addressable set-top box would be required on every TV set connected to cable, placing a substantial financial burden on cable operators and, ultimately, on customers.

Fewer than half of U.S. cable households today subscribe to services requiring an addressable converter--of the remaining 35 million cable households, a significant number have rejected those services specifically because they do not want additional equipment put in their home, preferring instead to use "cable ready" TV's to receive unscrambled cable services. Indeed, even in the 47% of cable households that utilize an addressable set-top, not all TV's in the house are usually equipped with an addressable box. A requirement to offer all cable programming networks on an à la carte basis would make it impossible for a majority of cable consumers to receive cable programming without incurring the inconvenience and extra cost of having an addressable set-top converter. Moreover, it would force cable operators to place unwanted set-top boxes in the homes of millions of consumers who desire programming that does not currently require additional equipment.

In addition to causing significant inconvenience to consumers, a requirement to offer all cable services on an à la carte basis would cost cable operators and, ultimately, consumers in excess of $10 billion (based upon an average cost of $125 per outlet and an average of 2.3 televisions for 35 million cable households). Scrambling all unscrambled cable services in a typical 78-channel system would require an additional capital expenditure in excess of $120,000 per headend (based on an assumption that approximately 60 channels would need encoding equipment at roughly $2,000 each, plus additional rack equipment, power backup and cabling). If all cable subscribers were required to have an addressable converter in order to receive cable service, a majority of subscribers would be faced with an additional monthly charge of approximately $3.20 per TV outlet to pay for the converter, assuming a 5-year useful life of equipment and 11.25% (after tax) return on investment.

Another means of securing channels on an individual basis is to use physical "traps." These devices, placed on the cable wire before it enters the home, either block or allow discrete signals into the home. Because each channel could be chosen individually by a customer, a cable operator would have to install a physical trap for each one (rather than the more efficient--yet still unwieldy--method of trapping out groups of channels with one device). A customer who decides to subscribe to half of a system's 60-channel BST and CPST line-up, for example, would require approximately 30 traps, requiring a custom built device up to 5 feet in length that would need to be placed on the customer's home or at the pole or pedestal serving that customer. Traps are suited to an environment where only a few premium channels need to be secured. Traps act to filter out specific signals but also tend to degrade the remaining signal. The use of five or more traps may make the remaining signal unviewable without additional amplification. Deployment of traps would not be practicable in an environment in which literally dozens of channels would have to be secured individually, requiring a custom installation and truck roll each time a customer wanted to change a service selection.

One additional technology – interdiction – has been deployed on a test basis, but it too has not been widely adopted for a variety of reasons. The primary deterrent has been cost (because interdiction requires the deployment of technology in not just those homes subscribing to á la carte services but in all homes). Interdiction also poses additional security limitations (due to the equipment being attached to the exterior of the home) and the inability to support interactive services such as interactive on-screen guides.

Much attention has been given to the cable industry's plans to deploy digital technology, so the question naturally arises as to whether digital technology will enable cable operators to offer all channels on an á la carte basis. Digital technology is fully addressable and if all television receivers were ultimately to include some sort of digital device, then it would be technically possible to unbundle all channels. However, given the current cost of digital set-tops (approximately $400) and the current state-of-the-art television sets being manufactured today, it seems likely that most cable channels will continue to be delivered using analog technology for the foreseeable future. Cable operators deploying digital set-tops are likely at first to provide them to subscribers who wish to subscribe to additional pay-per-view services and optional new packages or tiers of digital programming.

2. The Economics of Cable Programming

Even cable's competitors that use state-of-the-art addressable and, in some cases, digital technology have typically created tiers that are substantially similar – and just as large – as cable's. Indeed, some of the recent retiering of premium services by cable operators occurred after those competitors began offering those services in tiers and promoting the tiered offerings as a better alternative:

> Ameritech's expanded basic package will include PASS, The Disney Channel and the Golf Channel at no extra charge. They are usually offered as premium pay channels on most cable systems.[74]

This indicates that tiering is not entirely a matter of technology, and that it is generally the most efficient way to maximize the value of multichannel video programming offerings to consumers by regulated and unregulated MVPDs.

---

74 Ameritech Press Release, Sept. 18, 1996, http://www.ameritech.com/media/releases/release-1370.html

In large part, the tiering of services is driven by the economics of non-premium cable programming services. The economics of those services are much like the economics of a daily newspaper in that programming networks depend on a dual revenue stream comprised of advertising and license fees. This dual revenue stream has worked quickly and successfully to change the quality and quantity of programming choices for American TV viewers.

From 1980 to 1998, the number of broad appeal and niche national cable program networks has grown from 28 to 171. Nearly all program networks launched during the 1980's and 1990's were part of bundled packages, relying upon the popularity of cable's earliest program pioneers like ESPN, Nickelodeon and CNN to help create viewership. By building on the strength of the existing package, new services became popular themselves, with advertising revenues likewise growing. The result is a domestic programming industry unparalleled in the world. The development of these cable-original networks also led to the emergence of alternative distributors, like Direct Broadcast Satellite (DBS), as competitors to cable.[75] It is undeniable that these social and policy benefits came about by the successful formula of dual revenue streams and bundled network packages.

In 1997, basic cable networks generated almost $6 billion from the sale of advertising and approximately $3.6 billion from license fees charged cable operators. Most networks depend heavily upon potentially being able to deliver large numbers of cable viewers to advertisers with 60% of revenues directly attributable to ad sales. If a basic network that today charges an operator $.30/subscriber/month instead were to be carried à la carte, and only 20% of cable households were to subscribe to the network on an unbundled basis (which is higher than might

---

75 Cable's competitors offer basic cable networks in a similar manner to cable, offering tiers of basic service.

buy at the à la carte price), the network would have to charge the operator $3.30/subscriber/ month to replace advertising and license fee revenues resulting from the loss of 80% of its subscriber base. (See Table below.) These higher costs would ultimately be passed on to consumers, whether they get their multichannel video service from cable or one of its competitors.

