RECEIVED
APR 17 1996

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

| | | |
|---|---|---|
| In the Matter of | ) | |
| | ) | |
| Telecommunications Services Inside Wiring | ) | |
| | ) | |
| Customer Premises Equipment | ) | CS Dkt. No. 95-184 |
| | ) | |
| and | ) | |
| | ) | |
| Implementation of the Cable Television Consumer Protection and Competition Act of 1992: | ) | |
| | ) | |
| Cable Home Wiring | ) | MM Dkt. No. 92-260 |

DOCKET FILE COPY ORIGINAL

# REPLY COMMENTS OF COX COMMUNICATIONS, INC.

Peter H. Feinberg
Michael S. Schooler
Peter C. Godwin

DOW, LOHNES & ALBERTSON
A Professional Limited Liability Company
1200 New Hampshire Avenue, N.W.
Suite 800
Washington, DC 20036
(202) 776-2000

April 17, 1996

## TABLE OF CONTENTS


I. INTRODUCTION AND SUMMARY . . . . . 2

II. THE CABLE DEMARCATION POINT IN MDUs SHOULD REMAIN AT THE POINT 12 INCHES OUTSIDE INDIVIDUAL SUBSCRIBER UNITS . . . . 5

A. The Demarcation Point May Not Be Moved to the Minimum Point of Entry . . . . . 6

B. The Cable Demarcation Point Should Not Be Moved to the Dedication Point . . . . . 9

C. The Commission's Current Rules Would Not Adequately Compensate Cable Operators for the Taking of Wiring Outside the 12 Inch Demarcation Point . . . . . 13

III. THE COMMISSION SHOULD PROHIBIT EXCLUSIVE MDU SERVICE CONTRACTS . . . . . 14

IV. THE COMMISSION SHOULD NOT ADOPT SPECIFIC STANDARDS FOR JACKS AND CONNECTORS . . . . . 15

V. UNIFORM STANDARDS FOR CABLE CPE ARE NOT WARRANTED AT THIS TIME . . . . . 16

VI. THE COMMISSION SHOULD APPLY THE EXISTING SIGNAL LEAKAGE AND TECHNICAL STANDARDS TO ALTERNATE BROADBAND VIDEO SERVICE PROVIDERS . . . . . 17

VII. CONCLUSION . . . . . 19

RECEIVED
APR 17 1996
FEDERAL

**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, D.C. 20554**

| | | |
|---|---|---|
| In the Matter of | ) | |
| | ) | |
| Telecommunications Services Inside Wiring | ) | |
| | ) | |
| Customer Premises Equipment | ) | CS Dkt. No. 95-184 |
| | ) | |
| and | ) | |
| | ) | |
| Implementation of the Cable Television Consumer Protection and Competition Act of 1992: | ) | |
| | ) | |
| Cable Home Wiring | ) | MM Dkt. No. 92-260 |

## REPLY COMMENTS OF COX COMMUNICATIONS, INC.

Cox Communications, Inc. ("Cox"), by its attorneys, hereby submits these reply comments in response to comments filed in the above-captioned *Notices of Proposed Rulemaking* regarding telecommunications inside wiring, customer premises equipment ("CPE"), and cable home wiring.[1/]

---

1/ Telecommunications Services Inside Wiring, Customer Premises Equipment, *Notice of Proposed Rulemaking*, MM Dkt. No. 95-184, FCC 95-504 (rel. Jan. 26, 1996) (the "*Notice*"); Implementation of the Cable Television Consumer Protection and Competition Act of 1992: Cable Home Wiring, *First Order on Reconsideration and Further Notice of Proposed Rulemaking*, MM Dkt. No. 92-260, FCC 95-503 (rel. Jan. 26, 1996) ("*First Recon. Order*" and "*Further Notice*").

## I. INTRODUCTION AND SUMMARY.

Most commenters agree that the primary goal of the Federal Communications Commission's (the "Commission's") home-wiring rules with respect to multiple dwelling units ("MDUs") should be to encourage facilities-based competition.[2/] The proposed methods to achieve this end, however, are varied, and some are based on invalid assumptions concerning the state of current and future technology in the video and telephony industries. As Cox noted in its comments, the most effective means to achieve facilities-based competition is to adopt inside wiring regulations that encourage multiple service providers to compete over *separate facilities* within MDUs.

