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# Cable Television Subscriber Equipment: Lessons from the Common Carrier Experience

David Alan Nall(\*)

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## Introduction

The Cable Television Consumer Protection and Competition Act of 1992([note 1](#)) (Cable Act or Act) will render significant changes in the cable industry, but perhaps no provisions of the Act will have more far-reaching consequences than those that affect the equipment provided by cable operators and installed on the premises of subscribers. Indeed, a muffled but nevertheless fundamental premise of the Cable Act is a distinction between cable *service* and cable *equipment*. Recognition of this distinction is the first step in a process that could lead to the "unbundling" of subscriber equipment from cable service, and from there to the unimpeded ability of subscribers to provide their own equipment to gain access to cable service. These developments could lead to a revolutionary restructuring, reintegration, and reinvigoration of cable, telephone, and computer technology in that most crucial of market locales, the American home.

In the 1992 Cable Act, Congress has provided a statutory framework for completely separating the provision of cable

subscriber equipment from the provision of cable service, although the Act does not contain an absolute requirement that the Federal Communications Commission (FCC or Commission) take such a step.[\(note 2\)](#) The FCC, however, already possesses a regulatory blueprint for creating a new communications equipment market, one written in its own history of unbundling customer-premises equipment (CPE) from communications services offered by common carriers. The FCC's history of allowing creation of private benefit, if it is without public harm, indicates that cable equipment can be separated from other cable services. The evolution of the FCC's policies on cable equipment will depend on many factors, but there is no question that the law and regulatory precedent support unbundling. Underlying this policy direction is the concept of a decentralized, multi-provider information environment that will be capable of operating at many different levels, and in which consumers not service providers will determine what equipment will be installed in American homes.

## **I. The Framework: Equipment Provisions of the Cable Act**

The 1992 Cable Act includes provisions covering equipment rates, home wiring, and compatibility between cable systems and consumer electronics.[\(note 3\)](#) The rate, wiring, and compatibility distinctions create the framework for the equipment provisions within the Act.

### **A. Regulation of Cable Equipment Rates**

The Cable Act significantly affects cable equipment rates. The Act mandates reform of cable rates and charges the FCC with creating and administering a new rate system.[\(note 4\)](#) These FCC rate guidelines will affect every cable operator and subscriber.

#### **1. The Cable Act and Equipment Rates**

"Cable equipment" and "cable subscriber equipment" are not terms that appear in the Cable Act. As used in this Article, these terms describe the equipment located on cable subscribers' premises. The equipment is subject to the rate regulation provisions of the Act because, generally, it is provided by cable operators. Typically, this equipment consists of "converter boxes," associated remote control units, connections for additional television receivers, and cable within subscribers' premises.[\(note 5\)](#) It does not include television receivers, monitors, or videocassette recorders.[\(note 6\)](#) S. 12, the Senate's original version of the 1992 Cable Act, contained no specific provisions relating to the regulation of rates for equipment located on the premises of cable subscribers.[\(note 7\)](#) The House amendment, H.R. 4850, introducing language for the regulation of cable equipment rates, was substantially included in the final legislation.[\(note 8\)](#) The House-Senate conference made two substantive changes in the Cable Act's language: (1) the FCC was directed to create "standards," rather than "a formula," for equipment rates; and (2) the description of equipment was changed from that "necessary" for subscribers to receive "basic service" to that "used" by subscribers for such purposes.[\(note 9\)](#) The purpose of these changes was to give the FCC greater flexibility and more authority in crafting its equipment rate regulations.[\(note 10\)](#) Notably, the regulation of the equipment covered in this provision does not vary based on the type of service for which the equipment is used. The provision's phrase, "such addressable converter box or other equipment as is required to access programming described in paragraph (8)," refers to "programming offered on a per channel or per program basis."[\(note 11\)](#) Thus, even though the equipment regulation provision is within the heading of "basic service tier regulation," the FCC's standards for regulation of cable equipment are directed to be independent of the kind of programming made accessible by this equipment, as long as the equipment is "used" with basic service. In the provision requiring the FCC to establish procedures and criteria for the regulation of unreasonable rates for cable programming services,[\(note 12\)](#) the statute simply mentions cable equipment rates as one of many factors to be considered in determining unreasonableness.[\(note 13\)](#) A fair interpretation of the statute is that the rates for subscriber equipment were not intended to be subsumed under service categories, and equipment is thus distinct from "basic service," "cable programming service," or "per channel or per program service."[\(note 14\)](#) The *rates* for cable subscriber equipment have thus been "unbundled," (separately priced) to borrow the term applied to equipment used with communications common carrier services, even though the *provision* of this equipment remains primarily the domain of cable operators.[\(note 15\)](#)

