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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

November 12, 1998

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Magalie Roman Salas  
Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

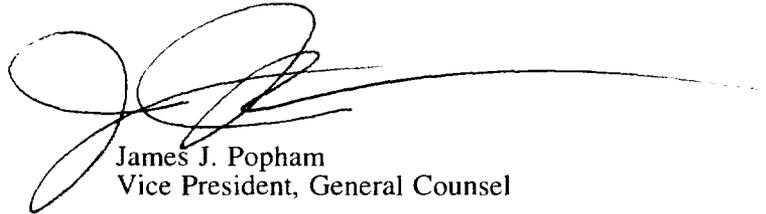
Re: CS Docket No. 98-120  
Ex parte communications

Dear Ms. Salas:

We herewith submit on behalf of the Association of Local Television Stations, Inc., two copies of "Supplemental Materials" which have been provided contemporaneously to the offices of each commissioner and Ben Golant of the Cable Services Bureau.

If the Commission has any questions about this matter, please, do not hesitate to contact us.

Very truly yours,



James J. Popham  
Vice President, General Counsel

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DATE

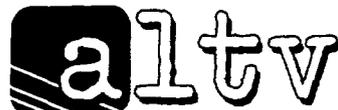
**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.**

In the matter of

Carriage of the Transmissions of  
Digital Broadcast Stations

**CS Docket No. 98-120**

**SUPPLEMENTAL MATERIALS  
THE ASSOCIATION OF LOCAL TELEVISION STATIONS, INC.**



Association of Local Television Stations, Inc.  
1320 19th Street, N.W.  
Suite 300  
Washington, D.C. 20036  
(202) 887-1970

November 12, 1998

The attached materials were cited in the Comments filed in this proceeding by ALTV on October 13, 1998. As a convenience to the Commission and its staff and to assure a complete record, we are providing you with a copy and filing two copies with the secretary of the Commission as an *ex parte* communications in this proceeding.

By Footnote Number

Cited materials used in the **Comments of the Association of Local Television Stations, Inc. (ALTV)** as presented to the Federal Communications Commission (FCC), CS Docket No. 98-120, on October 13, 1998.

Footnote #	Article	Source	Date
4, 114, 115, 123, 124, 166	Malone: I'm Through Biting Tongue ("TCI's Malone Discusses HDTV and Must-Carry at NCTA Convention")	Multichannel News	5/11/98
5, 10	HDTV Hits Broadcasters in the Wallet	USA Today	unknown
9	The Two Sides of HDTV: Which Will Go First?	The New York Times	8/29/97
16	Malone: Sculpting TCI's Future	Electronic Media	4/20/98
74, 156	Lines Drawn on HDTV	Broadcasting & Cable	2/9/98
79	Hearing on Digital High Definition Television: Coming Soon to a Home Theater Near You	Consumer Electronics Manufacturers Association (CEMA)	4/23/98
106	CES Preview: Going Digital Means Sharper Boob Tubes	USA Today	1/8/97
107	Consumers Survey	HDTV Newsletter	1/16/98
113	Sorting Out the Digital TV Mess	CNET NEWS.COM	4/8/98
113	Will Cable Be Ready for HDTV?	Broadcasting & Cable	3/9/98
114	TV Cable-Box Software May Blur Digital Signals	The New York Times	2/23/98
114	Digital TV, The Real Story	Panasonic, via Cousin's Video website	unknown
116	SCTE Lobbied for Digital Unity	Electronic Media	6/15/98
117, 118, 120, 149	CableLabs: Opening the Door to Digital	Broadcasting & Cable	5/4/98
119	Hindery Sees Capital Improvement	Broadcasting & Cable	5/4/98
119	NCTA Opposes Digital Must Carry	Broadcasting & Cable	4/27/98
119	Big Cable Company Fighting New CBS and NBC Signals	The New York Times	5/6/98