As the Commission recently recognized, the "underlying policy goals" of the Telecommunications Act of 1996 are "to promote competition in both services and facilities, and to encourage long-term investment in the infrastructure."[3/] Those goals should guide the Commission in the instant proceeding, in which the Commission considers revising its cable home wiring rules in a way that could eliminate the prospect of facilities-based competition for millions of Americans. To promote competition in both services and facilities and to encourage long-term investment in the infrastructure, the Commission must retain the existing demarcation point for cable inside wiring.

---

2/ *See, e.g.*, Comments of Continental and Cablevision at 10-11; Time Warner at 13; Adelphia at 3; NCTA at 10; CATA at 4; TIA/UPED at 3.

3/ Implementation of Cable Act Reform Provisions of the Telecommunications Act of 1996, *Order and Notice of Proposed Rulemaking*, CS Dkt. No. 96-85, FCC 96-154 at ¶ 45 (rel. April 9, 1996).

Some parties have argued that the existing demarcation point for cable wiring in MDUs should be moved to the point of entry to the building or to the point at which wiring becomes "dedicated" to a particular unit. Cox and several other parties, however, have demonstrated that the existing demarcation point encourages multiple service providers to compete over *separate facilities* and that any proposal to move the demarcation point farther from the subscriber's unit will only impede facilities-based competition.[4/] Furthermore, while some parties suggest that deploying multiple broadband facilities in MDUs is not technically or economically feasible, the evidence before the Commission in this proceeding shows that this is not the case. Conduits for wiring MDUs are generally accessible, and installing a second internal distribution system in an MDU requires only a modest investment.

Where there is an impediment to the deployment of multiple facilities, that impediment is usually the intransigence of the building owner. Instead of moving the demarcation point, the Commission can promote competition within MDUs by barring exclusive contracts between service providers and building owners. Exclusivity is no longer an economic necessity, but is instead a convenient mechanism for the enrichment of building owners at the expense of their tenants.

The *Notices* asked whether the Commission should reconcile its cable and telephone inside wiring policies based on a perceived "convergence" of the two technologies. As Cox

---

4/ *See, e.g.*, Comments of Cox at 19, Adelphia at 3, CATA at 6, Continental and Cablevision at 10-11, NCTA at 21, and Time Warner at 10.

and many other parties demonstrated, such a convergence has not yet occurred and, in fact, will not occur in the foreseeable future. Telephone and video services will continue to be delivered into subscribers' homes on different platforms: narrowband twisted-pair wiring for telephone and broadband coaxial cable for video services. Technical differences between these two delivery platforms and differences in network design continue to justify different demarcation points for telephone and cable services. Several parties have also demonstrated how cable CPE fundamentally differs from telephone CPE, especially with regard to its role in preventing theft of service. Because of these differences, Cox encourages the Commission to defer resolution of issues concerning cable CPE until it can examine those issues comprehensively in its impending rulemaking on the commercial availability of navigation devices, pursuant to the 1996 Act.

Nevertheless, the Commission is legitimately concerned that some of its policies lack consistency. For example, a majority of the commenters agree that the Commission should extend its signal leakage and technical standards to *all* broadband service providers, not simply cable operators.

Besides encouraging facilities-based competition, the 1996 Act also favors market solutions over regulatory fiat. With that goal in mind, the Commission should decline to adopt specific standards for jacks and connectors and allow service providers to adapt to the market and to future technological innovations.

## II. THE CABLE DEMARCATION POINT IN MDUs SHOULD REMAIN AT THE POINT 12 INCHES OUTSIDE INDIVIDUAL SUBSCRIBER UNITS.

Cox and several other parties argued in their comments that the demarcation point — the point at which control of cable wiring is transferred from the cable operator to the subscriber on termination of service — must remain at its existing position 12 inches outside individual MDU units and that competition is best achieved if multiple facilities provide a selection of services to subscribers.[5/] Several commenters disagree, and suggest that the demarcation point be moved to the basement to achieve parity between cable and telephony.[6/] Others suggest that the demarcation point be moved to the point where wiring in an MDU is dedicated to an individual subscriber's use to give subscribers greater control over the services they wish to select and to accommodate shared use of wiring by different service providers.[7/] These various alternate proposals conflict with plain statutory language and fall short of the best means to achieve facilities-based competition.

