

**Before the  
DEPARTMENT OF COMMERCE  
National Telecommunications and Information Administration  
Washington, DC 20230**

In the Matter of

United States Spectrum Management  
Policy For the 21st Century

Docket No. 040127027-4027-01

**COMMENTS OF THE  
CONSUMER ELECTRONICS ASSOCIATION**

The Consumer Electronics Association (“CEA”)<sup>1</sup> respectfully submits these Comments in response to issues raised in its *Notice of Inquiry* (“*Inquiry*”) in the above-captioned proceeding.<sup>2</sup> We commend the National Telecommunications and Information Administration (“NTIA”) for initiating this inquiry seeking public comment on radio spectrum policy reforms in conjunction with its developing recommendations in response to the President’s Executive Memorandum on Spectrum Policy.<sup>3</sup>

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<sup>1</sup> The Consumer Electronics Association is the principal U.S. trade association of the consumer electronics and information technologies industries, including manufacturers of the television receivers, monitors, and associated equipment such as set-top boxes, personal video recorders (PVRs), video cassette recorders (VCRs) and digital versatile disc (DVD) players that bring the video marketplace into consumers’ homes. Our members also design and manufacture a broad array of unlicensed devices, including Wi-Fi and similar equipment that increasingly will be used throughout the home to network audio and video equipment such as television sets and monitors with video delivery services such as cable, DBS, and over-the-air broadcast as well as personal computers and broadband Internet access.

<sup>2</sup> *Notice of Inquiry*, 69 Fed. Reg. 4923 (Feb. 2, 2004).

<sup>3</sup> *Presidential Memorandum on Spectrum Policy For the 21st Century*, 69 Fed. Reg. 1568 (Jan. 9, 2004).

## **GOVERNMENT-MANDATED RECEIVER STANDARDS WOULD DELAY INCORPORATION OF SPECTRUM-SAVING TECHNOLOGICAL ADVANCES**

In its *Inquiry*, NTIA takes note of the reciprocity between transmitters and receivers and that their operational performance can be controlled by design. NTIA then seeks comment on how “receiver performance standards can be employed to increase spectrum efficiency and minimize harmful interference.”<sup>4</sup>

The use of spectrum in the commercial sector, overseen by the FCC, occurs in a highly competitive environment where reliability and quality of communication determine sales, profits, and ultimately corporate survival. By contrast, the use of spectrum by the federal government agencies, overseen by NTIA, occurs in an environment that by definition lacks the incentives of competitive private markets. While receiver standards may be necessary for government agencies because there are no marketplace controls, on the competitive commercial side there is no marketplace failure and for most services government-mandated receiver performance standards are unnecessary and would result in spectrum *inefficiency*.

Technology in today’s competitive communications marketplace is changing so rapidly that entire generations of products come and go in less time than agencies complete rulemaking proceedings. If in the *Inquiry* the term “receiver performance standard” is meant to encompass standards such as bandwidth, dynamic range, filter

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<sup>4</sup> *Supra* note 2 at ¶ 24.

shape factors and similar characteristics, we must note that in the competitive marketplace manufacturers make expert choices based upon the expected location and use of receivers. If for any reason one manufacturer's receivers fail to perform adequately, or even fail to perform as well as those of its competitors, consumers (and other users) will vote with their dollars and the manufacturer will have to improve its product or go out of business. Commercial receivers are designed and used not for the worst case scenarios often of concern to federal government agencies (and correctly so), but for everyday consumer use where performance for price is governed by the marketplace.

Today, without government-mandates, voluntary standards are fostering product innovation that is steadily improving spectrum efficiency. Spectrum-efficient innovation would be impeded, however, if the "first mover" advantage and related incentives for improved performance and reliability were attenuated or eliminated by the necessity to engage in rulemaking proceedings. In addition to the years of delay that commonly results from rulemakings that would be required if a receiver standard were mandated by the FCC, such proceedings also require disclosures about innovation that companies often prefer remain proprietary, at least on the short term.<sup>5</sup> Similarly, innovation would be restricted if mandated receiver standards increased the price of receivers.

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<sup>5</sup> CEA also has submitted comments and reply comments in the *Inquiry* pending before the Federal Communications Commission ("FCC") that addresses receiver performance specifications. See, *Interference Immunity Performance Specification for Radio Receivers; Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, Notice of Inquiry*, 18 FCC Rcd 6039 (2003)("FCC NOI").