Footnote #	Article	Source	Date
122	Wireless Industry Raises Alarm On Digital TV	Electronic Media	6/15/98
122	Malone Pulls Switch on DTV	Broadcasting & Cable	5/11/98
125	Consumers Want To See HDTV From Local Stations; Are Willing To Give Up Channels For Better Pictures, Survey Shows	Harris Corporation - Press Release	7/7/98
125	Mass Media	Communications Daily	7/8/98
138	Brian Lamb's (C-SPAN) Letter to the Honorable W.J. "Billy" Tauzin	C-SPAN	5/22/98
139, 140, 141	Eddie Fritts' (NAB) Response Letter to Brian Lamb	National Association of Broadcasters (NAB)	5/29/98
143, 144, 150, 151, 161	Digital Cable: When, Not If	Broadcasting & Cable	5/4/98
146	Operational Issues for Digital Have Arrived	Communications, Engineering & Design (CED) Magazine	May 1997
147	Bite-Sized Branding in Digital Age	Broadcasting & Cable	5/4/98
148	Why Cable Firms Love Digital TV	USA Today	unknown
152, 158	Headendings	Broadcasting & Cable	4/6/98
153	GI Buys TCI Set-Top Centers	Broadcasting & Cable	7/6/98
154	In Brief	Broadcasting & Cable	3/2/98
155	In Brief	Broadcasting & Cable	5/25/98
157	All Set for Advanced Set-Tops?	Broadcasting & Cable	4/27/98
157	S-A to Ship 1 Million Set-Tops	Broadcasting & Cable	2/2/98
159	Life's a Bowl of CherryPickers	Broadcasting & Cable	10/12/98
160, 162	Will Digital Roll-Out Speed ITV, HDTV Deployment?	CED Magazine	August 1997
165	In Brief	Broadcasting & Cable	5/18/98
175, 176	Must-Carry, Firewire, and PSIP	CED Magazine	September 1998
190	Nice Picture If You Can Get It	Broadcasting & Cable (Editorial)	7/17/98

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September 1998	175, 176	Must-Carry, Firewire, and PSIP	CED Magazine
10/12/98	159	Life's a Bowl of CherryPickers	Broadcasting & Cable

Citations of John Haring's (Strategic Policy Research, Inc.) *The Economic Case for Digital Broadcast Carriage Requirements* appear in the following footnotes:

#2, 6, 8, 53, 64, 73, 74, 75, 78, 80, 81, 92, 108, 110, 126, 127, 183.

# Life's a bowl of CherryPickers

*Imedia hitches its fortunes to technology for "grooming" digital multiplexed signals*

By Price Colman

**W**hen Imedia Corp. popped up on the telecommunications radar screen in late 1995, it was thanks to a dream deal with TCI.

Imedia's founders

had developed a digital compression technology they called StatMux (statistical multiplexing) that could fit as many as 24 digital channels into one 6 mhz analog channel.

**IMEDIA**CherryPicker™

StatMux appeared to be an almost miraculous answer to TCI's seemingly unsolvable problem: how to gain bandwidth without spending billions of dollars on cable system upgrades.



*Adam Tom's Cherry-Picker lets operators 'groom' multiplexed digital signals.*

For about 18 months, from the time the deal was announced until August 1997, it looked like nothing but blue skies for Imedia. Meanwhile, however, a number of

other companies, including the cable industry's biggest equipment vendor, General Instrument, were developing their own statistical multiplexing technologies.

The "dream" deal had a rude awakening when the TCI subsidiary that had signed an 8-year contract with Imedia instead picked GI's competing technology. The relationship deteriorated into a \$65 million lawsuit by Imedia against TCI; TCI withdrew \$8 million in funding to the San Francisco-based start-up.

As quickly as Imedia had become a cable industry darling, it disappeared from view. Now, however, Imedia is girding for a comeback with a technology called CherryPicker that could let cable, DBS and broadcasters exploit the promise of digital programming.

CherryPicker enables operators to "groom" multiplexed digital signals delivered to a headend. That means that instead of simply taking a prepackaged feed of digital programming, a cable operator can mix and match channels to create custom-tailored programming lineups. In addition, the technology allows operators to insert local digital signals, even digital advertising. All that can be done on the fly—and without decoding digital signals to analog and then encoding them back to digital. That's crucial, because it means no appreciable loss in picture quality.

Imedia had intended to launch Cher-

ryPicker in 1997's second quarter, but it was a tougher nut to crack—or cherry to pick—than the company figured.