---

5/ Cox Comments at 13; NCTA Comments at 3, 10; Continental and Cablevision Comments at 10-11; Adelphia Comments at 3; CATA Comments at 4-5; Time Warner Comments at 13; TKR Comments at 6; TCI Comments at 4-5 n. 5.

6/ DIRECTV Comments at 8; Wireless Cable Association ("WCA") Comments at 22; Tandy Comments at 6-7; Circuit City Comments at 15.

7/ AT&T Comments at 7; Pacific Bell Comments at 3; OpTel Comments at 10; Media Access Project/Consumer Federation of America ("MAP/CFA") Comments at 10-11; NYNEX Comments at 7; Independent Cable Telecommunications Association ("ICTA") Comments at 22.

### A. The Demarcation Point May Not Be Moved to the Minimum Point of Entry.

Circuit City, Tandy and the Wireless Cable Association ("WCA") suggest that the demarcation point should be in the basement, *i.e.*, at the minimum point of entry.[8/] These parties generally argue that this would facilitate competition and reduce disruption by allowing any service provider to use the installed wiring, rather than requiring each provider to install its own wiring.[9/]

Far from encouraging competition, moving the demarcation point to the minimum point of entry effectively would foreclose any opportunity for MDU residents to choose from among competitive providers. This approach would enable a new service provider to oust the existing cable operator and become the *de facto* exclusive provider of service, even where access-to-premises laws might bar *de jure* exclusivity. As Cox showed, the incumbent

---

8/ Several parties use the terms "minimum point of entry" and "dedication point" interchangeably. Generally, the minimum point of entry refers to the point where the common wiring within the building meets the service provider's wire from the outside of the MDU. The dedication points, on the other hand, are the points in an MDU where wiring branches off from the common wiring that carries programming throughout the building and becomes dedicated to an individual resident's use.

9/ WCA notes that the Commission should "refer to the telephone model for regulation of inside wiring and apply the 'minimum point of entry' concept when defining the demarcation point for common area wiring" in MDUs because it is "the least disruptive way to demarcate wiring . . . subject to the property owner's ownership and/or control." WCA Comments at 22. Tandy notes that the demarcation point must be placed at the basement to avoid "needless controversy" and to enhance competition. Circuit City notes that "competition would be enhanced if the demarcation point is set at a minimum point of entry where all service providers could connect" and that "this point of entry will avoid confusion that is likely to occur" if the demarcation point were at the dedication point.

cable operator would have little incentive to rewire a building, knowing that its wiring once again would be expropriated by an alternative provider.[10/]

WCA's assertion that the Commission's cable wiring rules should mimic the rules for telephone wiring — which in some instances place the demarcation point at the minimum point of entry — fails to recognize the technical differences between broadband and narrowband wiring and the policy and historical reasons for different physical demarcation points for the two services. As Cox and others explained, there are practical reasons why the physical location of the demarcation point for cable and telephony historically have differed, why customer-owned cable and telephone wiring must start at different locations, and why these different *physical* demarcation points are *conceptually* very much the same.[11/]

DIRECTV argues that placing the demarcation point at the minimum point of entry would enhance competition because it would "allow[] an entire existing wiring plant to be re-used or shared by a competitive service without undue burden."[12/] It argues that requiring alternative providers to install their own wiring in MDUs is "inconvenient" and "unnecessary" because "[d]ifferent suppliers are technically capable of sharing the existing wiring to deliver competitive services." DIRECTV Comments at 2.

Most commenting parties seem to understand that the fundamental premise of DIRECTV's argument — *i.e.*, that broadband facilities can be shared by multiple users — is

---

10/ Cox Comments at 20-21. *See also*, Continental and Cablevision Comments at 10-11.

11/ *See* Cox Comments at 17-18. *See also*, NCTA Comments at 23-24.

12/ DIRECTV Comments at 8.

simply wrong.[13] As Cox and other commenting parties explained, such shared use is not — at least for now — technologically feasible. Moreover, requiring shared use precludes operators from using their wire for other services, such as data services.

