

must reassess pursuant to Section 614(b)(4)(B). The VBI will be used for EPG data only on a transitional basis. In the digital environment, the VBI disappears, and EPG data becomes bitstreams in a tiny portion of the 6 MHz of broadcast spectrum (see the discussion of no capacity issue below).

VBI retransmission has never been prohibited, and has always been discretionary.¹² The Commission is required to adjust the signal carriage requirements of cable television systems in connection with the transition to digital. EPGs are important to that transition. In light of the competitive and technology considerations involved, the Commission can conclude that it is not in the public interest to permit the affirmative stripping of the one line of the VBI of one retransmitted signal that contains a competing EPG's data during the DTV transition.

Section 336(b)(3)'s provision that "no ancillary or supplementary service shall have any rights to carriage under section 614 or 615 or be deemed a[n MVPD] for purposes of Section 628 ("Development of Competition and Diversity in Video Programming Distribution") is also no barrier to the relief sought. G/S EPGs are not within the scope of the services addressed by the Section. As the *Notice* itself notes, the legislative history makes clear that Congress intended not to "confer must carry status on *advanced television or other video services offered on designated frequencies.*"¹³ G/S services do not fit these categories.¹⁴

¹² As there is no VBI in digital, there is no issue in digital as to inclusion in the retransmitted digital signal of material carried in VBI lines in analog. The entire 6 MHz signal should be required to be retransmitted as received at the cable headend.

¹³ *Notice*, at ¶ 8 (emphasis added).

¹⁴ G/S believes that its guides are program-related and, therefore, not ancillary and supplemental. In addition, most G/S guides are not provided on a subscription basis now, and subscriptions will be phased out completely over time.

C. There Are No Burden, Capacity or Other Practical Impediments to Undisturbed Pass-through of EPG Data

In the digital (and analog) modes, pass-through of EPG data occurs unless impeded. Pass-through requires nothing of the digital cable operator, other than refraining from configuring set-top boxes or using other equipment to separate, misdirect or waylay particular bits as they are included in and "addressed" in the digital stream. Stripping the EPG data, in contrast, requires several affirmative acts and items of expense, such as separating or diverting megabits from their proper destination.¹⁵

There is absolutely no capacity issue involved in digital (or analog) retransmission of EPG data. The cable operator should be required to retransmit whole the 6 MHz of spectrum. For the record, this should not be burdensome; for example, "[c]able operators are replacing some analog channels with a digital tier of new channels at compression ratios as high as 12:1."¹⁶ For the record, however, the number of bits required is an infinitesimal fraction of the 6 MHz signal. Six MHz involves 6,000,000 bits per second. Assuming a relatively slow EPG data rate of 19,200 bits per second, plus an EPG "overhead" of ten percent, EPG data would "occupy" 21,120 hits per second, which is .00352, or slightly more than one-third of one percent, of the total data stream.¹⁷

¹⁵ Stripping analog-transmitted EPG data requires equipment to identify and remove the one VBI line out of the 1000 in a 50-channel cable system that carries the data. Each broadcast signal, and each cable programming channel, has 22 VBI lines. The vast majority of these is unused and vacant. Many are under the control of the cable operator and available for its own use if desired.

¹⁶ National Cable Television Association, *Cable Television Industry Overview as of April, 1998: Digital Cable TV* (visited October 12, 1998) <http://www.ncta.com/overview98_2.html>.

¹⁷ Source: Tom Morris, Engineer, StarSight Telecast, Inc.

V. CONCLUSION AND RELIEF SOUGHT

For the multiple policy, legal and practical reasons set out in these Comments, Gemstar and StarSight respectfully urge the Commission to use the occasion of this statutorily required proceeding, as well as the ample other authority available, to take the following necessary actions:

- 1) Include in the rules adopted the simple, universal requirement that cable operators not disturb the pass-through of EPG data to consumers, or otherwise impede consumer access to competing EPGs by any means, in either the digital or analog environments;
- 2) Apply these pass-through and anti-interference requirements to both must carry and retransmission consent carriage of broadcast signals;
- 3) Provide for streamlined, time-certain resolution of allegations of violation of the general requirement, such as within 120 days as is currently required for resolution of must-carry complaints,¹⁸ as it is unlikely that EPG data impairment would raise issues of greater complexity than non-carriage of the broadcast signal itself;
- 4) Require that the complete 6 MHZ of the digital broadcast signal be retransmitted as delivered to the cable headend, without tampering by the operator;
- 5) Avoid reliance on A/B switches or antennas as a substitute for signal carriage requirements, as terrain factors remain critical to reception in digital as well as analog transmissions, and both involve radio frequency transmissions subject to interference.¹⁹

¹⁸ 47 U.S.C. § 534(d)(3); 47 C.F.R. § 76.61.

¹⁹ *Notice*, at ¶¶ 88-89.

By these simple, relatively modest and easily administered steps, the Commission will achieve a significant advance in the statutory objectives of this proceeding, not the least of which is the facilitation of the successful transition to DTV.

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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Carriage of the Transmissions) CS Docket No. 98-120
of Digital Television Broadcast Stations)
)
Amendments to Part 76 of the Commission's Rules)

TO: The Commission

**REPLY COMMENTS OF
GEMSTAR INTERNATIONAL GROUP LIMITED
AND STARSIGHT TELECAST, INC.**

INTRODUCTION AND SUMMARY

Gemstar International Group Limited and Starsight Telecast, Inc. (collectively, "Gemstar") file these reply comments to reemphasize both (1) the important role that independent – that is, non-cable-controlled – electronic program guides ("EPG's") will play in promoting the smooth and successful transition of broadcast television to digital formats and ensuring the continued availability of free broadcast television in the digital era; and (2) the need to protect providers and consumers of independent EPG's from anti-competitive conduct by cable operators.

Among the many important matters it encompasses, this proceeding provides an essential opportunity for the Commission to ensure that viewers of digital television will obtain full and varied information about their programming options in a way that responds to their needs, without the obstructing and distorting filter of cable systems seeking both to protect their own guides and to impel consumer viewing decisions towards cable-controlled content. In short,

the Commission must take action to protect the ability of American television consumers to select their own EPG's from the range of competitive choices they will have, or it risks leaving consumers with only the guides developed by, and furthering the interests of, their cable system operators. The solution to this important problem is not difficult, and can be found in the virtually unanimous proposal put forth by broadcasters in their comments in this proceeding. To promote consumer choice and fair competition in the digital era, Gemstar urges the Commission to require cable operators to deliver the entire "free" portion of any digital signal they carry, including especially all embedded data that enables or facilitates the functionality of EPG's.

I. COMMISSION ACTION IS NEEDED TO ENSURE THE WIDESPREAD AVAILABILITY OF INDEPENDENT ELECTRONIC PROGRAM GUIDES.

Gemstar is the leading developer and supplier of interactive EPG's incorporated into consumer equipment such as television sets, video cassette recorders ("VCR's"), and set-top boxes ("STB's"). Gemstar's leading EPG product is "Guide Plus," an interactive guide licensed to a large number of consumer electronics manufacturers for inclusion in the television receivers, VCR's and STB's they sell at retail.¹ Guide Plus organizes and displays information concerning all types of video programming, including over-the-air broadcast, cable, satellite and direct broadcast television, along with additional information, such as news, and promotional and advertising material. A consumer with Guide Plus-enabled equipment can easily learn what video programs are available at a given time, what programs are available over a number of days, or what programs are available within particular content categories, and can easily select programs for viewing or recording. The Guide Plus features make it especially useful to consumers facing a large number and variety of program options because they permit

¹ Gemstar also licenses intellectual property to others, including cable set-top box manufacturers and cable operators offering competitive EPG's and guides.

programming to be organized in a variety of consumer-selected ways and display unique program information (such as program synopses) on screen.