Impact on License Fee of Unbundling an Individual Cable Network

Network Revenue – Carriage on a Tier:

$7,500 per month = $.30 (license fee per subscriber for 10,000 subs) + $.45 (advertising revenue per subscriber for 10,000 subs)] x 10,000 subs

Network Revenue – *a la carte* (assume 20% of customers subscribe, advertising revenues per subscriber remain constant[76]):

$7,500 per month = $3.30 (license fee per subscriber for 2,000 subs) + $.45 (advertising revenue per subscriber for 2,000 subs)] x 2,000 subs

The strong dependence of cable program networks on advertising helps to explain why many programming contracts either individually or a combination of, guaranteed number of subscribers delivered, absolute commitments of broadcast basic ("BST") or cable program service tier ("CPST") carriage, minimum system penetration of network subscribers to total

---

76 The *per subscriber* advertising rate in an *a la carte* environment may vary depending on the individual cable network. In many instances, however, the *per subscriber* advertising rate will decline as a network's potential audience decreases, creating more upward pressure on license fees. Advertisers do not buy audiences on a pro rata basis; a minute on a network reaching 20% of households is worth far less than merely 20% of the value of a minute on a 100% household network. In fact, it is not inconceivable that a cable network could lose all of its advertising revenues in an *a la carte* environment because delivery is so small and inefficient. In this worst case scenario, license fees would need to increase to $3.75 per subscriber per month in order to maintain the cable network's revenues.

subscribers or substantial price incentives for higher penetrations.[77] Incidental viewing can be significant; by channel surfing, viewers watch networks that they may not identify as favorites. By necessity, newer and less widely distributed networks generally allow other levels of carriage. However, many charge higher fees for distribution on tiers that are not highly penetrated.

So, for most non-basic premium services, tiering is the only viable alternative. The only way to create and offer each household all the established and new basic services that it wants is to package them with the services that it may not want – but that others may enjoy.

3. Retiering of Premium Services

While most cable programming services can only survive as tiered services, and some programming services only make sense as à la carte premium channels, there are also some channels that might be offered either way. These hybrid services might be offered as premium à la carte services, because there are a sufficient number of subscribers willing to pay a per-channel rate that is high enough to offset the technical costs and the lower advertising revenues associated with à la carte channels. But they might also be offered as tiered services, because they have broad appeal to a larger number of subscribers who would be willing to buy them at a lower price.

The services that have recently been retiered by many cable operators – *e.g.*, The Disney Channel and several regional sports networks – are examples of such hybrid services. This

---

77 Programming contracts are a result of intense negotiations between private parties and are often multi-year contracts. Any governmental mandate to unbundle basic cable networks would require abrogating all existing programming contracts and would greatly disrupt the programming marketplace.

retiering makes some subscribers – namely, those who have little or no interest in those channels – somewhat worse off to the extent that the price of the tier increases by more than the value of the additional programming to those subscribers. For a large number of subscribers, however, the retiering of such services results in a beneficial rate *reduction*, because the increased cost of the tier is much less than the former à la carte price of the service.

All those subscribers who had been purchasing the Disney Channel or the regional sports networks as premium services are, as the result of retiering, able to purchase the same services as before at a substantially lower price. Retiering also benefits all those subscribers who chose not to purchase the services at their premium per-channel prices but who would have purchased them at the lower incremental cost at which they are now available. Only those subscribers who would not choose to purchase the services at that lower cost are made worse off by the retiering.

There is no evidence and no reason to believe that the adverse effects of retiering on the latter group of consumers outweighs the beneficial effects on the others. There *is*, however, evidence that the retiering of premium services has generally been a *pro*-competitive response to marketplace demand and has enhanced consumer welfare. As noted above, some DBS services and wireline overbuilders have generally chosen from the outset to offer the Disney Channel and regional sports services as tiered channels. Some of cable's critics have suggested that cable operators chose to retier those channels simply in order to evade rate regulation and "camouflage rate increases." But the DBS and wireline overbuilders obviously had no such reason for making the same decision, since they are not subject to rate regulation. They must have concluded that, on the whole, subscribers would prefer this marketing approach -- and many cable operators, in seeking to retain or add subscribers in the face of competition, obviously reached the same conclusion.

CONCLUSION

This is the fifth time that the Commission has undertaken the annual competition inquiry mandated by the Cable Consumer Protection and Competition Act of 1992. Each year, as the trend lines and bar graphs add another point and new developments are reported, the underlying picture comes into sharper focus. It is a picture that shows, over the last five years, rapid and unabated growth of competition in the video marketplace. The convergence of video, voice and data services in the emerging digital broadband marketplace will only accelerate this irreversible trend.

Cable operators have no choice but to respond to this marketplace competition – and their conduct reflects just such a competitive response. Operators continue to increase their investments in new and upgraded facilities, so that they can provide the increasing quantity and quality of service that subscribers demand . They continue to increase their investments in new and existing programming services, and in customer service. They package their services in a way that provides the greatest value to their subscribers.

In sum, the video marketplace is a competitive marketplace. Cable operators are responding to marketplace competition. They are, each year, increasing the choices, the quality and the value of cable service for consumers.

Respectfully submitted,

Daniel L. Brenner

Daniel L. Brenner
Michael S. Schooler
1724 Massachusetts Avenue, NW
Washington, DC 20036
(202) 775-3664
Counsel for the National Cable Television Association

Gregory L. Klein
Senior Director
Economic & Policy Analysis

July 31, 1998