

**Before the  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION  
Washington, D.C. 20230**

In the Matter of	)	
	)	
Implementation and Administration of a	)	Docket Number
Coupon Program for Digital-to-Analog	)	060512129-6129-01
Converter Boxes	)	

**COMMENTS OF  
LG ELECTRONICS U.S.A., INC.**

LG Electronics U.S.A., Inc. (“LG Electronics”) hereby submits these comments in response to the Notice of Proposed Rulemaking (“Notice”) released by the National Telecommunications and Information Administration (“NTIA”) on July 25, 2006,<sup>1</sup> concerning the agency’s implementation and administration of the digital-to-analog converter box coupon program mandated by the Digital Television Transition and Public Safety Act of 2005 (the “DTV Act”).<sup>2</sup>

With a firm deadline now in place for full-power television stations to cease analog broadcasting, it is imperative that the coupon program be conducted in a manner that not only minimizes the burden on those consumers requiring converter boxes but also maximizes the number of Americans able to enjoy the benefits of digital technology. In this regard, LG Electronics applauds NTIA for the comprehensive Notice, which obviously recognizes the critical importance of this final component to the nation’s

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<sup>1</sup> 71 Fed. Reg. 42,067 (July 25, 2006) (“Notice”).

<sup>2</sup> Deficit Reduction Act of 2005, Pub. L. No. 109-171, § 3005, 120 Stat. 4, 23-24 (2006) (“DTV Act”).

transition to digital television (“DTV”) broadcasting. As a long-time leader in DTV technology and public policy matters, LG Electronics is pleased to respond.

## **I. LG Electronics’ Role in the DTV Transition**

LG Electronics is the world’s leading manufacturer of television sets and the world’s largest manufacturer of flat-panel displays. LG Electronics, a \$45-billion multinational electronics and communications firm, has established itself as a global digital leader, and its LG brand is among the fastest-growing in the United States.

LG Electronics also is the parent company of Zenith Electronics Corporation (“Zenith”), the U.S. technology company that developed the “VSB” (Vestigial Side Band) digital transmission system adopted by the Federal Communications Commission (“FCC”) as the centerpiece of the nation’s DTV broadcast standard. Decades ago, Zenith was instrumental in the founding of both the National Association of Broadcasters (“NAB”) and the Consumer Electronics Association (“CEA”). In addition to its long-time leadership in digital high-definition television (“HDTV”), Zenith pioneered industry standards for black-and-white and color television and is credited with the invention of countless industry-leading innovations, including stereo FM radio, television stereo sound, television remote controls and flat color picture tubes, to name a few. Zenith was one of the first proponents of HDTV standards, beginning in 1988. In 1993, Zenith helped found the Digital HDTV Grand Alliance, which developed the Advanced Television Systems Committee (“ATSC”) DTV broadcast standard.

Building on this extensive experience, and the combined strengths of LG Electronics’ worldwide engineering and production capabilities and the Zenith R&D capability in the United States, LG Electronics has led the industry in optimizing DTV broadcast reception. In particular, LG Electronics’ fifth-generation VSB chips, which

eliminate multipath interference concerns, are considered top performers by both broadcasters and consumer electronics industry analysts.

As part of our commitment to driving the DTV transition to a successful conclusion, during the past year LG Electronics and its U.S. R&D lab, Zenith, partnered with NAB and the Association for Maximum Service Television (“MSTV”) in a joint effort to develop prototype high-performance, low-cost digital-to-analog converters to enable existing analog TVs to continue to receive free over-the-air broadcasts after the nation’s switch to all-digital broadcasting in 2009. This alliance with broadcasters accelerated LG Electronics’ product development timetable, resulting in prototypes that meet NTIA’s goals (as specified by law and enumerated in the Notice) and the establishment of a state-of-the-art reference design for the industry.

LG Electronics believes that a coupon program for digital-to-analog converters, implemented well by both the public and the private sectors, will facilitate the DTV transition. Given its DTV pedigree and long-standing commitment to ensuring a successful transition, LG Electronics is well-positioned to assist NTIA in crafting a program that is not only easy to implement and administer, but also facilitates the widest distribution of boxes possible so as to minimize the number of analog-only television sets that will go dark on February 18, 2009. To achieve these goals, LG Electronics submits the following comments with regard to which households should be included in the coupon program to maximize effectiveness, how converter boxes should be evaluated to ensure that consumers will be able to realize the benefits of DTV broadcasts, and how the program should be implemented and marketed so that consumers will be aware of and understand the program.