Guide Plus operates through a combination of hardware and software that processes regularly-updated data tailored to reflect the programming available in the individual consumer's market. The Guide Plus system is first installed in a consumer electronics device, such as a television receiver or set-top box, pursuant to a license negotiated by Gemstar with the manufacturer. Guide Plus then becomes a feature in the device at retail, where it is often marketed as a premium option that adds to the cost of the product. In other words, Guide Plus is available in the home only after Gemstar has persuaded a manufacturer to license and distribute it; the manufacturer has introduced the Guide Plus-equipped product into its retail distribution channels; and the manufacturer and retailer have effectively persuaded consumers that the Guide Plus service is worth the additional cost. Thus, Guide Plus's availability to any given consumer depends upon a series of pro-competitive business arrangements and consumer choices of the very kind that the Commission seeks to encourage.²

Once in the home, however, Guide Plus's successful operation depends upon Gemstar's ability to provide and update the wide range of scheduling and related information, as well as news and advertising and promotional materials, that are at the heart of the service. The necessary data are currently provided through local broadcasters that have entered into business

² See Report and Order, *In re Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, 13 FCC Rcd 14775, 14776 (1998) ("*Navigation Devices Report & Order*") (discussing Commission's overriding goal under the Telecommunications Act of 1996 of promoting competition to stimulate the provision of advanced telecommunications services to consumers).

arrangements with Gemstar.³ In the analog environment, a number of stations in each market permit Gemstar to deliver encoded content to Guide Plus receivers in the vertical blanking interval ("VBI") of the broadcast signals. In the digital context, where there is no VBI, the programming data will be contained in bits that occupy a minuscule portion – approximately .00352, or slightly more than one-third of one percent – of the digital program stream transmitted in a six MHz digital broadcast signal.⁴ In either context, the programming data are automatically transmitted to the consumer as part of a program signal he or she already receives, and the consumer's Guide Plus-enabled equipment receives and translates the programming data for display in the Guide Plus EPG.

As we have noted, Gemstar is an independent EPG provider, not affiliated with any cable system or other program provider. However, cable operators are increasingly providing their own interactive EPG's that compete with independent EPG's. When a cable operator provides its own EPG, it licenses the hardware and software, which are usually incorporated in set-top boxes leased to cable subscribers, obtains updated programming data (usually delivered to the cable headend by telephone wire), and transmits the programming data through the cable system on an available channel. The cable operator controls the "look and feel" of its own EPG, as well as the manner in which the programming data is displayed.

³ To ensure that consumers receive the correct updating data, purchasers of Guide Plus must initiate a set-up sequence in which they identify their zip code and cable system (if any) so that the programming data is tailored to the correct channel lineup. Thus, Guide Plus-enabled equipment is configured for the cable system to which the consumer subscribes, and BellSouth's assertion that independent EPG's will not be able to operate with its systems because they will not have the correct channel lineup information, *see* Reply Comments of BellSouth Corp. and BellSouth Interactive Media Services, Inc., CS Docket No. 98-120, at 11 (Nov. 24, 1998) ("*BellSouth Reply Comments*"), is not correct with respect to Guide Plus.

⁴ *See* Comments of Gemstar International Group Limited and Starsight Telecast, Inc., CS Docket No. 98-120, at 18 (Oct. 13, 1998) ("*Gemstar Comments*").

From this discussion, it is clear that Gemstar's ability to deliver Guide Plus – and its success in this line of business – will be the product of a series of competitive and economic choices made by manufacturers, retailers, television broadcasters and consumers. Gemstar's failure to persuade any one of these segments in the distribution chain that its product is cost-effective, consumer-friendly, and worthy of the investment will mean that its business will fail – as it should in any fairly functioning competitive environment. But, as the regulatory structure now stands, Gemstar can (and does) succeed in each segment of its distribution chain and still fail to reach its consumers with a viable service. For, without the Commission's help, Gemstar's updating data – the lifeblood of the system – can be choked off by a cable operator interested only in furthering its own guide or in ensuring that programming in which it has an interest is featured more prominently than other programming. The cable operator, for its own self-interested reasons, can defeat all of the competitive choices made and paid for by all others in the distribution chain simply by stripping the essential Gemstar transmission from the broadcasters' signals.