NCTA explained, for example, that

> . . . sharing the wire is not technically or economically feasible because one wire cannot sustain the transmission of more than one broadband multichannel video programming service occupying the same frequency range. Even if the providers used a different part of the bandwidth, the signal losses, and other technical performance problems that would result would greatly reduce the quality and reliability of service to the customer.[14]

A more detailed explanation of the technical obstacles to shared use of a broadband facility is provided in the attached declaration of Richard Mueller, Vice President of Operations Engineering for Cox. As explained in the declaration, two service providers could not share the coaxial cable drop facility without installing costly and inefficient additional hardware, including signal upconverters, bandpass filters, signal combiners, signal splitters, additional amplifiers, and an A/B switch. Mueller Declaration at ¶ 3-5. These additional hardware components degrade the cable network design, jeopardizing the signal ultimately delivered to subscribers and jeopardizing the cable operator's ability to satisfy its signal quality obligations. *Id.* at ¶ 6. Furthermore, this shared use of the wire would impede its use for

---

13/ The only support for its assertion that multiple providers can share wiring is language from the Commission's *Notice* in CS Dkt. 95-185. *See* DIRECTV Comments at 4 & n.4 *citing Notice* at ¶¶ 2, 12. But the *Notice* only seeks comment on the issue and then only discussed the use of a single wire that shares cable and telephone service, *not* competing services from providers of the same service. *See Notice* at ¶¶ 2, 12.

14/ NCTA Comments at 26 n.36.

interactive or two-way services. *Id.* at ¶ 7. These technical problems would be magnified if more than two providers seek to use the same broadband facility. *Id.* at ¶ 8.

### B. The Cable Demarcation Point Should Not Be Moved to the Dedication Point.

Several commenting parties urge the Commission to move the demarcation point to the point where individual subscriber wire becomes "dedicated."[15/] As Cox noted, this approach — insofar as it would discourage the deployment of additional wires serving individual units — would have an adverse effect on full, facilities-based competition. Specifically, it would deny residents the opportunity to purchase some broadband services from one provider and other services from another provider.[16/]

The parties that support moving the demarcation point to the point of dedication do not dispute that multiple sets of dedicated wiring would maximize competitive choices for MDU residents. They argue, however, that installing such wiring would be physically difficult or prohibitively expensive. Thus, according to WCA, the "current demarcation point is impractical because 'wire within twelve inches of a subscriber's premises is buried in a brick, concrete or cinder block wall or concealed in a conduit'" and thus is not readily accessible.[17/] WCA also argues that its proposal "will help eliminate the most difficult obstacle to competitive multichannel service in an MDU environment, namely the inability of

---

15/ *See, e.g.*, AT&T Comments at 7; Pacific Bell Comments at 3; ICTA Comments at 22; and MAP/CFA Comments at 10-11.

16/ Cox Comments at 22.

17/ WCA Comments at 11 (*citing* Petition of Liberty Cable Co. for Reconsideration and Clarification, MM Dkt. No. 92-260 at 3 (filed April 1, 1993)).

alternative providers to install their facilities without significantly damaging the walls, ceilings and other areas of the building." WCA Comments at 12.

Liberty Cable's and WCA's argument that the current demarcation point is physically inaccessible in most buildings is specious and unsupported by any evidence. As Time Warner confirmed in its comments, the current broadband demarcation point at 12 inches outside individual subscriber units is *not, in fact, inaccessible*. *See* Time Warner Comments at 17-21. Of the four common wiring configurations (exterior, hallway molding, common closets, and internal conduit), only wiring which runs from the lockbox to conduits within walls poses any access problems. *Id.* at 17-18. But even in that configuration, which is used less than two percent of the time in Manhattan,[18/] "true internal wiring within the occupant's premises is always readily accessible at the wall plate where the wiring enters the individual unit." *Id.* at 18.

With respect to the costs of installing additional dedicated wiring, neither DIRECTV nor ICTA has provided evidence to support their claim that such costs are prohibitive.[19/] Several commenting parties have, on the other hand, noted that the costs of installing

---

18/ *See* Time Warner Comments at 18 *citing* Time Warner *ex parte* submission (Dec. 5, 1994) at 6.