"For CherryPicker, the delay was a combination of two things," says Adam Tom, who co-founded Imedia with Ed Krause and Paul Shen and with them and CEO Efi Arazi is the core of the company's brain trust. "The technology was not easy for what CherryPicker is doing. We were pretty excited about what we had and probably talked about it too soon."

Whether CherryPicker is the breakthrough that Imedia hopes remains to be seen. But the company recently signed a deal with Swiss cable operator Cablecom, which has a CherryPicker operating in its Zurich headend. Perhaps more important, TCI plans to test CherryPicker later this month. That's a positive by itself, but it also suggests that Imedia and TCI may be on the verge of resolving the lawsuit. Neither company would comment on the litigation.

Although TCI is intrigued enough by CherryPicker to run it through its paces, David Beddow, president of the MSO's National Digital Television Center digital delivery service, says that one drawback of CherryPicker is

its expense. Neither TCI nor Imedia would discuss CherryPicker's cost.

In addition, Imedia faces increasing competition. A company called V-BITS has developed technology that does essentially the same thing at reportedly lower cost. In addition, industry heavy hitters General Instrument, Scientific-Atlanta and DiviCom all are exploring similar technologies.

"There's a lot of activity in this area," says Tom Elliott of Cable Television Laboratories, the industry's research-and-development consortium. "As the penetration of digital [set-top] devices increases, the interest in these kinds of [grooming] devices will increase. It's going to become [very] important in a short amount of time. From CableLabs' perspective, this is a good thing."

Imedia's Tom says CherryPicker is ahead of the pack and is the only such technology currently available. But there's still the question of whether history might repeat itself: Imedia's CherryPicker might come out of the starting gate first but get passed by later, less-expensive offerings from other companies.

Imedia executives are confident that won't happen this time around.

For one thing, says Tom, Imedia worked closely with several potential customers in developing CherryPicker instead of focusing solely on hitting a home run with one, albeit large, customer.

And, in addition to the upcoming CherryPicker beta tests with TCI, Imedia will test the system with at least three other leading MSOs, the company says. ■

# Hindery sees DTV deals before fall

Also says AT&T merger is still on track, given recovery of stock price

By Paige Albinak

**B**roadcast networks and cable operators should successfully complete negotiations on implementing digital television and retransmission consent deals before the fall, TCI President Leo Hindery Jr. told a Women in Cable and Telecommunications conference in Washington last week.

"I've never been more proud of the attempted collegiality between the broadcasters and the cable industry as I am today on both [high-definition] in general as a transmission issue and must carry as a policy issue. I think things will work out real well before the fall," Hindery said.

Hindery also said that AT&T's \$48 billion deal to buy TCI is going "full steam ahead," with AT&T's stock price back to predeal levels. Hindery expects the much-watched deal to close by the end of this year or the beginning of the next. As of last Wednesday, neither the Justice Department nor the Federal Trade Commission had taken over regulatory review of the merger.

Hindery is set to testify at a Senate Commerce Committee hearing on rising cable rates this Tuesday (July 28).

During that hearing, he is likely to predict that Congress should not worry too much about rising cable rates, because digital technology eventually will keep costs down.

"I ... anticipate that as deployment of digital set-top boxes takes place, as competition from the RTCs increases and involvement by advertisers and marketers grows, the cost to our customers will be more effectively constrained, thereby further compounding digital's inherent appeal," Hindery told WICT.

Although Hindery last April told the House Telecommunications Subcommittee that TCI would make sure that high-definition television—in whatever format broadcasters choose to offer it—is available to all cable customers, he still is preaching caution.

"I hope we don't fall too much in love with this high-def world, because



TCI President Leo Hindery says that he is extremely proud of the "attempted collegiality" between broadcasters and cable

it's very unfriendly to customers, and it's almost prohibitive as to its entry costs," Hindery said.

TCI has expressed concerns in the past about the plans of CBS and NBC to transmit HDTV in the 1080 interlace format instead of the 720 progressive format, which compresses more easily and works more smoothly with computers. CBS and NBC argue that 1080I offers the best available high-defini-

tion picture.