Specifically, LG Electronics urges NTIA to (1) expand the eligibility requirements to ensure that no household with an analog-only set reliant on over-the-air television service is excluded from participating in the coupon program; (2) permit manufacturers to include a limited range of “no frills” functions in eligible converter boxes so that they will be easy to use and perform well; (3) adopt minimum performance requirements for eligible boxes to ensure reliable reception and ease of consumer use; (4) adopt minimum energy efficiency standards for eligible boxes; and (5) take certain additional steps, described further below, that will help consumers learn about the program, apply for coupons, and use their converter boxes.

## **II. All Households with an Analog Television Receiver Reliant on Over-The-Air Service Should Be Eligible for Up to Two Coupons**

In the Notice, NTIA proposes limiting the households eligible to participate in the coupon program to only those that do not receive any cable or satellite service. Under this proposal, households that receive cable or satellite service would not be eligible, even if they have an analog-only receiver not connected to such service. NTIA also proposes that each of the households relying exclusively on over-the-air television service be eligible for up to two coupons. LG Electronics appreciates the challenge that NTIA faces in this seemingly daunting task of assuring that TV viewers are not disenfranchised when all-digital broadcasting commences in 2009, particularly in light of the finite amount of government funding available under the law. NTIA’s proposed eligibility requirements, however, are contrary to the DTV Act’s twin goals of minimizing disruption to the public and maximizing the number of analog-only sets that will continue to receive television service when analog broadcasting ends. Accordingly, to ensure that converter boxes are distributed widely to all households that need them,

NTIA should allow any U.S. household that has an analog-only television receiver that relies on over-the-air service (*i.e.*, that is not connected to cable or satellite service) to apply for up to two converter box coupons.

By expanding the definition of households eligible to participate in the coupon program beyond that proposed in the Notice, the program will attract more interest, benefit more consumers, and leave fewer American families with analog over-the-air-only television sets that do not receive programming in February 2009. This is more consistent with the public policy Congress envisioned when it established the program. While, as NTIA is aware, the issue of who should receive a coupon was a subject of significant discussion as the legislation was being considered by the Congress, neither the coupon program's implementing statute nor the conference report accompanying the statute includes any eligibility restrictions.<sup>3</sup> Without further elaboration, the DTV Act states that "households in the United States may obtain coupons" and that NTIA "shall ensure that each requesting household receives . . . no more than two coupons."<sup>4</sup> The conference report notes that the program is designed to "help consumers who wish to continue receiving broadcast programming over the air using analog-only televisions not connected to cable or satellite service" and then directs NTIA to supply coupons "to each U.S. household that requests to participate in the program."<sup>5</sup>

Congress did not limit the households eligible for the program because it recognized that the program is just one of many solutions to accommodate consumers

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<sup>3</sup> See Conference Report to Accompany S. 1932, H.R. Rep. No. 109-362 at 201-02 (2005) ("*Conference Report*").

<sup>4</sup> *DTV Act* at § 3005(a)(1), (c)(1)(A).

<sup>5</sup> *Conference Report* at 201.

once analog broadcasting ends.<sup>6</sup> Indeed, as NTIA recognizes, many consumers will neither need nor want a coupon to purchase a converter box.<sup>7</sup> CEA estimates that from 2006 through 2008, 63 million television receivers and set-top boxes with over-the-air DTV tuning capability will have been deployed independent of the converter box program. This is in addition to the 11 million television receivers and set-top boxes with over-the-air DTV tuning capability that were deployed from 2002 through 2005. While it is unclear how many of these have actually displaced or will displace old analog-only TVs, these receivers no doubt impact the number of American households needing a low-cost converter box under the coupon program.<sup>8</sup> Accordingly, given the huge number of households that are expected to have access to digital signals (over the air, via cable and by satellite) by 2009, we believe that sufficient funds are provided for the program to ensure that coupons are available to all households, including cable and satellite homes, that request them.

In sum, NTIA should adhere to Congress' goals of minimizing disruption to the public and ensuring that no household with an analog-only set reliant on over-the-air television service is excluded from participating in the coupon program.