19/ The Consumer Federation of America notes that the per subscriber cost of wiring is about $50. MAP/CFA Comments at 7 n. 7. Far from supporting ICTA's and DIRECTV's claims that internal wiring costs are prohibitive, this $50 figure reinforces Cox's position that true facilities-based competition in MDUs requires only a modest investment by prospective service providers, a modest investment that some commenting parties are *unwilling* — but not *unable* — to undertake.

additional wiring are *not* prohibitive, and that they would be willing to install wiring if they had access to the premises.[20/]

ICTA claims that, wholly apart from whether it is physically or financially impossible to install additional dedicated wiring, landlord and building management prevent it: "Virtually all property owners refuse to allow" installation of additional wiring.[21/] In other words, these parties' problems do not inherently stem from the physical location of the current demarcation point, but rather result from the intransigence or anticompetitive conduct of building owners.[22/] The better solution to this problem is to preclude building owners from restricting access to conduits — and from restricting access to buildings — as several parties have proposed.[23/] The worst solution is to move the demarcation point so that, as a result of the restrictive practices of building owners, residents are permanently denied the opportunity to purchase services concurrently from multiple providers.

---

20/ Comcast has cited evidence that, despite claims by cable competitors that post-wiring MDUs is prohibitively expensive, it would cost less than $10,000 to post-wire a condominium building. Comcast and Charter Comments at 18-19. Cablevision explains that, in buildings which it enters as the second provider of video service, it routinely installs a second distribution system in order to ensure adequate capacity and quality of signal, and to protect the operational integrity of each provider's distribution infrastructure. Continental and Cablevision Comments at 23.

21/ ICTA Comments at 21. *See also* Liberty Comments at 18.

22/ In any case, moving the demarcation point to the dedication point leaves the competitor with the problem of accessing the dedicated wiring at the juncture between dedicated and common wiring.

23/ *See* part III, *infra*.

Finally ICTA and others argue that Congress intended that *all dedicated wiring* be subject to the home wiring rules, rather than just the wiring inside a MDU subscriber's unit. ICTA Comments at 9. As Cox and many others have shown, however, Congress not only intended but clearly specified that the rules should apply only *"within the premises of such subscriber."* [24] This is precisely why the Commission initially established the demarcation point in MDUs at (or about) twelve inches outside of where the cable wire enters the outside wall of the subscriber's individual dwelling unit.[25] And it is why, wholly apart from the sound policy reasons for maintaining that demarcation point, the Commission has neither discretion nor authority to move it.

In sum, facilities-based competition is best realized by permitting subscribers to elect the wire and services they wish to receive — at the point just outside individual subscriber units — from various providers. Forcing incumbent providers to sell their wiring to new providers plainly discourages facilities-based competition; incumbents would have little incentive to rewire an MDU if they might have to sell the wiring again to another new

---

24/ 47 U.S.C. § 544(i) (Supp. IV 1992) (emphasis added).

25/ *Cable Home Wiring Order*, 8 FCC Rcd at 1437. The Commission recognized that this result was consistent not only with the language of the statute but also with its legislative history, which specifically stated that

> [i]n the case of multiple dwelling units, *this section is not intended to cover common wiring within the building*, but only the wiring *within the dwelling unit of individual subscribers*.

H.R. Rep. No. 628, 102d Cong., 2d Sess. 119 (1992) (emphasis added).

provider. On the other hand, if the demarcation point were to remain at its present position, *new* providers would have every incentive to deploy their own competitive broadband facilities — and there would be no economic or physical impediments to their doing so.

### C. The Commission's Current Rules Would Not Adequately Compensate Cable Operators for the Taking of Wiring Outside the 12 Inch Demarcation Point.

Several parties that advocate moving the demarcation point suggest that the current rules would adequately compensate incumbent service providers for the forced sale of common and dedicated wiring outside of individual units. This is not true; reimbursing incumbent service providers only for the replacement cost of wiring outside the current demarcation point would not compensate them for their inability to market services while they rewire the building.