With regard to digital must carry, which the FCC began considering earlier this month, Hindery said that cable systems do not have the technical capacity to carry all broadcasters' digital and analog signals as broadcasters make the transition to digital.

"I believe. ... that the broadcasters and the cable industry are very close to some common understandings that will bridge the gap during this period of time when [the cable industry's] technical capacity is not capable of handling digital must carry."

The FCC is deciding what cable operators' responsibilities to broadcasters will be once broadcasters start the transition to digital. The commission is considering several possibilities, from requiring cable operators to carry all commercial digital and analog signals (up to a one-third-capacity limit) to delaying must-carry obligations for digital channels until broadcasters cease analog broadcasts.

Hindery also said that TCI plans to sell at or near its cost the nearly 10 million advanced digital set-top boxes it is buying from General Instrument over the next three to five years.

"I'm in the products and services business, not the device business. I want to be in the razor blade business, not the razor business." ■

#121



# archives

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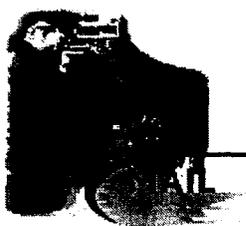
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September 1998

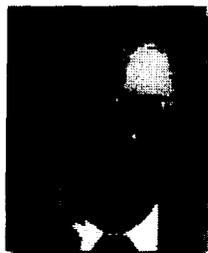
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## CAPITAL CURRENTS

### Must-carry, Firewire and PSIP



Contact Jeff via e-mail at:  
[jkrauss@cpccug.org](mailto:jkrauss@cpccug.org)



By Jeffrey Krauss,  
must-carry maven  
and President of  
*Telecommunications  
and Technology  
Policy*

The FCC has released its "digital must-carry" notice of proposed rulemaking. It mostly deals with political questions, but there are some important technology questions as well. These include how the cable box will connect to the TV set, copy protection, how to deal with multiplexed standard definition programming, and whether cable systems will carry PSIP data.

The FCC has proposed seven alternatives for must-carry policies during the transition from today's analog broadcasting to digital broadcasting. These range from requiring cable systems to start carrying all digital TV broadcasts as soon as they begin, to not requiring any digital carriage until all analog broadcasts have terminated, and a variety of intermediate alternatives. This issue will eventually boil down to a negotiated compromise between the broadcast and cable industries, after there have been some contracts negotiated between individual MSOs and broadcast networks.

#### Firewire

The first major technical issue that the FCC has highlighted is the absence of an industry standard for connecting cable boxes to TV sets. While there is widespread agreement that the IEEE 1394 ("Firewire") high-speed data bus should be the physical layer, there is a fight between TV makers Thomson and Sony over the command language to be used on the bus.

Not only has the FCC figured out that this is a serious problem, but so has Congress. On July 15, Sen. John McCain sent a letter to the Consumer Electronics Manufacturers Association (CEMA), blaming it for creating a major obstacle to the public's acceptance of digital television. And indeed, CEMA deserves this blame, because CEMA created two separate standards subcommittees, one to standardize the Thomson approach, and one to standardize the Sony approach, rather than forcing the two sides to reach a compromise. TCI recently announced that its cable boxes will use the Sony approach, so maybe the cable industry will be the one to pick a winner.

## Copy protection

The FCC recognized that even when that dispute is ended, there is still the question of copy protection. The Firewire link between the cable box and the TV set can also connect to a digital VCR, and the movie industry has said that it wants some kind of copy protection on that link to prevent unrestricted copying. The FCC noted that a group of five companies has presented a proposal to add a form of encryption to the Firewire link as a way to accomplish copy protection, but some industry observers think this proposal will be too expensive to implement.

What about multiplexed programming? If a broadcaster carries (say) six standard definition movies on its digital channel, and if the FCC decides that only one of those is entitled to must-carry status, then the cable operator would presumably demultiplex the channel, select the one program, and remultiplex it into a bundle with other programs. But that's hard to do if the broadcaster uses statistical multiplexing, because the data rate of the selected program keeps varying. So multiplexing it into a bundle with other programming becomes difficult, because the cable operator has no control over the amount of channel capacity that a program needs at any time. And what happens when the broadcaster switches from an SDTV multiplex to a single HDTV program? The cable operator will have to know in advance when this is scheduled, and will have to make sufficient channel capacity available.