## 2. The FCC's Equipment Rate Regulation

The FCC has designed a comprehensive scheme for cable equipment rate regulation.[\(note 16\)](#) Under the FCC's new rules, the rates for equipment will be based on "actual cost," including an allocated share of overhead and a reasonable profit.[\(note 17\)](#) This approach is thus significantly different from the "benchmark" approach applied to cable service rates and may even yield different results than the "cost-of-service" regime that the FCC will adopt in the near future.[\(note 18\)](#) Cable operators will follow FCC guidelines for identifying the costs to be recovered through equipment and installation rates, and for calculating those rates. At a minimum, there will be separate charges for each significantly different type of remote, converter box, and installation. Local franchising authorities will regulate these rates, if the authorities are certified.[\(note 19\)](#) Under the FCC's guidelines, cable operators will establish an Equipment Basket to which they will assign the direct costs of service installation, additional outlets, leasing, and repairing equipment. The Basket will include an allocation of all those system joint and common costs that installation, leasing, and repairing equipment share with other system activities, including a reasonable profit, but excluding general system overhead.[\(note 20\)](#) The operator must also calculate an Hourly Service Charge (HSC) through which it would recover all Equipment Basket costs, including a reasonable profit, except for the operator's costs of purchasing and financing the lease of customer equipment.[\(note 21\)](#) Equipment sales, like equipment leases, shall be based on costs. In the case of sales, subscribers must be warned of risks that cable system upgrades will make the equipment incompatible. They must also be given notice of pending changes that would make the equipment incompatible.[\(note 22\)](#) Promotional offers which may include below-cost provision of equipment or installations will be allowed, so long as they are "reasonable . . . in relation to the operator's overall offerings in the Equipment Basket."[\(note 23\)](#) The costs of such promotions must be recovered as general system overhead, not through increases in other portions of the Equipment Basket.[\(note 24\)](#) Costs of additional connections will generally be recovered through charges for the related equipment (converters and remote controls) and installation charges.[\(note 25\)](#) Additional programming costs, if any, resulting from additional connections within a subscriber's home can be recovered through monthly charges for the connections. Costs associated with efforts to boost the signal within a given customer's premises may also be recovered through monthly charges to that customer. Network costs for designing the system so that it can generally serve multiple outlets per home are to be treated as part of general system overhead.[\(note 26\)](#)

## B. Cable Home Wiring

Section 16(d) of the 1992 Cable Act comprises the "home wiring" provision of the statute, and directs the FCC to create rules for "the disposition, after a subscriber . . . terminates service, of any cable installed by the cable operator within the premises of such subscriber."[\(note 27\)](#) This provision is intended to give subscribers who have terminated cable service "the right to acquire wiring that has been installed by the cable operator in their dwelling unit."[\(note 28\)](#) In adopting this provision, Congress was mindful of cable systems operators' responsibility to prevent signal leakage and their legitimate interests in preventing cable service theft.[\(note 29\)](#) The House Commerce Committee report also stated that "the Committee does not intend that cable operators be treated as common carriers with respect to the internal cabling installed in subscribers' homes."[\(note 30\)](#) Within this narrow mandate, the FCC has adopted rules that establish a "demarcation point" that is located at (or about) "twelve inches outside of where the cable wire enters the outside wall of the subscriber's premises."[\(note 31\)](#) The location of the cable demarcation point is thus similar to the network demarcation point separating the facilities of communications common carriers from customer-owned inside wiring.[\(note 32\)](#) Under the current rules for cable home wiring, however, the demarcation point has no meaning until a subscriber terminates service and opts to purchase the wiring installed in the home.[\(note 33\)](#) In cases where subscribers own their home wiring, and seek service from a cable operator (for example, from a second cable operator or "overbuilder") who requires the use of converter boxes provided by that cable operator, the results would resemble the so-called "interpositioning" situations that arose in the 1970s involving telephone equipment.[\(note 34\)](#) When service provider equipment is interpositioned, questions may arise concerning subscriber control over wiring that is "theirs," but functions only to connect a cable system-provided converter box with cable system facilities.

## C. Consumer Electronics Compatibility and the "Buy-Through

# Prohibition"

Section 17 of the 1992 Cable Act [\(note 35\)](#) and the FCC's proceeding on compatibility between cable systems and consumer electronics provide the largest number of pieces in the unbundling jigsaw puzzle. The main thrust of the statute and the FCC's inquiry is how to eliminate the impairment of the advanced capabilities of television receivers and videocassette recorders by "cable scrambling, encoding, or encryption technologies and devices, including converter boxes and remote control devices required by cable operators to receive programming." [\(note 36\)](#) The FCC has been directed to craft regulations "to promote the commercial availability, from cable operators and retail vendors that are not affiliated with cable systems, of converter boxes and of remote control devices compatible with converter boxes." [\(note 37\)](#) This provision constitutes a direct invitation to the FCC to fashion regulations that would unbundle the *provision*, not just the *rates*, of cable equipment from cable service. A comprehensive regulatory scheme with the ultimate goal of cable equipment unbundling would likely satisfy this statutory requirement and the larger goal of compatibility with consumer electronics.

Section 17 also calls on the FCC "to require cable operators offering channels whose reception requires a converter box . . . to the extent technically and economically feasible, to offer subscribers the option of having all other channels delivered directly to the subscribers' television receivers or videocassette recorders without passing through the converter box." [\(note 38\)](#) This provision appears to be at cross purposes with the Act's "buy-through prohibition." [\(note 39\)](#) However, in implementing the "buy-through prohibition," the FCC resolved this apparent inconsistency by noting that addressable systems "typically incorporate encryption systems that frustrate the functioning of certain features of home electronic equipment," [\(note 40\)](#) contrary to Section 17's compatibility directive. The FCC further held that "forcing the premature upgrading of equipment could interfere with accomplishment of the tasks set forth in Section 17." [\(note 41\)](#) The FCC thus declined "to mandate the continued use of any particular mode of operation" in order to enforce the prohibition. [\(note 42\)](#) Section 17 of the 1992 Cable Act requires the FCC to report to Congress in the fall of 1993 on compatibility between cable systems and consumer electronics and to adopt regulations 180 days after submitting its report. [\(note 43\)](#) These regulations are likely to be the most important factor in setting the stage for cable subscriber equipment unbundling. Two important questions are whether and how much the FCC will consider its own history of unbundling communications customer-premises equipment from common carrier services when it shapes these regulations. [\(note 44\)](#)

## II. The Blueprint: The FCC's History of CPE Unbundling

Converter boxes and the like may be "necessary" to receive cable service in many cable systems, because of system design, frequency mapping, encryption, or other technical reasons. But mere "necessity" for delivery of service is not a sufficient justification for bundled, sole-source provision of equipment to cable subscribers. Telephones, answering machines, fax machines, and so forth are necessary to receive telephone service, but the FCC long ago began a regulatory process that led to the unbundling of this equipment from telephone service. Throughout that process, the FCC focused on a central theme: creation of private benefit as long as there is no public harm. The same philosophy can be applied to cable equipment.

