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August 19, 1996

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**FEDERAL COMMUNICATIONS COMMISSION  
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William F. Caton, Secretary  
Federal Communications Commission  
1919 M Street, N.W., Room 222  
Washington, D.C. 20554

**DOCKET FILE COPY ORIGINAL**

Re: CS Docket No. 96-133

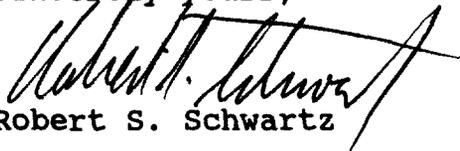
Dear Mr. Caton:

Enclosed for filing are an original and eleven copies of the Reply Comments of Circuit City Stores, Inc. filed in the above-referenced docket.

An additional copy to be date stamped and returned with the messenger for our files is also enclosed.

Thank you for your assistance.

Sincerely yours,

  
Robert S. Schwartz

Enclosures

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Before the  
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Washington, D.C. 20554

**FEDERAL COMMUNICATIONS COMMISSION**  
**OFFICE OF SECRETARY**

In the Matter of )  
 )  
Annual Assessment of the Status )  
of Competition in the Market ) CS Docket No. 96-133  
for the Delivery of Video )  
Programming )  
 )

**REPLY COMMENTS OF  
CIRCUIT CITY STORES, INC.**

Richard L. Sharp  
Chairman, President  
and CEO

W. Stephen Cannon  
Senior Vice President  
and General Counsel

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REPLY COMMENTS OF  
CIRCUIT CITY STORES, INC.

Circuit City Stores, Inc., respectfully submits this reply to comments filed in this proceeding pursuant to the Notice of Inquiry released June 13, 1996. Circuit City was not among the initial commenters because it does not participate in the market for video programming. Several of the commenters, however, raised issues pertaining to the competitive availability of navigation devices for Multichannel Video Programming Distribution (MVPD) Systems, as now mandated by Section 304 of the Telecommunications Act of 1996. This is a subject in which Circuit City has an intense and abiding interest.

Circuit City is the nation's largest retailer of branded consumer electronics. Based in Richmond, Virginia, Circuit City has approximately 400 retail outlets nationwide. Circuit City sells video, audio, telecommunications, and personal computer to the general

public, including America's major brands of personal computers such as Apple, AST, Compaq, Hewlett Packard, IBM, Packard Bell, and others.

Circuit City's sole interest in this and other Commission proceedings is in obtaining legitimate, compatible navigation device products to offer to its customers competitively at retail. It has no vested interest in any particular technological choices to be made by the Commission or in the private sector. Along with other retailers and the representatives of the computer hardware, computer software and consumer electronics industries, we were part of the private sector coalition that supported the passage of section 304. We are interested in any Commission proceedings bearing on the successful implementation of this law.

Most of the provisions of the 1996 Telecommunications Act are addressed to competition at levels other than that which will be of direct benefit to consumers. Section 304 is special, in that it directly commands the Commission, in its regulations, to offer consumers a choice of navigation devices for broadband systems, just as they have a choice of devices for accessing the narrowband telephone system. Government regulation has, until now, prevented consumers from having any choice of devices to gain access to broadband systems.

The potential consequences of section 304 for competition are potentially as profound and revolutionary as

was the deregulation of telephone customer premises equipment. If, through such deregulation, we can reach the day when generic "set top box" circuitry can be provided as computer CPU, TV or VCR, or accessory circuitry, with security handled separately through a common interface, the savings in avoiding redundancy, and from competition itself, will be enormous.

Particularly with respect to this proceeding, a consumer wishing to try competing services will not have to procure multiple set-top boxes, or change out entire devices. Rather, the consumer will be able to choose among service providers almost as easily as he or she can choose among long-distance telephone providers today.

Congress acted at the perfect time -- the dawn of the digital era, BEFORE there are huge investments in services and devices with incompatible interfaces that frustrate competition and would need to be "grandfathered" at consumer expense. Circuit City, accordingly, cannot agree with those who urge the Commission to proceed slowly or superficially in fulfilling the congressional mandate. Our general view of what action will be required of the Commission, and why, is set forth in the Appendix. This discussion puts in context our replies to particular comments in this proceeding.