Cable operators that install wiring do so with the expectation of profits over the long term from the offering of video programming and other services. They are not in the business of installing wiring for others, and their decision to deploy wiring is not based simply on a return of the costs of the wiring plus a "mark-up" on these costs. Thus, operators would invest their resources elsewhere if they knew that they might at any time be forced to sell their wiring and recover only replacement costs. Moreover, even assuming that an operator that was forced to sell its wiring might choose to reinstall its own wiring in an MDU, it would lose the opportunity to sell its services during the time that it took to complete the reinstallation.

## III. THE COMMISSION SHOULD PROHIBIT EXCLUSIVE MDU SERVICE CONTRACTS.

In its initial comments, Cox argued that exclusive contracts for the provision of communications services to MDUs are a barrier to competition and should not be permitted — and several commenting parties agree.[26/] OpTel and ICTA contend, however, that the economics of the MDU marketplace justify the use of exclusive service agreements of limited duration. OpTel Comments at 7; ICTA Comments at 45-46. They argue that exclusive contracts may be necessary to encourage alternative providers to compete with incumbent cable operators and telephone companies and also may benefit consumers by encouraging service providers to install state-of-the-art facilities in the MDU. On the other hand, OpTel and ICTA contend that franchised cable operators should be prohibited from entering long-term exclusive contracts, because such arrangements foreclose competition from alternative providers. OpTel Comments at 8; ICTA Comments at 55-56.

The arguments presented by OpTel and ICTA are unpersuasive. It may be that in some businesses, "exclusivity is often necessary to attract and justify investment."[27/] But if that ever was the case with respect to the provision of communications services, it certainly is not the case today. With the explosive growth of new telecommunications services and service providers, it is folly to suggest that viable facilities-based competition cannot exist in MDUs. And it is folly to suggest that cable operators, telephone companies and other

---

26/ *See* TKR Comments at 12-13; NYNEX Comments at 17; GTE Comments at 21-22.

27/ ICTA Comments at 45.

providers would decline, in the face of such competition, to invest in state-of-the-art (as opposed to gold-plated) technologies.

Exclusivity allows building owners to choose a monopoly provider, rather than permitting *subscribers* to compete *among* resident service providers. ICTA is correct in noting that building owners have strong incentives to enter exclusive arrangements.[28/] But these incentives serve only the interests of the owners and do not promote competition.[29/]

## IV. THE COMMISSION SHOULD NOT ADOPT SPECIFIC STANDARDS FOR JACKS AND CONNECTORS.

Some commenters, including DIRECTV and GTE, opposed adoption of technical standards for jacks and connectors while others, such as Ameritech, AT&T and Pacific Bell, suggest that common technical standards for connection to cable networks would be useful. Cox believes that the Commission should not adopt specific standards governing jacks and connectors, and that any changes in current equipment design should be driven by marketplace and technological innovations. In particular, Cox opposes Pacific Bell's suggestion that the Commission should mandate the form of connection for a universal connection standard. If technological change and marketplace forces drive the industry to

---

28/ *Id.*

29/ Several cable operators and cable associations, including CATA and Comcast, request that the Commission adopt a rule granting cable operators and other broadband providers access to MDUs. CATA Comments at 9-10; Charter and Comcast Comments at 10-11. Cox agrees that such a rule would reflect sound public policy and, to the extent that the Commission has authority to mandate such access to premises, it should do so. If the Commission concludes that it *does not* have authority to mandate access, it should request that Congress grant it such authority.

embrace a different standard, it should not be impeded by artificial regulation. Broadband inside wire policies should be flexible enough to accommodate a variety of technologies and service delivery mechanisms. *See* GTE Comments at iii. The success of the convergence of cable television and telephony will depend, in part, on maintaining a flexible regulatory environment to accommodate varied technologies and delivery systems.

## V. UNIFORM STANDARDS FOR CABLE CPE ARE NOT WARRANTED AT THIS TIME.

USTA, UTC and DIRECTV suggest that the Commission open the market for cable CPE in the same manner as telephone CPE.[30/] But as Cox and others noted in their comments, the technical characteristics and design of today's video delivery networks do not lend themselves to or require the same regulatory treatment as telephone CPE. The functionality of cable and telephone CPE differ substantially. Cable CPE selects and provides access to services, while telephone CPE only provides access to services made available at the switch. Moreover, the policies which underlie the deregulation of telephone CPE do not apply to cable.[31/] Finally, despite the FCC's premonition, convergence and parity between cable and telephone will not occur in the foreseeable future. Cox Comments at 9.