### A. The Origins of the Unbundling Policy

The policy favoring unbundling of customer-premises equipment first began to develop with the assault upon the restrictive interconnection practices of AT&T in 1948. A petition was filed against AT&T for interference with the use, distribution, and interconnection of the Hush-A-Phone, a cup-like device that snapped onto the telephone handset to reduce the interference of ambient noise and to increase privacy, but which had the side effect of making the user's voice somewhat softer and less clear. [\(note 45\)](#) The court of appeals stated in its review that the issue to be addressed was "whether the Commission possesses enough control over the subscriber's use of his telephone to authorize the telephone company to prevent him from conversing in comparatively low and distorted tones." [\(note 46\)](#) After observing that such a reduction in quality affected only the two parties to the call and not the entire network, the court concluded that the tariff constituted an unwarranted interference with the "subscriber's right reasonably to use his

telephone in ways which are privately beneficial without being publicly detrimental." [\(note 47\)](#) In 1968, the FCC began its own crusade for interconnection with its *Carterfone* decision, [\(note 48\)](#) which the Commission later called its point of embarkation "on a conscious policy of promoting competition in the terminal equipment market." [\(note 49\)](#) Relying on the principle established in *Hush-A-Phone*, the Commission invalidated the tariff that prohibited the attachment of customer-provided devices on the switched telephone system, including the *Carterfone*. Since communications users who utilized the switched network prior to *Carterfone* were restricted to the use of Bell System equipment, *Carterfone* provided customers with the opportunity to choose between AT&T and the various independent terminal equipment suppliers for their interconnection needs on the switched network.

In *Mebane Home Telephone Company*, the Commission extended "the broad principle" of *Hush-A-Phone* and *Carterfone* to "interconnected devices such as PBXs and key systems which may replace telephone system equipment," stating that "experience indicates that not only have customers obtained substantial private benefit from such interconnection, but there has been no technical harm to telephone company operations." [\(note 50\)](#) One year later, the FCC instituted an investigation into the economic effects and interrelationships of telecommunications regulatory policies, Docket No. 20003. [\(note 51\)](#) The Commission found that there had been a great deal of innovation by the so-called "interconnect" providers (i.e., providers of private branch exchanges and customer-premises telephone systems) and telephone companies in the "post-*Carterfone* years" and noted the following:

[W]e find the interconnect competitive marketplace has been characterized by innovation on the part of both interconnect and telephone companies, thereby affording the public a wide range of choices regarding the terminal device or private communications system which best serves their needs. Benefits include availability of new equipment features, improved maintenance, and reliability, improved installation features including ease of making changes, competitive sources of supply, option of leasing or owning, and competitive pricing and payment options. Although it is difficult to predict future innovative developments, because so much is dependent on new product lines and new marketing strategies adopted by the telephone carriers in response to competition, it appears likely that the public will continue to benefit from the competitive interconnect marketplace in terms of innovation in the immediate future. [\(note 52\)](#)

A defining moment came when the FCC acted to ensure the technical feasibility of its competitive CPE policy through a telephone equipment registration program under Part 68. [\(note 53\)](#) The Part 68 program was designed to promote competition by establishing technical standards that ensured CPE could be directly connected to the network without causing the network any harm. To prevent discrimination, the FCC also required that customer-provided and carrier-provided CPE connect in the same manner to carrier facilities. The Commission perceived these rules as a natural outgrowth of the policies enunciated in *Hush-A-Phone* and *Carterfone* and of the need to determine exactly how interconnection should take place. [\(note 54\)](#) The Commission continued its move toward a CPE unbundling policy when it rejected the Primary Instrument Concept (PIC), which would have required each single line subscriber to basic telephone service to lease one telephone set from the telephone company. [\(note 55\)](#) Concluding that PIC was "fundamentally inconsistent with the principles" enunciated in *Hush-A-Phone*, *Carterfone*, *Mebane*, and the Registration Program, the Commission stated:

We determined in Docket No. 19528 and elsewhere that the public benefits from diversity in the supply of terminal equipment and that consumers for this further reason should have the option of furnishing their own terminals, including main stations. Among these benefits as found in Docket No. 20003 (61 F.C.C.2d at 867), are the public's wider range of options as to terminal devices, competitive stimulus to innovation by telephone companies and independent suppliers, the availability of new equipment features, improved maintenance and reliability, improved installation features including ease of making changes, competitive sources of supply, the option of leasing or owning equipment, and competitive pricing and payment options. . . . We remain of the opinion that the proven and reasonably anticipated public benefits from the competitive supply of terminal equipment, including primary instruments, take precedence over the considerations urged by the telephone industry. If anything, this judgment is the more firm in light of potential developments in home and small business terminals and the heightened desirability of protecting the consumers' freedom of options in such circumstances. [\(note 56\)](#)

The FCC subsequently extended the Part 68 policy to additional services in CC Docket Nos. 79-143 and 81-216, eliminating carrier-imposed requirements for "interpositioned" carrier equipment and other restrictive "connecting arrangements" [\(note 57\)](#) and proposing the unbundling of equipment used with digital services. [\(note 58\)](#)

## **B. The Computer II Decision**

Historically, most CPE was unbundled (separately priced) from transmission services, but offered pursuant to tariff. The telephone company was the sole provider for most CPE. Later, customers could provide their own CPE or obtain the CPE from the carrier pursuant to tariff. Carrier-provided CPE was generally only available to a customer of that carrier's regulated transmission services.