This threat is not theoretical. Nor is it based upon idle speculation. As Gemstar noted in its initial comments, there currently are several situations in which local cable systems have begun to strip encoded Guide Plus updating content from the VBI's of broadcasters that agreed to deliver the data to Gemstar's customers.⁵ And there is good reason to assume that Gemstar will face similar actions in the digital environment.⁶

⁵ *Gemstar Comments*, at 5, 11, 14; see also *Comments of Thomson Consumer Electronics, Inc.*, CS Docket No. 98-120, at 15 (Oct. 13, 1998) ("*Thomson Comments*").

⁶ See, e.g., *Comments of the Association for Maximum Service Television, Inc.*, CS Docket No. 98-120, at 35-37 (Oct. 13, 1998) ("*MSTV Comments*") (describing incentives for cable operators to attempt to monopolize EPG's on their systems); *Comments of General*
(continued...)

This is not merely a commercial dispute between private entities. Important public issues – affecting the way in which the public will choose among the large number of programs that digital cable and digital broadcasting will make available to them – are at stake. The Commission must in this proceeding address and ultimately limit the extent to which cable systems will define, through the exercise of their bottleneck power, the navigational “look and feel” of digital television and the pecking order of the television channels within their systems. Without rules that protect providers of independent EPG’s, cable systems will exercise absolute control over these aspects of the digital television experience, to the exclusion of competing visions and without having to face the test of consumer choice. As we now show, the very goals that the Commission set for digital television and for this proceeding require adoption of a rule that prohibits the kind of self-interested tampering that Gemstar is currently experiencing at the hands of cable system operators.

II. CONSUMER ACCESS TO A VARIETY OF ELECTRONIC PROGRAM GUIDES, PARTICULARLY THOSE OFFERED BY ENTITIES NOT AFFILIATED WITH CABLE OPERATORS, WILL PROMOTE THE COMMISSION’S GOALS IN THIS PROCEEDING.

The Commission’s *Notice of Proposed Rulemaking* explains that it is seeking to implement four interrelated statutory goals: (1) the successful introduction of digital broadcast television and subsequent recovery of vacated broadcast spectrum; (2) the retention of a competitive over-the-air broadcast television service; (3) the minimization of disruption and costs to cable subscribers, operators and programmers; and (4) the encouragement of investment

(continued . . .)

Instrument Corp., CS Docket No. 98-120, at 5-7 (Oct. 13, 1998) (“*GI Comments*”) (describing difficulty GI’s digital set-top boxes will have in transmitting in-band navigational information).

and innovation in technologies and services.⁷ By encouraging the widespread availability of a broad variety of independent EPG's, the Commission will further each of these goals.

First, interactive EPG's can facilitate the successful introduction and ultimate acceptance of digital television by simplifying and rationalizing the expanded digital channel landscape, making it easier for consumers to navigate and select from the array of channels that will become available to them. Ease of access to programming will become particularly important as broadcasters experiment with digital multi-casting and cable operators increase the number of cable channels they will offer through digital compression technology.⁸ Because they will make it easier for consumers to take advantage of rapidly-increasing digital program options, interactive EPG's will eliminate viewing obstacles and thereby increase the incentives for consumers to purchase DTV sets. And simplified channel navigation similarly will help to minimize disruption to cable subscribers as they explore new digital broadcast stations and digital cable programming.

Independent EPG's will also play an important role in maintaining the strength and competitiveness of local broadcasting during and after the digital transition. Simply put, the provider of an EPG can control the organization and display of program information in a manner that favors affiliated programming and discriminates against unaffiliated programming providers.⁹ If cable operators are permitted to provide their own EPG's while excluding or

⁷ Notice of Proposed Rulemaking, *In re Carriage of the Transmissions of Digital Television Broadcast Stations, Amendments to Part 76 of the Commission's Rules*, CS Docket No. 98-120, 13 FCC Rcd 15092, 15093 (1998).

⁸ See Eben Shapiro, "NBC and Gemstar Sign Broad Pact on Program Guide," *Wall Street Journal*, July 16, 1998, at B7 ("As the world of 500 channels becomes more of a reality, guides that help viewers to easily choose between the channels are viewed as critical.").