---

30/ USTA Comments at 6-7; UTC Comments at 7-8; DIRECTV Comments at 14.

31/ Cox Comments at 32-33; General Instruments Comments at 10-11; NCTA Comments at 32-34.

DIRECTV also suggests that opening the market for CPE does not pose any threat of signal theft because federal laws prohibit such theft. DIRECTV Comments at 15. In fact, while the federal prohibition has been a useful tool to combat theft of cable service, it is hardly a panacea even today, when descrambling equipment cannot generally be purchased lawfully by customers. It quite clearly would be naive to believe that theft of service laws could adequately deter theft if CPE were generally available on the open market.

Cox recommends that the Commission address this matter in a separate rulemaking proceeding in connection with the implementation of the 1996 Act.[32/] The issues of wiring and CPE are separable, and the Commission must carefully consider the difference in functionality of cable and telephone CPE prior to adopting any regulations which seek parity.

## VI. THE COMMISSION SHOULD APPLY THE EXISTING SIGNAL LEAKAGE AND TECHNICAL STANDARDS TO ALTERNATE BROADBAND VIDEO SERVICE PROVIDERS.

As Cox noted in its comments, it is necessary to ensure that all broadband video providers strictly adhere to the FCC's current signal leakage and technical standards. Cox Comments at 24. DIRECTV opposes the extension of cable signal quality standards to other broadband providers, claiming that the market will demand that good quality signals be delivered. DIRECTV Comments at 11. AT&T, Ameritech and others support extending the signal quality standards to all broadband common carriers.[33/] The New Jersey Board of

---

32/ Section 304 of the 1996 Act requires the Commission to institute a rulemaking on commercial availability of navigational devices.

33/ AT&T Comments at 18; Ameritech Comments at 14-15.

Public Utilities, GTE, OpTel, and others support the extension of signal leakage rules to all providers in the aeronautical band.[34/]

For the reasons Cox, NCTA and CATA noted in their comments, the Commission should extend its signal leakage and technical standards to all broadband providers. Cox Comments at 24-27; NCTA Comments at 25; CATA Comments at 11. Moreover, the Commission should implement regulations which ensure that each broadband provider monitor its own facility to ensure against excessive signal leakage.[35/]

---

34/ New Jersey Board of Public Utilities Comments at 10-11.

35/ *See* Comments of Adelphia at 4-5 and Time Warner at 42.

## VII. CONCLUSION.

Accordingly, for the reasons set forth above and in Cox's Comments filed in the captioned proceeding, the Commission should retain the current home wiring demarcation point and adopt policies and regulations which promote and accelerate — rather than discourage and retard — facilities-based competition.

Respectfully submitted,

COX COMMUNICATIONS, INC.

By: _____

Peter H. Feinberg
Michael S. Schooler
Peter C. Godwin

Its Attorneys

Dow, Lohnes & Albertson
A Professional Limited Liability Company
1200 New Hampshire Ave., N.W.
Suite 800
Washington, D.C. 20036
(202) 776-2000

April 17, 1996

DECLARATION OF DICK MUELLER

1. My name is Dick Mueller and I am Vice President of Operations Engineering for Cox Communications, Inc. ("Cox"). In my role as Vice President of Operations Engineering, I am familiar with the characteristics of broadband wiring and the methods of delivering multichannel video programming over such wiring.

2. At the present time and for the foreseeable future, the shared use of a single broadband facility by multiple service providers is not technically or economically feasible. A simple wire does not have the capacity to transmit more than one multichannel video programming service occupying the same frequency range. Even when two services use different portions of the bandwidth, the services received by the end-user will be degraded because of signal loss and other technical problems caused by splitting, band passing and amplification.