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<sup>6</sup> See *Conference Report* at 202.

<sup>7</sup> *Notice* at 42,068.

<sup>8</sup> Consumer Electronics Association, *The DTV Marketplace: The End of the Beginning*, 23-24 (May 10, 2006), <http://www.atsc.org/am2006/Bates.pdf>. Over the next three years, consumers seeking to replace or upgrade older analog TVs will have a broad selection of DTV receiver product choices available. In addition to the tremendous array of integrated digital HDTV sets, led by stunning flat-panel liquid crystal and plasma displays, ATSC tuners will be incorporated into affordable small-screen standard-definition TV sets. Moreover, beginning next spring (consistent with the last phase of the FCC's DTV tuner mandate), LG Electronics and others will bring to market an exciting selection of set-top boxes, including DVD recorders and DVD-VCR combos, all with built-in ATSC DTV tuning. While outside the scope of the NTIA program, these devices are ideally suited to bring DTV broadcast programming to existing analog TVs or digital monitors.

### **III. Eligible Converter Boxes Should Be Allowed to Include Simple Electronic Program Guides and Smart Antenna Control Interfaces**

LG Electronics agrees with NTIA that only “single-function” converter boxes – those with the minimum features necessary to convert an ATSC digital signal to analog NTSC format – should be eligible for the coupon program. LG Electronics also agrees with NTIA’s proposal that, in order to be eligible, boxes must include the six characteristics identified in the Notice.<sup>9</sup> In addition to those characteristics, however, converter box manufacturers should have the option of including simple electronic program guides (“EPGs”) and/or smart antenna control interfaces. These “no frills” functions greatly enhance consumers’ use of the boxes and enjoyment of the programming enabled by the boxes. Therefore, NTIA should not preclude a box with a simple EPG or smart antenna control interface from being eligible for the coupon program.

The optional inclusion of a simple EPG adds very little to a converter box’s price, but would make the box much easier to use, a factor that NTIA stated in the Notice it would consider in determining the characteristics of eligible converter boxes.<sup>10</sup> Ease of use is particularly important given the ability of digital broadcasters to transmit multiple programming streams (*i.e.*, multicast) via their DTV signals. DTV multicasting greatly expands the number of program offerings made available to over-the-air television viewers. Allowing simple EPGs in eligible boxes will enable these viewers to navigate

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<sup>9</sup> Specifically, NTIA proposes requiring that eligible boxes (1) appropriately process all ATSC RF signals provided to the antenna-only input and then output signals in standard definition video for display on an NTSC television receiver/monitor; (2) deliver NTSC composite video and stereo audio to drive NTSC monitors; (3) deliver Channel 3 or 4 switchable RF output; (4) comply with FCC closed captioning, Emergency Alert System, and parental control requirements; (5) include remote controls; and (6) tune to Channels 2-69.

<sup>10</sup> See Notice at 42,070.

multicast channels and thereby maximizes the number of viewers able to enjoy the benefits of DTV technology. Furthermore, because broadcasters are required by the FCC to transmit forward-looking program data along with other PSIP information in their digital signals,<sup>11</sup> the inclusion of optional PSIP-compliant EPGs in eligible converter boxes would give consumers the opportunity to take advantage of information already provided by television stations for free.

In addition to simple EPGs, NTIA also should allow smart antenna control interfaces, based on the CEA-909 Antenna Control Interface standard, in eligible boxes. If used with a smart antenna, a converter box with this interface can control the position of a viewer's antenna when the viewer is changing channels. Of course, as NTIA notes, most viewers will be able to tune digital signals using their existing analog antenna configuration.<sup>12</sup> For most consumers, if they receive a decent analog television signal, they will enjoy a crystal-clear, studio-quality DTV signal, free from the ghosts, snow and interference that plague over-the-air analog broadcasts. Some consumers, however, may live in areas where signal strength is weak due to terrain blocking or where other interference issues make reliable reception more difficult. Smart antennas were developed to address these issues. Although most consumers will not need smart-antenna-compatible boxes, NTIA nevertheless should permit manufacturers to serve those consumers who wish to take advantage of this technology. Inclusion of a smart antenna control interface should add only a fraction to the cost of a converter box, but

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<sup>11</sup> *Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion To Digital Television*, 19 FCC Rcd 18279, 18345-46 at ¶ 152 (2004) ("*Second DTV Review*") (requiring digital broadcasters to include closed captioning, v-chip information, channel mapping and program data, among other things, in PSIP).