*Computer II's* decision completely unbundled, detariffed, and separated CPE from carriers' basic regulated services. It also required AT&T to provide CPE and enhanced services through fully separated subsidiaries. [\(note 59\)](#) The Commission was motivated largely by the benefits that competition could bring through a continued pattern of separating CPE and ensuring interconnection:

Our action today is only another in a series of steps to isolate terminal from transmission offerings, increase consumer choice, and to open equipment markets to full and fair competition. By striking down carrier-imposed restrictions on requiring equipment interconnection over a decade ago, we foreclosed carriers from offering only the single option of end-to-end communications service. In implementing a registration program applicable both to carrier provided and customer provided equipment, we sought to isolate the technical standards for transmission and terminal offerings and assure competitive parity among all suppliers of customer provided equipment. In the same manner, in today requiring equipment to be made available to interstate users on a cost-based non-usage sensitive basis with equipment investment fully isolated from transmission investment and from the separations process we hope to strengthen further the prospects for comparing competitive equipment offerings in the market. [\(note 60\)](#)

It was, however, the determination that CPE is "separate and distinct" from transmission service that made it possible for independent CPE vendors to compete on equal terms with carriers in the provision of CPE. [\(note 61\)](#) This rule, it should be emphasized, applies to *all* carriers. This decision also reduced the scope of regulation by classifying CPE as unregulated. [\(note 62\)](#) The Commission also recognized the wisdom of the overall CPE policy it had forged:

As a result of this policy the terminal equipment market is subject to an increasing amount of competition as new and innovative types of CPE are constantly introduced into the marketplace by equipment vendors. We have repeatedly found that competition in the equipment market has stimulated innovation on the part of both independent suppliers and telephone companies, thereby affording the public a wider range of terminal choices at lower costs. Moreover, this policy has afforded consumers more options in obtaining equipment that best suits their communication or information processing needs. Benefits of this competitive policy have been found in such areas as improved maintenance and reliability, improved installation features including ease of making changes, competitive sources of supply, the option of leasing or owning equipment, and competitive pricing and payment options. [\(note 63\)](#)

The *Computer II* decision lauded detariffing and unbundling for its effect on the pricing of transmission services:

We believe that the provision of terminal equipment on an unbundled and detariffed basis should enhance significantly our flexibility to assure cost-based provision of transmission services in an increasingly competitive marketplace. This step will also promote our objective of assuring a viable competitive market for terminal equipment. As a result of our actions in requiring interconnection in *Carterfone* and in subsequently establishing technical standards in this area, we are convinced that there has now developed a strong viable market for equipment which assures users a wide range of competitive alternatives. [\(note 64\)](#)

*Computer II* was a regulatory watershed, which successfully defined two markets for CPE, one for communications services where before there was only one. This "market rules" approach continues to be sustainable in today's

regulatory environment.

## C. Post-Computer II Developments

Two years after the *Final Decision* in *Computer II*, the AT&T divestiture consent decree was approved with modification by the district court, [\(note 65\)](#) and two years after that, AT&T petitioned for relief from the structural separation requirements embodied in 47 C.F.R. Section 64.702. [\(note 66\)](#) The comments filed in response to the petition led to the creation of CC Docket No. 85-26, in which the FCC amended certain aspects of the *Computer II* regulatory model. [\(note 67\)](#) This order permitted AT&T to provide CPE free from the structural separation requirements set forth in the *Computer II* decision. [\(note 68\)](#) The CPE unbundling and detariffing requirements, however, were not revised. In fact, these requirements were extended in 1984 to equipment located on customers' premises used to terminate digital communications services, so-called network channel terminating equipment (NCTE). [\(note 69\)](#) In 1986, the unbundling of CPE was hailed as a major achievement by then-Chairman Mark Fowler, former Common Carrier Bureau Chief Albert Halprin, and James Schlichting, when they explained the benefits of competition in CPE:

The benefits of such competition are palpable. It is estimated that sales revenues in the CPE market increased by nearly 50% between 1983 and 1985. More than 2000 vendors are supplying end users with \$14 billion worth of terminal equipment. The introduction of competition has also provided consumers with a wider variety of CPE options and with less expensive alternatives than existed in the earlier monopoly market. Consumers can obtain such new CPE features as automatic redial, hold, and other call-handling options. A wide variety of new terminal equipment has also appeared, including wireless telephony, customized dialing, and other specialty phones, as well as varieties of decorator phones. It is estimated, for instance, that there are currently 3 million cordless telephones in use. The benefits for business users have also been substantial; PBX and key system prices have been dropping. Nevertheless, the capabilities of business CPE have increased, with such features as high-speed facsimile and integrated data and voice capabilities now being commonplace. [\(note 70\)](#)

These benefits did not arise fortuitously; rather, they resulted from intentional policy choices made by the FCC over the period of nearly twenty years that preceded these observations.

Since that article was written, the CPE unbundling rule has survived virtually intact. There have been conflicts over tariffs or petitions for services that include carrier-provided equipment located on customers' premises, but most of these decisions have vindicated the unbundling rule. [\(note 71\)](#) The Commission's Computer III rulemaking clarified the unbundling rule to allow carriers to install equipment on customers' premises which would be used solely for network testing. [\(note 72\)](#) In 1990, the FCC proposed a modification of the rule to allow AT&T to provide bundled "packages" of unregulated CPE and services subject to "streamlined" regulation. [\(note 73\)](#) After strong opposition from users, CPE manufacturers, and competing carriers, the proposal was not adopted. [\(note 74\)](#) The only significant modification of the rule was effected in 1992, when limited bundling of cellular service and cellular CPE was permitted, with the requirement that "stand-alone" prices for cellular service remain constant. [\(note 75\)](#) For equipment that is located on customers' premises and connects to telephone company facilities, unbundling is a fundamental fact of life and a policy that has withstood the test of time.