⁹ As several commentators note, Congress and the Commission recognized this fact when they adopted provisions governing open video systems ("OVS's"). See *MSTV Comments*, at 36-
(continued...)

disabling EPG's or EPG-related information provided by broadcasters or other unaffiliated sources, cable operators can decide which programming content will be easily accessible on their systems and which will not. If cable-provided EPG's make it difficult for viewers to find new digital broadcast stations on their cable systems, that difficulty will affect viewership of those stations, potentially damaging the financial viability of broadcasters' digital operations and retarding both the digital rollout and the prospects for return of spectrum.¹⁰ On the other hand, the availability of independent EPG's will offer two advantages. First, independent providers obviously have no incentive to discriminate for or against any particular group of program providers and are thus more likely to afford easy access to – and fair competition among – all competitors for the viewing audience. Equally important, the availability of competing EPG's will produce competition in the EPG market itself, thereby assuring that presentation and look-and-feel decisions ultimately will be based upon viewer interests, rather than the business interests of a cable system.

(continued . . .)

37; *Thomson Comments*, at 16; Comments of Broadcast Group, CS Docket No. 98-120, at 22-23 (Oct. 13, 1998) (“*Broadcast Group Comments*”); Comments of National Broadcasting Company, Inc., CS Docket No. 98-120, at 5-6 (Oct. 13, 1998) (“*NBC Comments*”). The OVS rules prohibit OVS's from favoring affiliated programming in an EPG or other channel navigation device provided by the OVS and require certain OVS's to provide an EPG that contains a non-discriminatory listing of all programming provided on the system. 47 U.S.C. § 573(b)(1)(E); 47 C.F.R. § 76.1512.

¹⁰ Congress recognized some of these concerns when it enacted the channel positioning requirements applicable to analog broadcast signals. See Cable Television Consumer Protection and Competition Act of 1992, S. Rep. No. 92, 102d Cong., 2d Sess. 43-44 (1992), reprinted in 1992 U.S.C.C.A.N. 1176-77 (“*1992 Cable Act Senate Report*”) (noting that shifting the placement of broadcast channels in a cable system “makes it difficult for audiences to locate stations” and accordingly “has a direct and negative impact on the competitive viability of local broadcast stations and thus the ability to serve the needs of local communities”); *Broadcast Group Comments*, at 20-22; *MSTV Comments*, at 32-34; Comments of the Association of Local Television Stations, Inc., CS Docket No. 98-120, at 73-75 (Oct. 13, 1998).

Finally, the availability of independent EPG's that compete with program guides provided by cable systems will promote investment and innovation in improved channel navigation technologies and services. If consumers are free to choose from a variety of EPG's in the marketplace – and are assured that the EPG's they purchase will function properly regardless of how they receive video programming – the participants in the market will have an incentive to develop and improve effective, sophisticated and consumer-friendly EPG's and other channel navigation devices.¹¹

III. GEMSTAR'S EXPERIENCE IN THE ANALOG ENVIRONMENT DEMONSTRATES THAT COMMISSION ACTION IS NECESSARY TO PREVENT CABLE OPERATORS FROM BLOCKING PROGRAMMING DATA THAT ENABLES INDEPENDENT ELECTRONIC PROGRAM GUIDES.

As we have noted, the concern that cable operators, if permitted to do so, would exercise their control over digital broadcast signals carried on their systems to block or disable EPG-related programming data is not abstract. In the analog environment, Gemstar has encountered just this sort of anti-competitive conduct. Time Warner Cable (“Time Warner”), a large multiple-system cable operator that currently offers subscribers an EPG-equipped set-top box and is developing a digital STB that it hopes will, among other things, provide a program guide, has on some of its systems stripped EPG-enabling programming data that Gemstar transmits in the VBI of analog broadcast signals. Time Warner is engaging in this conduct despite the fact that transmission of the programming data in the VBI of broadcast signals already carried on the system does not impose any burden on the capacity of Time Warner's

¹¹ The Commission identified the broad goal of “promoting consumer choice” in its navigation devices proceeding, in which it recognized the growing importance of EPG's in the consumer equipment market. *Navigation Devices Report & Order*, 13 FCC Rcd at 14820-21. (“[W]e are committed to encouraging the development of the market for the provision of electronic program guide services as part of our broader goal of promoting consumer choice.”).

cable systems and does not require any action on the part of Time Warner. In fact, it is the stripping of Gemstar's programming data that requires effort and expenditure by Time Warner.