## **THE FCC SHOULD CONTINUE TO RESOLVE INDIVIDUAL INTERFERENCE CASES BASED UPON THE CAUSE**

On occasion it is possible for interference to occur when transmitters are operating properly, and in some instances a change to the receiver experiencing interference would alleviate or eliminate it. This is not a new phenomenon, and has been dealt with by the FCC in a variety of services. Indeed, when the original version of Title III of the Communications Act was under consideration by Congress, witnesses addressed broadcast stations overloading nearby receivers and sought regulation. Congress, however, authorized the Commission to exercise plenary authority over transmitters but left receiver operations to the marketplace.<sup>6</sup>

The FCC traditionally has investigated cases of interference and declined to hold the transmitting licensee responsible when it determined that the receiving equipment or a third cause (such as rectification outside the transmitting and receiving equipment) was contributing to or itself creating the interference situation, except in unusual

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<sup>6</sup> 47 U.S.C. § 303(e). *See, To Regulate Radio Communication, Hearings Before the Committee on the Merchant Marine and Fisheries, U.S. House of Representatives, on H.R. 5589, 69th Cong., 1st Sess. at 47-52, 149-176 (1926).* (Title III is a re-enactment of the Radio Act of 1927, *see* S. Rep. No. 73-781 at 3, 6-7 (1934), and the Supreme Court has considered the 1927 legislative history authoritative when interpreting its provisions. *See, e.g., Federal Communications Commission v. Pottsville Broadcasting Co.*, 309 U.S. 134 (1940); *National Broadcasting Co. v. United States et al*, 319 U.S. 190 (1943). Section 302(a)(2), added in 1982, authorizes performance standards for home electronic equipment, which includes some types of receivers as well as non-receivers, but only to reduce their susceptibility to off-frequency overloading (such inter-modulation distortion).

circumstances involving new operations in close proximity to a transmitting facility.<sup>7</sup> We are unaware of any reason why continuing this policy is not sufficient, nor do we know of any global problems that would require consideration of receiver standards within a service as a whole, although of course we recognize that there are several cases pending before the FCC concerning specific circumstances of inter-service interference in which each licensee blames the other.

### **MANDATED TECHNOLOGY STANDARDS WOULD IMPEDE SPECTRUM EFFICIENCY**

While the NTIA does not define “performance standard,” if it is meant to include receiver standards within traditional operating standards, adoption of such standards clearly would impede spectrum efficiency and innovation. CEA is expert in standards and standards-setting matters since it is a standards-setting organization accredited by the American National Standards Institute (“ANSI”). We believe that unless there are compelling reasons for the government to mandate a standard, reliance should be on industry standards because such standards are better suited to prevailing market conditions and can more readily be upgraded and improved by industry itself. Too often the unintentional (but foreseeable) result of government-mandated standards has been spectrum inefficiency and obsolescence. The result of government standards being

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<sup>7</sup> See, e.g., *Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service*, GN Docket No. 96-228, *Report & Order*, FCC 97-50; *Memorandum Opinion and Order*, FCC 97-112 (1997).

difficult to change and contrary to marketplace incentives for innovation too often has been the continued use of older, less-efficient technologies or a lack of interest in providing equipment for particular uses.

The disincentive of mandated standards is illustrated by the example of the standards adopted by the FCC for the Unlicensed Personal Communications Service (“UPCS”). The UPCS bands consist of highly desirable spectrum in the 2 GHz range, yet as the FCC itself had to note, there is little use of these bands despite their prime location.<sup>8</sup> This disuse stands in marked contrast to the heavy utilization being made of the neighboring licensed and unlicensed bands that have no FCC-mandated etiquettes or standards.

### **VOLUNTARY STANDARDS ARE FLEXIBLE AND PRACTICAL**

Minimum regulation of technical standards in the principal wireless bands has provided strong incentives to industry standards organizations and entrepreneurs to use succeeding generations of emerging technologies to successfully deal with the radio frequency environment present in the heavily-used bands. We are observing consistently improved technologies being rolled out that would be delayed or impossible to implement if the bands were subject to receiver standards.

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<sup>8</sup> The Commission is considering how to deal with the lack of activity in the UPCS bands. See, *Advanced Wireless Services*, ET Docket No. 00-258, IB Docket No. 99-81, RM-9911, RM-9498 and RM-10024, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 16 FCC Rcd 16043 (2001); *Second Report and Order*, 17 FCC Rcd 23193 (2002); *Third Notice of Proposed Rulemaking*, 18 FCC Rcd. 2223 (2003).

For example, the standards for unlicensed devices incorporating IEEE 802.11a/b/g are on a path of almost constant innovation and improvement to deal with the increased interference potential. Similarly, licensed Commercial Mobile Radio Service (“CMRS”) operators and their providers are in the process of rolling out new Generation 2.5 and Third Generation equipment and services to provide improved commercial mobile services.

The most recent example of industries working together to establish a voluntary receiver standard concerns digital televisions. CEA is working within a Specialist Group of the Advanced Television Systems Committee (“ATSC”) along with the National Association of Broadcasters (“NAB”), the Association for Maximum Service Television (“MSTV”) and other experts to establish a voluntary Recommended Practice for ATSC receiver performance. The Recommended Practice is going through the letter ballot phase that will conclude on April 7, 2004. The voluntary standards process has helped the broadcast and equipment manufacturers find common ground on difficult technical issues facing the digital television (“DTV”) transition.

## CONCLUSION

Initially, mandatory government-adopted receiver standards may appear to be a convenient way to ensure that spectrum users do not collide. Upon closer examination the experience of industry, however, is that standards such as receiver standards have chilled marketplace incentives for innovation and resulted in gross spectrum inefficiency. While perhaps appropriate in the non-marketplace arena of federal government communications, for commercial spectrum the marketplace is a far more effective and flexible mechanism for ensuring the best possible receivers at attractive consumer prices.

Respectfully submitted,

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