The Program and System Information Protocol (PSIP) is a standard that defines a data channel carried along with digital broadcasts. The PSIP data is ancillary data, just like the ancillary data that is carried in the vertical blanking interval of analog television signals. Except for the ancillary data that carries closed captioning information in analog channels, cable operators are free to strip out the broadcasters' ancillary data and replace it with their own. And that policy applies to digital must-carry as well.

But PSIP contains channel navigating and numbering data. PSIP creates the idea of two-part channel numbers, to allow viewers to select among multiple programs within the 6 MHz digital channel. And it allows a TV station to retain the "brand name" of the analog channel number. In this way, while WNBC (channel 4) has been assigned channel 28 for digital broadcasts, the PSIP data will tell the TV set that when the viewer selects channel 4-1, the TV set should tune to channel 28 and display the first movie in the multiplex. The viewer need never know that it is being carried on channel 28. But PSIP is a brand-new standard, so existing digital cable systems (and cable boxes) won't support PSIP, at least not yet, and neither will most of the digital TV sets on the market this year. So the FCC has asked whether it should have rules that require support for PSIP.

The FCC notice does not propose any rules; it simply contains a list of alternatives and asks for industry comments. It isn't a process geared to speed, but that should suit the cable industry. ◀ ■

Capital Currents by Jeffrey Jeff Krauss

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September 1998

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**Editorials**

Committed to the First Amendment and the Fifth Estate.

**Nice picture if you can get it**

It's hard to tell whether the pangs experienced by those making the conversion to digital television are labor pains or signs of some more serious illness. Either way, there is plenty of groaning out there.

From the vantage of this week's special report on DTV--or, more accurately, from a 1,200-foot tower with a side-mounted, dual-panel, wideband antenna--the view is of a horizon that's equal parts possibility and challenge, although some might dispute that ratio.

No sea change comes without rough waters. But serious concerns about reception, tower siting and the initial price and availability of sets--not to mention regulatory issues, like digital must carry and government-mandated deadlines--are enough to give the most passionate DTV advocate pause.

The latest and perhaps most troubling of those concerns is over multipath interference, in which a signal duplicates itself by bouncing off objects in the transmission path. Arriving at the receiver at different times, the ersatz signals interfere with the main signal. In analog sets, the phenomenon can cause annoying ghosts (baseball teams with 18 players in the field); in the all-or-nothing world of digital, it can cause total loss of picture. This is bad news for those who thought they could use indoor antennas. "We know [indoor antennas] will work in some locales," says a spokesman for the Consumer Electronics Manufacturers Association, "but we can't predict [they] will work with any degree of confidence." Digital broadcasting may pose a "back-to-the-future" scenario, with outdoor antennas sprouting once again atop every roof (Maybe outdoor-antenna companies will be the next big growth stock.). "Outdoor is better, and higher is better," says CEMA.

The path to DTV may indeed have to be better and higher--and, given the technical problems, it also looks like it will have to be longer. DTV won't be built in a day, nor probably by the FCC-imposed deadlines,

which look as though they should go the way of most government timetables.

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WEDNESDAY, JULY 8, 1998

COMMUNICATIONS DAILY--7

**MASS MEDIA**

Consumers would rather have HDTV than more standard-definition TV, said study commissioned by DTV equipment maker Harris Corp. Survey, released just before expected FCC action Thurs. on DTV must-carry, said 91% of 700 consumers surveyed believe cable should carry local stations' HDTV signals and would be willing to give up some cable networks to get them. "These findings contradict the popular assumption that today's television viewers are only interested in receiving more channels," Harris Vp-Gen. Mgr. Bruce Allan said. According to survey, 78% of those polled watch fewer than 10 different channels in given week.

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What's New <sup>®</sup>

Consumers Want To See HDTV From Local Stations; Are Willing To Give Up Channels For Better Pictures, Survey Shows

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## **Consumers Want To See HDTV From Local Stations; Are Willing To Give Up Channels For Better Pictures, Survey Shows**

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MELBOURNE, FL, July 7, 1998 – Consumers want access to high definition television (HDTV) programming from local stations, and they are willing to give up channels in exchange for the better picture and sound available with HDTV, according to a recent independent survey commissioned by Harris Corporation.