## Conclusion

There is no doubt that there is a convergence of technology that is taking place in the telecommunications and electronic mass media markets. One manifestation is the FCC's "video dialtone" decision, which permits telephone companies to provide "switched video" on a common carrier basis. [\(note 76\)](#) Cable companies are likewise jumping into new, wireless "personal communications services" as fast as the technology develops. [\(note 77\)](#) Another form of convergence takes place when a consumer buys a high-resolution monitor that can display computer graphics or full-motion video, or simply purchases a universal remote control unit that can interoperate with her television, VCR, home stereo, and cable converter box. What has been absent thus far is the integration of telecommunications and computer technology with cable systems at the subscriber's premises. Cable companies have not, however, overlooked the promise of integrating computer "intelligence" with cable equipment. [\(note 78\)](#) The issue that is presented is who will

control this technology consumers or cable operators.

The CPE unbundling requirement has been a beneficial and viable policy for more than twenty-five years, ever since its regulatory origins with the *Carterfone* decision. A similar unbundling of cable subscriber equipment from cable service would produce comparable benefits. Indeed, the rewards might be even greater if there is a "multiplier effect" that could be generated when cable, telephone, and computer technologies can be successfully integrated in interactive, multimedia devices available across a mass market. Movement toward unbundling cable CPE has been initiated by Congress in the 1992 Cable Act. History indicates cable CPE can be unbundled from other services without public harm. Based on its experience in unbundling common carrier equipment, the FCC should be willing to unbundle cable subscriber equipment. It will be an interesting process to follow.

## Notes

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\*J.D. Catholic University of America, 1985; LL.M. Georgetown University Law Center, 1987. Currently, an associate specializing in telecommunications at Squire, Sanders & Dempsey, Washington, D.C. The Author gratefully acknowledges the suggestions and assistance of Herbert E. Marks, James L. Casserly, and Martha H. Platt. The views expressed herein are entirely those of the Author and do not necessarily reflect the views of any of his colleagues at Squire, Sanders & Dempsey or any of the firm's clients. [Return to Text](#)

1. Pub. L. No. 102-385, 106 Stat. 1460 (codified in scattered sections of 47 U.S.C.A. Sections 521-611 (West Supp. 1993)). The Cable Act is itself an amendment to Title VI of the Communications Act of 1934, codified as amended at 47 U.S.C.A. Sections 521-559 (West 1991 & Supp. 1993). [Return to text](#)
2. *See, e.g.*, 47 U.S.C.A. Section 544a (West Supp. 1993). [Return to text](#)
3. 47 U.S.C.A. Sections 543(i), 544a (West Supp. 1993). [Return to text](#)
4. 47 U.S.C.A. Section 543 (West Supp. 1993). [Return to text](#)
5. *In re* Implementation of Sections of the Cable TV Consumer Protection and Competition Act of 1992, Rate Reg., *Report and Order and Further Notice of Proposed Rulemaking*, 8 FCC Rcd. 5631, para. 282 (1993) [hereinafter *Rate Order*] (to be codified in part at 47 C.F.R. pts. 0, 76); *see also* 47 U.S.C.A. Section 543(b)(3) (West Supp. 1993). [Return to text](#)
6. *See* 47 U.S.C.A. Section 544a(a)(1)-(2) (West Supp. 1993). [Return to text](#)
7. S. Rep. No. 92, 102d Cong., 2d Sess. 114-15 (1992). [Return to text](#)
8. H.R. Rep. No. 628, 102d Cong., 2d Sess. 152 (1992). [Return to text](#)
9. H.R. Conf. Rep. No. 862, 102d Cong., 2d Sess. 63-64 (1992), *reprinted in* 1992 U.S.C.C.A.N. 1231, 1245-46. The "basic service tier" consists of local over-the-air broadcast signals carried by the cable operator under the Cable Act's "must-carry" provisions, 47 U.S.C.A. Sections 533-534 (West Supp. 1993); any "public, education, and governmental programming" required by local franchising authorities under 47 U.S.C.A. Section 531 (West Supp. 1993); and "[a]ny [Return to text](#)
10. H.R. Conf. Rep. No. 862, *supra* note 9, at 63-64, 1992 U.S.C.C.A.N. at 1245-46. The statute's equipment rate regulation provision reads:

The regulations prescribed by the Commission under this subsection shall include standards to establish, on the basis of actual cost, the price or rate for

(A) installation and lease of the equipment used by subscribers to receive the basic service tier,



including a converter box and a remote control unit and, if requested by the subscriber, such addressable converter box or other equipment as is required to access programming described in paragraph (8); and

(B) installation and monthly use of connections for additional [Return to text](#)

11. 47 U.S.C.A. Section 543(b)(8) (West Supp. 1993) (noting that converter boxes may be "used" with basic service but are often "required" to access premium and pay-per-view channels).television receivers.

47 U.S.C.A. Section 543(b)(3) (West Supp. 1993). [Return to text](#)

12. 47 U.S.C.A. Section 543(c) (West Supp. 1993). "Cable programming service" is defined as "any video programming provided over a cable system, regardless of service tier, including installation or rental of equipment used for the receipt of such video programming, other than (A) video programming carried on the basic service tier, and (B) video programming offered on a per channel or per program basis." 47 U.S.C.A. Section 543(l)(2) (West Supp. 1993). This confusing [Return to text](#)
13. 47 U.S.C.A. Section 543(c)(2)(D) (West Supp. 1993). [Return to text](#)
14. *See Rate Order, supra* note 5, para. 283 (interpreting Act to mean actual cost standard applies to all equipment used to receive basic service). The opponents of the Cable Act on the House Commerce Committee provided further evidence that the regulation of service and equipment are distinct by noting that "remote control units are not necessary for subscribers to receive basic service," H.R. Rep. No. 628, *supra* note 8, at 187, a remark that may have been the genesis for the statutory language changes discussed *supra* note 9 and the accompanying text. [Return to text](#)
15. *Rate Order, supra* note 5, para. 287 ("We conclude that unbundling rates for equipment, installation, and additional outlets from the rates for basic service best comports with our Congressional mandate."). The reason for the unbundling of rates is clear. The House Commerce Committee stated its express concern that "cable operators have been leasing equipment at rates that far exceed their cost." H.R. Rep. No. 628, *supra* note 8, at 83. Unbundling equipment rates from service rates is a direct means for establishing reasonable rates for both equipment and service. *See* discussion *infra* part II.B. [Return to text](#)
16. *Rate Order, supra* note 5, paras. 273-323. Numerous petitions for reconsideration of this rulemaking are pending as of this writing, and the details discussed below thus could be subject to change. [Return to text](#)
17. *Id.* para. 295. In providing for a reasonable profit on the provision of such equipment, the FCC addressed a primary concern of the House Commerce Committee opponents of the [Return to text](#)
18. *See Rate Order, supra* note 5, paras. 185-88, 271 n.637; *see also In re* Implementation of Sections of the Cable TV Consumer Protection and Competition Act of 1992, Rate Reg., *Notice of Proposed Rulemaking*, 8 FCC Rcd. 510, para. 48 (1993) (noting "cost-of- service" standards, suggesting streamlined, "average cost" alternative for equipment rates).  
  
