX Control	RJ11 connector
USB	USB2.0

Resolutions

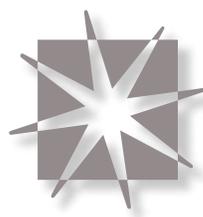
Video	480p, 720p, 1080i (60hz)/1080p (30hz)
Graphics	720p

Physical/Environmental

Dimensions	7.75" x 4.19" x 1.1" (LWH) 197 mm x 106 mm x 28 mm (LWH)
Weight	1.16 lbs/.526 Kg
Power Input	7VDC/11 Watts
Environmental	RoHS compliant
Regulatory	FCC Class B

Warranty

One year, including a one year software license/maintenance agreement



Enseo[®] HD5000[®]

Set-Top Box

KEY FEATURES

High Definition Video

Hardware video processing that supports full-frame rate playback of HD video up to 1080p resolution. The quality of video playback meets or exceeds software and PC solutions.

Reliability

Embedded platform with no fan or moving parts, offering the highest reliability for a scalable roll-out. Implementation is easy to configure, install and remotely manage to lower the total cost of ownership and operation.

IP and RF Capability

Enables the use of virtually any available content, including IP, live broadcast signals, and even mix and match.

Endless “channel line-up” options are available by assigning both IP and RF channels in a user-friendly Channel Map. End-users can choose a channel (i.e. 4 or 5) and not worry about the source.

Triband RF Tuner

NTSC/QAM/ATSC tuner for flexibility of receiving CATV, Off-the-Air, or internal closed circuit TV content.

IP Streaming

Support of HD streaming media using UDP or RTR/RTSP protocols. Supports up to 20Mb/s streaming HD media for the highest quality.

Media Support

MPEG-2/H.264 (AVC)

Commercial Display Control

Integrated control configurations to support more than 300 displays from seven major display manufacturers.

Control Options

Supports the following device control methods: IP control from central control center, IR remote control at display, RS232 serial control, and touch panel support.

Integrated Video Switch

Ultimate flexibility by allowing switching between sources. Two HDMI inputs and one component input. Provides integration to jack-packs allowing graphics overlay on guest-carried media.

Decryption

The HD5000 supports Pro:Idiom[®] or Verimatrix[™] decryption.

Enseo[®] Cassini[®] 5000

Digital Signage Media Players

The Cassini 5000 is Enseo's latest addition to its line of HD media players. A powerful, embedded Linux platform, the Cassini 5000 offers better performance and greater flexibility for digital signage needs.

Capable of playing video from coax, IP, or IP over coax, the Cassini 5000 installs and runs seamlessly in a variety of environments. Other highlights include 1080p resolution, digital audio, optional WiFi, and TV control for more than 300 displays, providing endless options for your digital signage network.



Digital Signage Creation with Author™ Software

Enseo's Author software is a user-friendly screen/theme layout package for digital signage. Author enables users to lay out themes with scaled video, graphics, text, and web elements, upload themes and content to a USB thumb drive or FTP site, and easily download via sneaker net or network into the Cassini of choice. By using this flexible content distribution architecture, network bandwidth usage can be optimized for low traffic.

IPTV Streaming

Cassini provides support for industry standard IPTV streaming protocols. Please contact your Enseo representative for a list of currently supported servers.

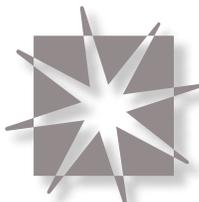
RF Tuner

The Triband tuner decodes SD and HD broadcast television signals in all standard North American formats.

Easy Content Management

Upload themes, content and playlists with simple USB thumb drives or an SD memory card. Networked players can download over the network or from an FTP site.





Enseo[®] Cassini[®] 5000

Digital Signage Media Players

KEY FEATURES

High Definition Video

Hardware video processing that supports full-frame rate playback HD video up to 1080p resolution. The quality of video playback meets or exceeds all software or PC solutions.

Reliability

Embedded platform with the highest reliability for a scalable roll-out. Implementation is easy to configure, install, and remotely manage to lower the total cost of ownership and operation.