**I. CIRCUIT CITY AGREES WITH NCTA IN RECOGNIZING THE NATIONAL AND NEAR-UNIVERSAL NATURE OF CABLE TELEVISION SERVICE.**

The comments of the National Cable Television Association emphasize an important point with respect to this MVPD service: like broadcast television, it is a national service and should be subject to device competition on a national basis. NCTA observes at p. 26:

The cable industry's broadband platform makes it the optimal medium for transmitting vast amounts of information -- data, graphics, and video -- at high speed.

To achieve true competition in devices for access to this national network, there must be competition on a national basis. A manufacturer entering the access device market, and a consumer considering a purchase, should have confidence that a device will work with similar media delivery methods in other parts of the country -- just as a television or a computer modem bought in Connecticut will work with the broadcast or telephone systems in California. Absent such assurance, manufacturers will not invest in the device market, and consumers will be wary of any such products that do appear.

In its filing in this proceeding, NCTA recognizes that cable has, indeed, become a national, wired, broadband network. As such, this medium should be a priority for the achievement of competitive availability of the devices that give access to the national network.

**II. CIRCUIT CITY CANNOT AGREE WITH THOSE COMMENTERS WHO FEAR COMPETITIVE AVAILABILITY ON THE BASIS OF SIGNAL SECURITY.**

While Circuit City agrees that protection of signals against theft is an entirely appropriate concern (and is recognized as such in section 304), we cannot agree that this concern is a reason for foot-dragging in implementing section 304. A common interface with respect to security would be more, rather than less, secure than present methods, because it would enable system operators to retain control of ALL conditional access and descrambling circuitry.

At page 17 of its comments, the Satellite Broadcasting and Communications Association of America expresses the concern that

[T]he manufacturer of the universal set-top box would have no incentive nor any legal obligation to change out the now compromised equipment on a mass scale because that company's interest would be solely in commercial sale of the set-top box, with no vested interest in maintaining the security of the system. Thus, such a configuration could prove to be a dangerous environment for secure signal reception.

This concern is based on an outdated notion as to how competitive availability can be achieved. The observation would be correct IF security "secrets," subject to being compromised, were to be hard-wired into boxes. The entire point of a common security interface, however, is to obviate such a need. Several mature private sector standards would allow ALL security circuitry to be placed on a carrier, such as a card, that can be supplied by a system operator

directly to the subscriber. Thus, the manufacturer of the "universal set-top box" would know no security secrets subject to being compromised or changed out.

To obtain the benefits of such a system, and to make possible competition on a national basis, the Commission needs simply to choose a standard interface for reading such a system-provided carrier. (The nature of the security implemented on the card need not -- indeed, should not -- be standardized.) With a common means for functioning with the system operator-provided cards, the manufacturer of the "box" need not obtain any secrets. The manufacturer can concentrate on integrating the "box" circuitry with other circuitry, rather than supply separate consumer boxes for each medium or service, each with redundant digital compression, etc., circuitry, and each with its own burned-in security. It is the boxes that, like the present cable boxes, contain burned-in secrets that must be entirely switched out when compromised.

### III. CONCLUSION.

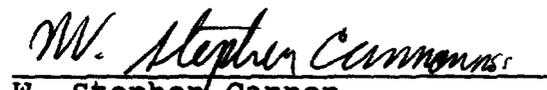
Full and early compliance with section 304 will not be easy, and will involve Commission action in addition to adoption of a common interface with respect to security. (Circuit City's view as to the necessary steps is discussed in the Appendix.) In bringing true competition to the market for navigation devices, however, the Commission will not only create consumer-level competition among devices, it

will also facilitate competition among video services by eliminating costly redundancy and allowing consumers more easily to sample and switch among the competing services. Before further steps down the road to incompatibility in the digital age are taken, we urge the Commission to proceed expeditiously with noticing and completing its rulemaking to enforce section 304.