The "benchmark" approach involves the Commission setting a rate, based on a formula derived from cable system characteristics, against which a given cable operator's rates would be compared. *Id.* paras. 34-35. The "cost-of-service" approach involves examination of the particular costs of the individual cable system using ratemaking principles set up by the Commission. *Id.* para. 39.Cable Act regarding the equipment rate provisions of the Act. These members had interpreted the "actual cost" standard to exclude any reasonable profit. H.R. Rep. No. 628, *supra* note 8, at 187. [Return to text](#)
19. *Rate Order, supra* note 5, para. 294. [Return to text](#)

20. *Id.* para. 295. [Return to text](#)
21. *Id.* [Return to text](#)
22. *Id.* para. 298. The notice provision is thus similar to the notice requirement of 47 C.F.R. Section 68.110(b) (1992), which requires telephone companies to give notice to their customers of any changes in their networks that may render customers' terminal equipment incompatible. [Return to text](#)
23. *Rate Order*, *supra* note 5, para. 301. [Return to text](#)
24. *Id.* paras. 301-302. [Return to text](#)
25. *Id.* para. 306. [Return to text](#)
26. *Id.* para. 307. [Return to text](#)
27. 47 U.S.C.A. Section 544(i) (West Supp. 1993). [Return to text](#)
28. H.R. Rep. No. 628, *supra* note 8, at 118. [Return to text](#)
29. *Id.* at 118-19. So as not to foster the threat of cable theft, the scope of this provision does not reach to common [Return to text](#)
30. H.R. Rep. No. 628, *supra* note 8, at 118-19. wiring within multiple-unit buildings, but only to wiring serving the premises of individual subscribers. This does not mean that all wiring in multi-unit dwellings is exempted. *See In re* Implementation of the Cable TV Consumer Protection and Competition Act of 1992, Cable Home Wiring, *Report and Order*, 8 FCC Rcd. 1435, paras. 10, 12 (1993) [hereinafter *Home Wiring Order*] (noting demarcation point for wiring in multi-unit dwellings set at or about 12 inches from the point where the wiring enters the subscriber's individual dwelling unit). [Return to text](#)
31. *Home Wiring Order*, *supra* note 29, paras. 11-12. This same demarcation was adopted by the FCC for purposes of equipment rate regulation. *Rate Order*, *supra* note 5, para. 282 n.666. [Return to text](#)
32. *In re* Review of Sections 68.104 and 68.213 of the Commission's Rules Concerning Connection of Simple Inside Wiring to the Tel. Network, *Report and Order and Further Notice of Proposed Rule Making*, 5 FCC Rcd. 4686, para. 30 (1990), *recon. pending*, (establishing network demarcation point at no more than 12 inches within the customer's premises, with equipment and wiring on customer's side of the demarcation point to be unregulated). [Return to text](#)
33. *See Home Wiring Order*, *supra* note 29, para. 5. A group of diverse parties has petitioned for a rulemaking to give subscribers access to ownership of cable home wiring without terminating service. *Joint Petition for Rulemaking of Media Access Project, United States Tel. Ass'n, and Citizens for a Sound Economy Found.* (July 27, 1993). [Return to text](#)
34. *See, e.g., In re* Amendments of Pt. 68 of the Commission's Rules Concerning Connection of Tel. Equip., Sys. and Protective Apparatus to the Tel. Network, *Third Notice of Proposed Rulemaking*, 94 F.C.C.2d 5, paras. 1-2 & n.2 (1983). Telephone carriers insisted on the use of so-called "protective circuit arrangements" (PCAs), claiming they were needed to prevent harmful voltages or signals emanating from customer-owned equipment, concerns not too dissimilar from the signal leakage issue noted in the House report. Ultimately these concerns were addressed by amendments to the Part 68 certification and registration program, the history of which is discussed in more detail *infra* part II.A. [Return to text](#)
35. 47 U.S.C.A. Section 544a (West Supp. 1993). [Return to text](#)
36. 47 U.S.C.A. Section 544a(a)(1) (West Supp. 1993). [Return to text](#)