Time Warner's gradually expanding practice of stripping Gemstar-provided programming data from the VBI of analog broadcast signals will render Gemstar's EPG's, such as Guide Plus, useless when purchased by consumers who subscribe to those Time Warner systems. The practice thus will frustrate the purchasing decisions of consumers who paid a premium for products equipped with Guide Plus technology.

Because EPG's are likely to become more prevalent and important as broadcasters and cable operators roll out digital programming, it is highly likely that Time Warner (and other cable operators planning to offer EPG services) similarly will seek out and strip Gemstar's (and other independent EPG providers') programming data from digital broadcast signals. Indeed, cable operators are likely to have a greater incentive to block competing EPG services in the digital environment because EPG's and other interactive channel navigation devices likely will, over time, replace the channel number system as the mechanism for guiding consumers to video programming.¹² And, as Congress recognized in enacting the analog cable carriage requirements, vertical integration in the cable industry gives cable operators a strong financial incentive to exercise control over how consumers view and select program options in order to give cable programming a competitive advantage over broadcast programming.¹³

¹² See, e.g., *MSTV Comments*, at 32-33, 35-36; *Broadcast Group Comments*, at 21-22; *NBC Comments*, at 4-5; *Thomson Comments*, at 15.

¹³ *1992 Cable Act Senate Report*, at 44, reprinted in 1992 U.S.C.C.A.N. at 1177.

IV. TO PROTECT CONSUMER ACCESS TO INDEPENDENT ELECTRONIC PROGRAM GUIDES, THE COMMISSION SHOULD REQUIRE CABLE OPERATORS TO CARRY ALL EPG-RELATED INFORMATION TRANSMITTED IN DIGITAL BROADCAST SIGNALS.

We urge the Commission to seize the opportunity presented in this proceeding to address the cable practice of stripping EPG data from broadcast signals and to prohibit it.¹⁴ As many commentators have noted, ensuring that cable subscribers receive the same digital broadcast services as other consumers will be critical to promoting the market-driven development of digital services (including EPG's) that best serve consumer interests.¹⁵

The simplest and most effective mechanism through which the Commission can guarantee that cable subscribers receive the EPG-enabling programming data encoded in digital broadcast signals would be a rule, already proposed by several broadcasters and consumer equipment manufacturers, that defines the signal content rules applicable to analog signals

¹⁴ The Commission should also prohibit such anti-competitive conduct in the analog environment. The Commission did not take that step in either the analog must-carry proceeding or the navigation devices proceeding – largely because the central importance of EPG's was not as clear and because the Commission did not have the information provided herein suggesting predatory abuse by at least one cable operator – but in both cases it acknowledged that the issue might ultimately require resolution. See Memorandum Opinion and Order, *In re Implementation of the Cable Television Consumer Protection and Competition Act of 1992, Broadcast Signal Carriage Issues*, MM Docket No. 92-259, 9 FCC Rcd 6723, 6733 & n. 145 (1994) (“*Analog Must-Carry MO&O*”) (suggesting that issue of whether EPG-enabling data is “program-related” and entitled to carriage under the analog must-carry rules should be resolved through special relief process); *Navigation Devices Report & Order*, 13 FCC Rcd at 14820-21 & n.259 (noting that the issue of carriage of programming information in the analog VBI is related to the commercial availability of EPG's, which was raised in the proceeding but not addressed in the Report and Order because “the record in this proceeding is limited on this issue”). We think that it is now appropriate for the Commission to revisit this issue in the analog context, in light of the new information concerning Time Warner's conduct and the Commission's intention to “monitor developments with respect to the availability of [EPG's] to determine whether any action is appropriate in the future.” *Navigation Devices Report & Order*, 13 FCC Rcd at 14821.