Respectfully submitted,  
CIRCUIT CITY STORES, INC.

By:

  
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Chairman, President  
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Dated: August 19, 1996

APPENDIX

Outline of Key Competitive Issues Re  
Enforcement of Section 304 of the  
Telecommunications Act of 1996

(1) Scope of Section 304 -- Commercial Availability of All  
Devices Used for Access to Any Service Provided by a  
Multichannel Video Program Distributor

(A) Devices Covered -- any to access a service of a  
multichannel video program distributor

Section 304 addresses the "commercial availability ... of equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.<sup>1/</sup>

The elements of the definition of devices covered by this provision are:

- (1) any device
- (2) used by consumers
- (3) to access
  - (a) video programming, or
  - (b) any other service
- (4) offered over a multichannel video programming system.<sup>2/</sup>

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<sup>1/</sup> 47 U.S.C. § 522(12) defines "multichannel video programming distributor" as:

a person such as, but not limited to, a cable operator, a multichannel multipoint distribution service, a direct broadcast satellite service, or a television receive-only satellite program distributor, who makes available for purchase, by subscribers or customers, multiple channels of video programming.

<sup>2/</sup> The Conference Report, at 181, confirms this interpretation, describing the scope of the regulations as covering "equipment used to access services provided by multichannel video programming distributors." Any equipment necessary for a consumer to gain access to any service offered over a multichannel video programming system is covered by the

(continued...)

(B) "Commercial Availability" -- includes independent manufacture

Section 304 requires commercial availability of navigation devices "from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor." Thus, commercial availability includes a requirement that the device itself must be available from a manufacturer other than the one chosen by the system operator.<sup>3/</sup>

Commercial availability could not be achieved through the mere distribution, at retail, of only those devices that have been designed and selected by system operators, any more than CPE could have been deregulated by putting Bell System dial telephones, and Bell phones only, on retail shelves.

(2) Roles of Exclusively System Operator-Provided Devices in Multichannel Video Program Distribution Systems -- Strictly Limited, As Noncompetitive Part of Network

Ideally, as is the case in consumer telephone systems, all network devices (i.e., provided only by the system operator) should be transparent and outside the customer premises. Security constraints, recognized by section 304, however, limit the extent to which this can be accomplished. These security constraints, because they effectively confer monopolies at variance with the intent of the legislation, should result in exceptions that are strictly limited. The following principles would appear to flow directly from the scope and intention of section 304:

(A) Where there is no security constraint (e.g., switched systems, cable modems), there is no justification for any system operator providing any class of device exclusively. The Commission's responsibility is to achieve a competitive environment, as in the case of telephones, in which any product that

---

<sup>2/</sup> (...continued)  
competitive availability mandate.

<sup>3/</sup> The House Commerce Committee report, at 112, explained the requirement of independent manufacture:

Competition in the manufacturing and distribution of consumer devices has always led to innovation, lower prices and higher quality.

might be offered by a system operator can also be offered by independent competitive manufacturers and retailers.

(B) Where there is a security constraint (e.g., addressable set-top and set-back boxes), if the constraint requires that any circuitry be offered by the system operator exclusively, such circuitry should be minimized and limited to the greatest extent possible, and considered part of the network.

(a) The Commission should ascertain whether a security concern really does require that any circuitry remain under physical control of the network operator.

(b) If physical control over some security circuitry is necessary:

(i) the security circuitry should be isolated from all other circuitry so that it can be provided separately and directly by the network operator to the customer, and

(ii) a common interface for mating such security circuitry to all other circuitry, including devices provided by system operators and competitive manufacturers and retailers, needs to be established.