37. 47 U.S.C.A. Section 544a(c)(2)(C) (West Supp. 1993). [Return to text](#)
38. 47 U.S.C.A. Section 544a(c)(2)(B)(ii) (West Supp. 1993). [Return to text](#)
39. 47 U.S.C.A. Section 543(b)(8) (West Supp. 1993). The buy-through prohibition generally restricts cable operators from requiring subscribers to acquire any "tier" (package) of cable service other than basic service as a condition for purchasing per channel or per program service. There is an exception, limited in duration to 10 years, for any cable system that "by reason of the lack of addressable converter boxes or other technological limitations, does not permit the operator to offer programming on a per channel or per program basis." 47 U.S.C.A. Section 543(b)(8)(B) (West Supp. 1993). The language of the exception thus appears to promote the use of operator-provided converter boxes to meet the terms of the prohibition. [Return to text](#)
40. *In re* Implementation of Section 3 of the Cable TV Consumer Protection and Competition Act of 1992, Buy-Through Prohibition, *Report and Order*, 8 FCC Rcd. 2274, para. 19 (1993). [Return to text](#)
41. *Id.* [Return to text](#)
42. *Id.* para. 20. [Return to text](#)
43. 47 U.S.C.A. Section 544a(b)(1) (West Supp. 1993). The FCC has commenced a proceeding for this purpose. *In re* Implementation of Section 17 of the Cable TV Consumer Protection and Competition Act of 1992, Compatibility Between Cable Sys. and Consumer Elecs. Equip., *Notice of Inquiry*, 8 FCC Rcd. 725 (1993). [Return to text](#)
44. The FCC's report to Congress indicates that these rules will require that unscrambled cable signals be passed directly to televisions and VCRs without the use of cable set-top equipment. Scrambled signals will be passed through a cable operator-provided "Decoder Interface connector." Federal Communications Commission, Consumer Electronics and Cable System Compatibility 64-65 (1993). Use of this equipment for signal security would thus be similar in principle to the use of bundled "loopback" equipment by telephone companies. *See infra* note 72. The purpose of both types of equipment is to ensure the integrity of the electronic signal provided by the service, not to dictate the customer's equipment options. [Return to text](#)
45. *Hush-A-Phone Corp. v. United States*, 238 F.2d 266, 268 (D.C. Cir. 1956). [Return to text](#)
46. *Hush-A-Phone*, 238 F.2d at 269. [Return to text](#)
47. *Id.* [Return to text](#)
48. *In re* Use of the Carterfone Device in Message Toll Tel. Serv., *Decision*, 13 F.C.C.2d 420, *recon. denied*, *Memorandum Opinion and Order*, 14 F.C.C.2d 571 (1968). The Carterfone was a device used to interconnect mobile radio systems to the toll telephone network. *Carterfone*, 14 F.C.C.2d 571, para. 2. [Return to text](#)
49. *In re* Amendment of Section 64.702 of the Commission's Rules and Regs. (Second Computer Inquiry), *Final Decision*, 77 F.C.C.2d 384, para. 141 [hereinafter Computer II], *modified by Memorandum Opinion and Order*, 84 F.C.C.2d 50 (1980) [hereinafter Computer II, *MO&O*], *aff'd and clarified by Memorandum Opinion and Order on Further Reconsideration*, 88 F.C.C.2d 512 (1981), *aff'd sub nom.* Computer & Comm. Indus. Ass'n v. FCC, 693 F.2d 198 (D.C. Cir. 1982), *cert. denied*, 461 U.S. 938 (1983), *aff'd on second further recon.*, *Memorandum Opinion and Order*, 56 Rad. Reg. 2d (P & F) 301 (1984). [Return to text](#)
50. *In re* American Tel. & Tel. Co.'s Proposed Tariff Revisions in Tariff F.C.C. No. 263 Exempting Mebane Home Tel. Co., *Memorandum Opinion and Order*, 53 F.C.C.2d 473, para. 7 (1975), *aff'd sub. nom.* Mebane Home Tel. Co. v. FCC, 535 F.2d 1324 (D.C. Cir. 1976). A number of other Commission decisions have vigorously reaffirmed a pro-competitive policy in the communications equipment market. *See, e.g.*, *In re* Telerent Leasing Corp., *Memorandum Opinion and Order*, 45 F.C.C.2d 204 (1974) (imposition of state restrictions regarding the interconnection of customer-provided terminal equipment were held more onerous than the federal regulations

- and therefore were invalid), *aff'd sub nom.* North Carolina Util. Comm'n v. FCC, 537 F.2d 787 (4th Cir.), *cert. denied*, 429 U.S. 1027 (1976). [Return to text](#)
51. *In re* Economic Implications and Interrelationships Arising from Policies and Practices Relating to Customer Interconnection, Jurisdictional Separations and Rate Structures, *First Report*, 61 F.C.C.2d 766 (1976). [Return to text](#)
  52. *Id.* para. 246 (citations omitted). [Return to text](#)
  53. 47 C.F.R. Sections 68.1-.506 (1992); *see In re* Proposals for New or Revised Classes of Interstate and Foreign Message Toll Tel. Serv., *First Report and Order*, 56 F.C.C.2d 593 (1975), *modified by Second Report and Order*, 58 F.C.C.2d 736 (1976) [hereinafter MTS, *Second Report and Order*], *aff'd sub nom.* North Carolina Util. Comm'n v. FCC, 552 F.2d 1036 (4th Cir.), *cert. denied*, 434 U.S. 874 (1977). A concise history of Part 68 in the 1970s is contained in *In re* Proposals for New or Revised Classes of [Return to text](#)
  54. MTS, *Second Report and Order*, *supra* note 53, para. 5. Interstate and Foreign Message Toll Tel. Serv. (MTS) and Wide Area Tel. Serv. (WATS), Revision of Pt. 68, and Amendment of Pt. 68, *Memorandum Opinion and Order*, 70 F.C.C.2d 1800 (1979). [Return to text](#)
  55. *In re* Implications of the Tel. Industry's Primary Instrument Concept, *Report and Order*, 68 F.C.C.2d 1157, para. 4 (1978). [Return to text](#)
  56. *Id.* para. 48 (citations omitted). [Return to text](#)
  57. *In re* Amendment of Pt. 68 of the Commission's Rules Concerning Connection of Tel. Equip., Sys. and Protective Apparatus to Certain Private Line Servs., *First Report and Order*, 76 F.C.C.2d 246 (1980) (extending Pt. 68 to certain private line services that indirectly access the public switched telephone network). [Return to text](#)
  58. *In re* Amendments of Pt. 68 of the Commission's Rules Concerning Connection of Tel. Equip., Sys. and Protective Apparatus to the Tel. Network, *Notice of Proposed Rulemaking and Notice of Inquiry*, 85 F.C.C.2d 868, paras. 50-57 (1981). [Return to text](#)
  59. Computer II, *supra* note 49, para. 12. Computer II imposed structural separation requirements on both GTE and AT&T. On reconsideration, the FCC made only AT&T subject to the separate subsidiary requirement. Computer II, *MO&O*, *supra* note 49, para. 66. [Return to text](#)
  60. Computer II, *supra* note 49, para. 180. [Return to text](#)
  61. "Except as otherwise ordered by the Commission, after March 1, 1982, the carrier provision of customer-premises equipment used in conjunction with the interstate telecommunications network shall be separate and distinct from provision of common carrier communications services and not offered on a tariffed basis." 47 C.F.R. Section 64.702(e) (1992). [Return to text](#)
  62. The Commission reinforced its determination that CPE was to be provided on an unregulated, competitive basis through the preemption of state regulation. Computer II, *supra* note 49, paras. 184-189. In its 1986 decision clarifying the scope of the Commission's preemption powers, the Supreme Court cited with approval the judicial decisions approving the Commission's preemption of state CPE regulation. Louisiana Pub. Serv. Comm'n v. FCC, 476 U.S. 355, 375 n.4 (1986). [Return to text](#)
  63. Computer II, *supra* note 49, para. 141 (citations omitted). [Return to text](#)
  64. *Id.* para. 179. [Return to text](#)
  65. United States v. American Tel. & Tel. Co., 552 F. Supp. 131 (1982). [Return to text](#)