¹⁵ See, e.g., *MSTV Comments*, at 28, 30-32; *Broadcast Group Comments*, at 15-17; Comments of the National Association of Broadcasters, CS Docket No. 98-120, at 12 (Oct. 13, 1998) (“*NAB Comments*”); Comments of the Association of America's Public Television Stations, et al., CS Docket No. 98-120, at 41-42 (Oct. 13, 1998).

carried on cable. Gemstar takes no position on the question of whether and to what extent cable systems should be required to carry digital broadcast signals. But we believe that the public interest requires a rule providing that, when a cable system does carry a digital broadcast signal, it must carry *all* elements of the signal that are transmitted over the air for free – that is, all information that is transmitted in the signal with the intent that it be displayed or operate on all digital receivers.¹⁶ The rule should also require that such information be carried in a manner that assures that it has the same functionality as if it were received over the air.¹⁷

¹⁶ See, e.g., *NAB Comments*, at 12; *MSTV Comments*, at 28-29; Comments of Philips Electronics North America Corp., CS Docket No. 98-120, at 2 (Oct. 13, 1998). In accordance with the principle that cable subscribers should receive *all* of the free broadcast services available to consumers that receive digital broadcast signals over the air, Gemstar agrees with those advocating application of the signal content rule to all digital broadcast signals carried on a cable system, irrespective of whether the signals are carried pursuant to a must-carry obligation or retransmission consent. See, e.g., *MSTV Comments*, at 26. In adopting the analog carriage content rules, the Commission determined that the rules should apply to all broadcast signals eligible for must-carry, even those that were in fact carried pursuant to retransmission consent. See Report and Order, *In re Implementation of the Cable Television Consumer Protection and Competition of 1992, Broadcast Signal Carriage Issues*, MM Docket No. 92-259, 8 FCC Rcd 2965, 3004 (1993) (“Section 614(b)(3)(A) and (b)(4)(A) each refer to ‘local commercial television stations,’ and Section 614(b)(9) refers to ‘a local commercial television station.’ Using the . . . ‘plain language’ approach . . . , we find that these three provisions, [along with the provision requiring carriage of ‘the entirety of the program schedule’ of every station carried], in fact, apply to all local commercial television stations carried by a cable system, and not just must-carry stations.”); *Analog Must-Carry MO&O*, 9 FCC Rcd at 6745 (stations not eligible for must-carry can negotiate in retransmission consent context for carriage of less than the entirety of their program schedules, but “broadcast stations whose signals are entitled to must-carry but are instead carried pursuant to retransmission consent are not permitted to negotiate for carriage of less than their entire signal”).

¹⁷ Preferably, the rule would require cable operators to carry embedded information “in-band” with the data stream in which it is originally transmitted. However, General Instrument Corporation (“GI”) has suggested that some cable operators will find it difficult to transmit certain accompanying data “in-band.” See *GI Comments*, at 5-7. As we understand GI’s comments, this problem will apply only to some cable systems and some set-top boxes, and will only be a problem for the life of the set-top boxes incorporating the “SI” protocol (especially if the Commission adopts a rule prospectively requiring in-band carriage of navigational information). If that is the case, we think it would be reasonable for the Commission to require such operators to carry the data – in its entirety, without alteration, and with the full functionality it would have if carried “in-band” – in the “out-of-band” channel designated for that purpose.

A number of commenting parties have taken the position that, in the digital environment, the Commission need not determine that signal content is “primary” or “program-related” as a prerequisite to requiring cable operators to carry the entirety of the free digital signal.¹⁸ Section 614(b)(4)(B) authorizes the Commission to make “any changes in the signal carriage requirements of cable television systems necessary to ensure cable carriage” of advanced television signals.¹⁹ Advanced DTV signals are capable of transmitting, along with traditional audio and video components, content that will be integral to – but may significantly alter – the television viewing experience, and there is no reason that cable subscribers (who are entitled under Section 614 to meaningful carriage of local broadcast signals) should be deprived of the television experience enjoyed by all viewers receiving the signals over the air. Moreover, determining what will constitute “primary video” or “program-related” material in the digital environment could be virtually impossible: there need not be a “primary” program stream in digital broadcasting, and data and other enhancements that may not be “related” in a traditional sense to the content of the video program stream may become commonplace. Thus, to ensure meaningful cable carriage of local digital broadcast signals, the Commission is free to “change” the cable carriage requirements to require cable operators to carry all components of digital broadcast signals that are transmitted free over the air.