<sup>12</sup> *Notice* at 42,069-70.

may significantly increase the utility of converter boxes in some special reception circumstances. Therefore, NTIA should allow those consumers using a smart antenna to purchase compatible boxes using coupons obtained through the program.

#### **IV. Eligible Converter Boxes Should Be Subject to Minimum Performance Requirements**

In order for the coupon program to be successful, NTIA must ensure that the performance quality of the converter boxes eligible for the subsidy remains at a high level consistent with the needs and expectations of consumers. In general, LG Electronics prefers the development of voluntary marketplace-driven industry standards to address such product-specific technological requirements. However, this is a unique situation in which the time period for product deployment is short, significant industry work to develop performance specifications has already occurred, and federal resources are being expended directly to expedite the transition. For these reasons, LG Electronics believes that it is appropriate for NTIA to require that converter boxes meet certain minimum performance requirements prior to being deemed eligible for the coupon program.

By adopting minimum performance requirements, NTIA can significantly enhance the likelihood of success for the overall program by helping to assure that the devices eligible under the coupon program perform to the satisfaction of American consumers. Said another way, not eliminating the risk that inferior boxes will be allowed into the coupon program would jeopardize the program's success. Fortunately, minimum performance requirements already exist. The *ATSC Recommended Practice: Receiver Performance Guidelines, A/74* ("ATSC A/74") was developed by cooperative efforts among consumer electronics companies, broadcasters and other ATSC members to

ensure reliable reception of DTV signals.<sup>13</sup> In addition to requiring the other capabilities enumerated in the Notice for a converter box to be eligible for the program,<sup>14</sup> LG Electronics urges NTIA to require that eligible boxes meet the performance requirements (that are based on the A/74 work) explained in detail in the joint comments filed by NAB, MSTV and CEA in response to the Notice.

Setting minimum performance specifications, however, is not enough. To make sure consumers are receiving high-quality boxes with their coupons, NTIA also should require that manufacturers self-certify their boxes and additionally have their certifications confirmed by a respected third-party entity (*e.g.*, the FCC) before their boxes become eligible for coupons. Some potential manufacturers may not have the means or marketplace motivation to test their boxes for compliance with the requirements recommended by NAB, MSTV and CEA. Moreover, the establishment of a process by which an independent third party can review the performance quality of converter boxes will avoid the distribution of inferior boxes that would only serve to frustrate and disappoint consumers, and threaten the DTV transition.

**V. Eligible Converter Boxes Should Meet the EPA's Voluntary Energy Efficiency Standard**

In the Notice, NTIA asks whether it should consider energy standards in determining the type of converter box that would be eligible for the coupon program. As one of the world's leading developers and producers of energy efficient devices, LG

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<sup>13</sup> ATSC Recommended Practice: Receiver Performance Guidelines (rel. June 18, 2004), *available at* [http://www.atsc.org/standards/a\\_74.pdf](http://www.atsc.org/standards/a_74.pdf).

<sup>14</sup> NTIA proposes requiring that eligible converter boxes be capable of receiving, decoding and presenting video and audio from DTV transmissions as specified in FCC Part 73 and ATSC Standards A/52A, A/53C, and A/65B. *See Notice* at 42,070.

Electronics appreciates the importance of this issue as it relates to digital-to-analog converters. At the same time, we recognize that energy efficiency is just one of many parameters that must be considered when developing a cost-effective yet high-performance product. LG Electronics urges NTIA to require that converter boxes eligible for the coupon program meet the voluntary energy efficiency standards being developed by the Environmental Protection Agency (“EPA”) through its “Energy Star” program.

Consumer electronics manufacturers are actively collaborating with the EPA to develop a workable energy efficiency measurement standard for digital-to-analog converter boxes. Boxes that comply with this standard, expected to be finalized by the end of 2006, will receive the “Energy Star” designation, and consumers will know when they select a converter box that it is energy efficient.