(C) Any circuitry over which the system operator is allowed to retain physical control, as part of the network, should not be integrated with any other circuitry other than through a common interface:

(a) Such integration would allow the system operator to provide products that mix network and non-network circuitry, establishing a new monopoly with which no independent manufacturer or retailer could compete;

(b) While such integration superficially might appear efficient, in the long term it would be grossly inefficient, as it would frustrate integration in consumer-owned devices of the ability to access competing systems; and

(c) The ability of consumers to access competing systems through competitively procured devices was a key goal of Congress in enacting section 304.<sup>4/</sup>

(3) Standards Activities -- Building on Existing Private Sector Technology and Standards Will Be Necessary for Effective Implementation

(A) Technical standards will be necessary in several areas in order to accomplish Congress's objectives under section 304:

(a) Common security interfaces will be necessary with respect to (i) analog transmission systems<sup>5/</sup> and (ii) digital transmission systems,<sup>6/</sup> to enable the mating of exclusively operator-supplied circuitry with all other circuitry;

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<sup>4/</sup> The House Commerce Committee report observed at 112:

A competitive market in navigation devices and equipment will allow common circuitry to be built into a single box or, eventually, into televisions, video recorders, etc.

<sup>5/</sup> In analog navigation devices, the processing of security information must be done in a hardware module. An interface for a security module has been defined, as a draft industry standard, pursuant to ET Docket 93-7. The Commission declared in its May 4, 1994 Report and Order in that Docket, and affirmed upon reconsideration, that to promote competition, the security function and other features should be separated in future "set-back" (par. 42) and "set-top" (par. 29) boxes.

<sup>6/</sup> In the digital signal environment, it is possible to place all security-related circuitry on a software carrier (e.g., a card). Security against theft of signal is actually improved, in this implementation, compared to security fixed in the box or split between the box and a card (as is done presently in DSS and in Europe). Encryption can be customized for small geographic areas without any modification to the box, greatly diminishing the incentive to attack it. If the security is compromised, only the card -- not the entire box -- needs to be replaced.

For digital devices (including TVs, VCRs, computer accessories), a standard security interface allows operation of independently manufactured and retailed navigation devices with an operator-supplied software carrier controlling conditional access and decryption. This is now readily available technology in the private sector.

(b) Digital transmission standards will be necessary to allow a national market in commercially available navigation devices from manufacturers and retailers independent of system operators;

(c) Sufficient standardization of non-security-dependent products (e.g., cable modems) will be necessary to avoid monopolization by system operators.

(B) Section 304 requires consultation with private sector standards bodies but does not require the Commission to await submission of standards from such bodies:

(a) Commission authority to adopt standards is affirmed, and not curtailed, in section 304.

(i) Section 304 explicitly does not curtail any existing authority of the Commission.

(ii) The Commission enjoys authority to adopt standards when necessary without awaiting private sector action.

(b) The Commission is not required to await or accept the outcome of the deliberations of any particular standards body.

(4) Relationship of Proceedings -- Specific Outcomes in Docket 93-7, DTV and OVS Depend on Conclusions Re Section 304

(A) Docket 93-7 -- key decisions depend on section 304 determinations

(a) A decision is pending in 93-7 as to whether to apply to set-top, as well as set-back, devices the requirement that system operators offer modules that separate security circuitry from circuitry for other features and functions. Such a requirement should be compelled by section 304.

(b) The decision thus far in 93-7 to allow system operators to also offer security modules that integrate non-security features and functions is not consistent with section 304, for the reasons given in Principle (2)(C).

(c) The points re Decoder Interface with respect to section 301(f) (Eshoo amendment) raised by

joint petitioners for further reconsideration in 93-7 cannot be resolved until the Commission has determined nature of analog security interface necessary to comply with section 304.

(B) DTV, OVS and other multichannel video program distribution systems depend on section 304 determinations

(a) DTV will include multichannel video program distribution.

(b) Achieving Congress's goal of navigation devices being able to access competing services will require a common security interface for DTV, OVS, and any other services to the extent they depend on addressable security circuitry that must be provided by the system operator.

(c) Achieving a national market will require national transmission standards for each transmission mode, and the highest degree of compatibility obtainable.

(5) The Commission Must Take Steps to Ensure and Facilitate the Support by Multichannel Video Program Distributors of Customer-Procured Devices

(A) System operators must take steps to allow and facilitate connection of customer devices.

(B) System disclosure and registration provisions will be necessary to facilitate interconnection while protecting security.