3. For two service providers to share a single wire which provides service to a subscriber's dwelling unit, it would be necessary to install additional hardware to combine and then separate the service providers' respective signals. This would be both expensive and inefficient. Assuming that the competing service provider intends to carry its service in a bandwidth similar to that used by the cable operator (typically 50 to 750 MHz), the competing provider will need to convert its signal to a higher, non-interfering frequency (above 1 GHz). These services would have to be inserted onto the coax, using a splitter or coupling device (creating unnecessary attenuation to the incumbent's signal). Due to excessive attenuation at higher frequencies (>1 GHz), amplification would be required in many instances. To accomplish amplification, the competing service would have two choices. One, amplify both incumbent and competing signals (to which the incumbent would probably object due to quality issues), or install additional splitters, filtering circuitry to pick off the desired band (>1 GHz) amplify it, then re-insert it into the wire using yet another splitter or coupler. The above solutions create harm to the incumbent provider by seriously degrading service. The costs of the above solutions equal or exceed the cost of installing another wire.

4. The competing provider would need to take steps to prevent spurious signals from entering into and interfering with the cable operator's frequency band, such as adding a filter. Because signal strength attenuates faster at higher frequencies, the competing provider would also need to install an amplifier to ensure delivery of an acceptable signal to the subscriber.

5. Even assuming that current technology could allow two service providers to combine their signals for delivery to a subscriber" home, the installation of additional hardware would be necessary to allow the signals to be separated. A signal splitter and additional filters would be needed to separate the signals for delivery to separate set-top boxes. The additional filters would be necessary to prevent unacceptable levels of distortion that would otherwise result from excess signals entering the set-top boxes. In order for the customer to choose conveniently between the services, the output of the two set-top boxes would have to be directed to an A/B switch.

6. The additional hardware required on both sides of the demarcation point will degrade the integrity of the cable network, making it more difficult to deliver reliable service to customers and jeopardizing the cable operator's ability to satisfy its signal quality obligations. Furthermore, the hardware — even if it were technically feasible to manufacture — would impose tremendous additional costs on service providers, costs that would ultimately be passed on to the consumer in the form of higher rates.

7. The technical and economic problems identified above do not even address the difficulty that the shared use of broadband facilities would pose to the developing market for two-way or interactive services, including data services. As described in paragraph 3 above, the increased complexity created by trying to place two providers on the same wire is further complicated when considering the return path spectrum. Routing the upstream traffic to the appropriate provider's network over the same wire creates complexities and degradation just like the downstream problem. The conflicting service would have to use an entirely different set of return frequencies from the incumbent, to ensure the messaging arrives at the correct network. If terminal equipment was unable to provide such frequencies, the competing provider would have to frequency convert these signals also, creating yet another level of complexity.

8. The problems identified above would increase exponentially, if more than two service providers attempt to share a single facility.

9. I declare under penalty of perjury that the foregoing is true and correct.

Dick Mueller
Vice President of Operations Engineering
Cox Communications, Inc.

Date: 4/16/96

## CERTIFICATE OF SERVICE

I, Cynthia M. Forrester, a secretary at the law firm of Dow, Lohnes & Albertson, do hereby certify that on this 17th day of April, 1996, I caused copies of the foregoing "Reply Comments of Cox Communications, Inc." to be served via hand delivery to the following:

The Honorable Reed E. Hundt
Chairman
Federal Communications Commission
1919 M Street, NW, Room 814
Washington, DC 20554
(STOP CODE 0101)

The Honorable Andrew C. Barrett
Commissioner
Federal Communications Commission
1919 M Street, NW, Room 826
Washington, DC 20554
(STOP CODE 0103)

The Honorable Susan Ness
Commissioner
Federal Communications Commission
1919 M Street, NW, Room 832
Washington, DC 20554
(STOP CODE 0104)

The Honorable Rachelle B. Chong
Commissioner
Federal Communications Commission
1919 M Street, N.W., Room 844
Washington, DC 20554
(STOP CODE 0105)

The Honorable James H. Quello
Commissioner
Federal Communications Commission
1919 M Street, NW, Room 802
Washington, DC 20554
(STOP CODE 0106)

Meredith J. Jones, Esq.
Chief, Cable Services Bureau
Federal Communications Commission
2033 M Street, NW, Room 918
Washington, DC 20554
(STOP CODE 1200)

Meryl S. Icove, Esq.
Legal Advisor
Cable Services Bureau
Federal Communications Commission
2033 M Street, NW, Room 910
Washington, DC 20554
(STOP CODE 1200)

Cynthia M. Forrester