In addition to requiring that converter boxes comply with the “Energy Star” standard in order to be eligible for the coupon program, NTIA must preempt any state requirements that impose energy efficiency requirements on digital-to-analog converters eligible for the federal coupon program. Permitting states to enact their own energy efficiency standards for converter boxes sold within their individual borders would raise the costs for all converter boxes as manufacturers attempt to design, manufacture, test, and distribute boxes that comply with the varying requirements of individual states.

In addition, some manufacturers may choose to forego distributing converter boxes altogether in those states that have particularly onerous energy standards, resulting in some consumers losing access to low-cost converter boxes through the coupon program and being left out of the digital transition. NTIA can ensure that no consumer is disadvantaged by confirming that a box’s compliance with the “Energy Star” standard

preempts any state energy efficiency requirement that would otherwise prevent the box from being eligible to participate in the coupon program.

## **VI. Other Suggestions for Ensuring a Successful Coupon Program**

Spurring consumer interest in the converter box program and ensuring that consumers' participation in the program is not burdensome will require a broad-based effort that involves the government and multiple industries and stakeholders. LG Electronics is fully committed to working with the government, our major retailers, and our colleagues in the consumer electronics and broadcast industries to facilitate the program's success. In this regard, LG Electronics offers the following suggestions for how NTIA can best serve the needs of those consumers the coupon program is designed to protect:

- Consumer education efforts must be focused on those groups most likely to need a converter box. Communications to lower-income and older Americans should be emphasized in a multi-platform educational campaign that includes on-air promotions and announcements by broadcasters, on both their analog and digital channels, and notices in publications aimed at these market segments.
- NTIA should encourage all segments of the DTV community to participate in consumer education efforts. As the Notice recognizes, the coupon program will only be successful if all industry stakeholders in the DTV transition – manufacturers, broadcasters and retailers – contribute significant effort to informing the public about the transition and the program.
  - For its part, LG Electronics is intensifying its sales training efforts with retailers and collaborating with broadcasters to promote DTV technology. LG Electronics also maintains an informative DTV website guide, <http://us.lge.com/GuidetoHDTV/what/index.html>, which introduces consumers to the features available through DTV technology. This website will be enhanced in the future with valuable information about the DTV transition and the converter box program.
- NTIA should encourage all manufacturers, as well as retailers, to provide adequate information to consumers to ensure that they fully understand how to install and use their converter boxes.

- LG Electronics will implement a special toll-free number that consumers can call to receive assistance with installing and connecting their new LG converter boxes. We also will include with all LG boxes an easy-to-follow installation guide that includes simple instructions in multiple languages. LG Electronics believes that such efforts will go a long way toward facilitating easy installation of the devices, thereby preventing consumers from unnecessarily returning boxes to their retailers.
- NTIA should clearly identify the converter boxes eligible for coupons. Ideally, NTIA would print the name and model number of eligible boxes on coupons. Some manufacturers, however, may be unable to develop, manufacture and certify their boxes in time for coupons to be printed by the statutorily-mandated deadline of January 2008.<sup>15</sup> Therefore, LG Electronics proposes that NTIA include with each coupon an updated list of boxes that are eligible as of the date the coupon is issued. As more boxes are deemed eligible, NTIA should add boxes to the list. NTIA also should maintain an updated list of eligible boxes online and supply retailers with the same information.
- LG Electronics agrees that application forms for the coupon program should be made widely available. In this regard, consumers should be able to apply online, by phone, by mail, or through kiosks placed in heavily trafficked areas, such as malls and retailers of consumer electronics equipment.
- NTIA also should consider granting some flexibility to any consumers that receive coupons, try to obtain converter boxes within the three-month redemption period specified by statute, but might encounter shortages at retailers.<sup>16</sup> In those situations, a consumer should be able to submit the coupon and co-pay to a retailer in exchange for a “rain check” for an eligible box when one becomes available.

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<sup>15</sup> See *DTV Act* at § 3005(c)(1)(A); *Notice* at 42,069.

<sup>16</sup> See *DTV Act* at § 3005(c)(1)(C).

## **VII. Conclusion**

LG Electronics shares the NTIA's and Congress' vision of a nation in which all Americans are able to enjoy the benefits of digital television. The digital-to-analog converter box coupon program is an important part of fulfilling this vision. LG Electronics looks forward to continuing to work with NTIA and other participants in the DTV transition to ensure the program's success.

Respectfully submitted,

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