However, if the Commission believes itself constrained by Section 614 to delineate digital cable carriage requirements in terms of “program-related” material contained in the digital signal, it is clear that EPG’s and EPG updating data fall within the ambit of that

¹⁸ See, e.g., *NAB Comments*, at 38; *Broadcast Group Comments*, at 14-17.

¹⁹ 47 U.S.C. § 534(b)(4)(B).

standard.²⁰ Gemstar finds the comments filed by Sony Electronics and Microsoft to be particularly instructive. Sony suggests that cable operators should be required to carry “data that enable such capabilities as channel navigation, program guides, V-Chip, and closed captioning operation”: “Insofar as these or similar data enable functionality or provide a basis for the advertising revenue that makes possible the delivery of programming to consumers, they should be considered program-related and must be transmitted to consumers”²¹ Microsoft urges that any rules the Commission adopts should be “craft[ed] . . . to encompass carriage of the video, audio and data components of a program to the extent they form an integrated consumer experience, in order to promote the introduction and deployment of new, innovative digital services that utilize DTV bandwidth. . . . [Cable operators should be required to carry] data[] that are integrated with the video and audio components to form a unified, though perhaps variegated, consumer experience.”²²

Those comments effectively propose that the Commission focus on data and information that enhance the capacity of consumers to “experience” digital television as a medium. As such, the standard is a reasonable adaptation of the Commission’s understanding of the “program-related” concept in the analog environment.²³ As both Sony and Microsoft clearly

²⁰ Contrary to BellSouth’s assertion in its reply comments, *see BellSouth Reply Comments*, at 10, EPG’s and EPG-related data are not “ancillary or supplementary services” not entitled to carriage. Because in most instances EPG-enabling data is included in broadcast signals transmitted free and over-the-air, EPG’s are part of the “free, over-the-air services” excluded from the Commission’s understanding of “ancillary and supplementary services.” *See Fifth Report and Order, In re Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 12 FCC Rcd 12809, 12821 (1997).

²¹ Comments of Sony Electronics, Inc., CS Docket No. 98-120, at 8-9 (Oct. 13, 1998).

²² Comments of Microsoft Corporation, CS Docket No. 98-120, at 23 (Oct. 13, 1998).

²³ In the *Analog Must-Carry MO&O*, the Commission explained that the “program-relatedness” of material in the analog VBI ordinarily depends on (1) whether the broadcaster intends that the information be seen by the same viewers that watch the video signal, (2) whether
(continued...)

understand, digital broadcast technology may well significantly alter the nature of broadcast television, and cable operators may have little incentive to ensure that their subscribers share in the enhancements that broadcasters may bring to their audiences. EPG-related programming data supports a service that assists in the delivery of programming to consumers, and EPG's such as Guide Plus organize and prioritize program information to provide structure for a "unified, though perhaps variegated, consumer experience." EPG-related information transmitted in digital broadcast signals thus should be considered intimately "related" to the digital programming in which it is carried (or which it supports), and the Commission should require that it be transmitted directly to consumers receiving digital service via cable.

CONCLUSION

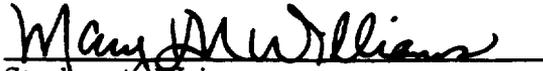
For the foregoing reasons, Gemstar respectfully requests that the Commission adopt digital cable carriage rules that require cable operators to carry all EPG-related data transmitted in digital broadcast signals carried on their systems.

(continued . . .)

the information is available during the same interval of time as the video signal, and (3) whether the information is an "integral part of the program." 9 FCC Rcd at 6732. However, the Commission also acknowledged that "there will be instances where material which does not fit squarely within the factors listed . . . will be program-related under the statute." *Id.* at 6734. For example, the Commission held that Nielson identifier codes, which do not satisfy the factors, are program-related because they "constitute information intrinsically related to the particular program received by the viewer" and "provide important information that is useful to both broadcasters and cable operators." *Id.*

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