IP and RF Capability

Enables the use of virtually any available content including both IP and live broadcast signals.

Endless "channel line-up" options are available by assigning both IP and RF channels in a user-friendly Channel Map. End-users can choose a channel (i.e. 4 or 5) and not worry about the source.

Triband RF Tuner

NTSC/QAM/ATSC tuner for flexibility of receiving CATV, Off-the-Air, or internal closed circuit TV content.

IP Streaming

Support of HD streaming media using UDP or RTP/RTSP protocols. Supports up to 20Mb/s streaming HD media.

Media Support

MPEG-2/H.264 (AVC)

Flexible Content Delivery

Media can be delivered over IP or RF. Media can be stored on a Hard Drive, Solid State Memory or *SD Memory Card.

Commercial Display Control

Integrated control configurations to support more than 300 displays from seven major display manufacturers.

Control Options

Supports the following device control methods:
IP control from central control center, IR remote control at display, RS232 serial control, and touch panel support.

Integrated Video Switch

Ultimate flexibility by allowing switching between sources. Two HDMI inputs and one component input.

* External SD memory card and hard drive are mutually exclusive.

Enseo® Galileo® RF

Centralized System Management



FIRMWARE & CLONE UPDATES

Enseo's Galileo System Server provides centralized system management for commercial video systems. This small-format, head-end server provides complete remote management of installed Enseo HD media players over a coax infrastructure. Capable of remote firmware updates as well as channel and TV setting management, the Galileo RF also delivers dynamic and interactive TV content to Enseo media players over coax.

Without having to update existing cabling in a property, the Galileo server allows a state-of-the-art HDTV experience with interactive content, while saving time and money with centralized management.

Features include:

- Enseo Media Player Firmware Update
- Channel Lineup Update
- Media Player Settings Update
- TV Settings Update*
- Interactive Web Menu Content Update
- Interactive Guest Information
- Interactive Program Guide Content (with optional licensed data service)

The Galileo RF is a cornerstone to the Enseo Full-Service Free-to-Guest® experience, providing the convenience of managing hardware, software and dynamic content across an entire property without requiring a room visit.

**For select brands and models; more than 300 models approved.*

KEY FEATURES

Hardware

- 1U Rack-Mount Server
- Built-in QAM data channel modulator

Networking

- Supports broadcast over coax infrastructure (QAM data channel)
- Supports IP Multicasting for IP data delivery
- Can be remotely managed across Wide-Area-Network (WAN)

Software Features

- Supports publishing of content from Enseo Author Software
- User accounts for security and site management
- Full web-based interface for easy setup and management across the network

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Enseo, Inc. is a certified Woman-Owned, Minority-Owned and HUB Small Business.

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THE ENSEO TOP TEN

Enseo is unmatched by competitors or alternatives because it offers flexibility and future proofing that makes it the ONLY choice for HD entertainment in hotels.

10. Enseo products are compatible with the widest range of content and application providers, integrators, and TV manufacturers, even providing TV control for more than 300 displays.
9. An Enseo set-back box with an inexpensive commercial display is a cost-competitive, feature-rich, and easily upgradable solution as opposed to stand-alone Pro:Idiom® TVs.
8. With Enseo, hotels can control and deliver custom-branded messages directly to the hotel room, maximizing in-room revenue.
7. Enseo's products are capable of Pro:Idiom® or Verimatrix™ decryption, satellite or cable, and coax or IP delivery, allowing hotels flexible access to content.
6. Enseo's Nimbus API, based on HTML and JavaScript, gives application providers tools to create user interfaces that are compatible across the full Enseo product line.
5. Requiring less head-end equipment, Enseo's solution shifts smarts to the room, making it faster and more flexible.
4. With an installed base of more than 450,000 units, Enseo's devices are both proven and reliable.
3. Central management of settings, content updates, and firmware enables hotels to accommodate infrastructure changes and manage boxes remotely and efficiently.
2. Enseo's products are software upgradable, keeping hotels on track with their technical roadmaps.
1. With active involvement in HTNG, key industry relationships, expertise, and the largest market share of any set-back box vendor... Enseo knows hospitality.