66. *In re American Tel. & Tel. Co., Petition for Relief from Structural Separation Requirements, Memorandum Opinion and Order and Notice of Proposed Rule Making*, 50 Fed. Reg. 9060 (1985). [Return to text](#)
67. *In re Furnishing of Customer Premises Equip. and Enhanced Servs. by Am. Tel. & Tel., Memorandum Opinion and Order*, 102 F.C.C.2d 655 (1985), *amended by Memorandum Opinion and Order on Reconsideration*, 104 F.C.C.2d 739 (1986). [Return to text](#)
68. *In re Furnishing of Customer Premises Equip. by the Bell Operating Tel. Cos. and the Indep. Tel. Cos., Report and Order*, 2 FCC Rcd. 143 (1987), *amended by Memorandum Opinion and Order on Reconsideration*, 3 FCC Rcd. 22 (1987). Subsequently, the BOCs were also released from the structural separation requirements. *Id.* [Return to text](#)
69. *In re Amendments of Pt. 68 of the Commission's Rules Concerning Connection of Tel. Equip., Sys. and Protective Apparatus to the Tel. Network, Third Notice of Proposed Rulemaking*, 94 F.C.C.2d 5, para. 29 (1983) (noting "high threshold burden on a carrier to demonstrate that a particular type of equipment located on the customer's premises should be considered part of a common [Return to text](#)
70. Fowler *et al.*, "*Back to the Future*": *A Model for Telecommunications*, 38 Fed. Comm. L.J. 145, 159 (1986) (citations omitted). [Return to text](#)
71. *See, e.g., In re BellSouth Telecomm. Digital Transmission Serv. F.C.C. Tariff No. 1, Order*, 7 FCC Rcd. 5504 (1992) (Com. Car. Bur.); *see also In re BellSouth Tel. Cos. Revisions to Tariff F.C.C. No. 4, Order*, 7 FCC Rcd. 596 (1992) (rejecting two versions of BellSouth's Digital Transmission Service, a digital signal level zero, or "DS0," service that included bundled customer-premises multiplexers); *In re BellSouth's Petition for Declaratory Ruling or, Alternatively, Request for Limited Waiver of the CPE Rules to [Return to text](#)*
72. *In re Amendment to Sections 64.702 of the Commissions Rules and Reg. (Third Computer Inquiry), Report and Order*, 2 FCC Rcd. 3072, para. 234 (1987). Carriers are permitted to provide remote-activated "loopback" diagnostic functionality by means of [Return to text](#)
73. *In re Competition in the Interstate Interexchange Marketplace, Notice of Proposed Rule Making*, 5 FCC Rcd. 2627, paras. 176, 184-186 (1990).regulated equipment placed on the customer's premises. Loopback testing must either be transparent to the customer or offered "as an option that the customer could purchase with the expectation of more rapid repair service at less expense." *Id.* para. 233. However, "the NCTE functionality provided to supply the loopback test may be used only for that purpose." *Id.* para. 232. This exception thus does not [Return to text](#)
74. *In re Competition in the Interstate Interexchange Marketplace, Report and Order*, 6 FCC Rcd. 5880, para. 187 (1991). [Return to text](#)
75. *In re Bundling of Cellular Customer Premises Equip. and Cellular Serv., Report and Order*, 7 FCC Rcd. 4028 (1992). [Return to text](#)
76. *In re Telephone Co.-Cable TV Cross- Ownership Rules, Sections 63.54-63.58, Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking*, 7 FCC Rcd. 5781 (1992); *see also Chesapeake and Potomac Tel. Co. v. United States*, 830 F. Supp. 909 (E.D. Va. Aug. 24, 1993) (invalidating telephone-cable cross-ownership restrictions of Cable Communications Policy Act of 1984, 47 U.S.C. Section 533(b)(1)-(2)). [Return to text](#)
77. *E.g., Fred Dawson, Cablevision's Demo Proves Economic Edge for PCS*, Multichannel News, July 28, 1993, at 3. [Return to text](#)
78. *E.g., Bob Wells, Malone Calls Cable Engine of Multimedia*, Broadcasting & Cable, Apr. 5, 1993, at 14, 15 (CEO of largest multiple system operator, TCI, discussing planned purchase of "converter boxes containing high-powered computer operating systems" and costing \$300-350 each). [Return to text](#)