The telephone survey results are being released as the Federal Communications Commission considers whether cable companies should carry HDTV programming offered by local television stations. The survey, conducted last month, questioned 700 consumers across the United States about digital and cable television. The group selected is representative of the U.S. population.

The survey showed that almost all of the respondents felt cable providers should carry local network affiliates' HDTV programs. In addition, more than half said they would be willing to give up some of their present channels for HDTV's superior pictures and sound.

Nearly two thirds of the respondents said they actually watched fewer than a third of the channels they receive, while the vast majority said they watched no more than half their available channels. More than three-quarters of the respondents watch 10 or fewer channels per week.

"These findings contradict the popular assumption that today's television viewers are only interested in receiving more channels," said Bruce M. Allan, vice president and general manager of Harris' Broadcast Division. "They show that consumers are willing to give up quantity in exchange for improved quality."

Among the survey results:

91% felt cable providers should carry local stations' HDTV programming.

80% indicated they were not aware of the must-carry debate involving digital HDTV.

78% watch 10 or fewer channels per week.

56% said they would give up channels in order to get HDTV programming.

### **How The Study Was Conducted:**

The telephone survey was conducted in May by Systems Research Corporation of Rochelle Park, New Jersey. SRC asked 700 randomly-selected consumers their feelings on digital and cable television. Don't know/refused responses were removed from the tabulations.

### **Harris Corporation Background:**

Harris is the leader in advanced transmitter equipment for DTV systems and the leading manufacturer of digital radio broadcast equipment in the U.S. The company has signed agreements to provide DTV transmitters to more than 200 television stations in the U.S. Last year, a Harris transmitter became the first in the U.S. to broadcast commercial digital television signals. The company also developed the test bed that was used to evaluate each of the digital television systems proposed for the U.S. market.

Harris has provided transmitter equipment for six of the United States' seven experimental DTV stations, including PBS-member stations WETA (Washington, D.C.), KCTS (Seattle) and Oregon Public Broadcasting (Portland), as well as stations WCBS (New York), WRAL (Raleigh, North Carolina), and WHD (Washington, D.C.), the nation's model station. Additionally, Harris has supplied digital transmitters for high-definition TV demonstrations worldwide.

Harris Corporation, with worldwide sales of \$3.8 billion, is an international communications and electronics company that provides a wide range of products and services such as wireless and personal communications, digital television, health care information, multi-media communications, automotive electronics, transportation, business information, defense communications and information, and Lanier office products.

###

**Editors Note:** *A graphical breakdown of the results is available [here](#). For further information, contact Neal Stein at 407/727- 9608 or [nstein@harris.com](mailto:nstein@harris.com), or Martha Rapp at 217/221- 7577 or [mrapp@harris.com](mailto:mrapp@harris.com). Additional information on the subject is available at <http://www.dtvexpress.org>.*

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**HARRIS**  
HOME

# GI buys TCI set-top centers

*TCI gets GI stock in exchange for assets and licensing rights to HITS service business*

By Dorina Petrozzello

In a deal that some analysts described as a logical next step in the deployment of digital, Tele-Communications Inc. reached a definitive agreement last week to turn over its authorization center business to General Instrument Corp. for an estimated \$576 million in stock.

Terms of the deal call for GI to transfer 21,356,000 shares of its newly issued stock to TCI. In return, GI acquires the assets and licensing rights to operate the digital set-top authorization center business for subscribers to TCI's Headend-in-the-Sky (HITS) service.

The shares represent about 10% of the fully diluted equity shares of the

## GI General Instrument



company, according to General Instrument.

GI stock traded last week at an average \$26-7/8 per share.

TCI's HITS authorization center oversees distribution and billing for programming distributed via HITS. Last week's agreement brings a deal crafted last December a step closer to completion.

Acquiring operational control over the HITS authorization center is a natural fit for General Instrument, which plans to distribute at least 15 million advanced Next Level digital set-top boxes over the next three to five years.

GI already has deployed more than a million interactive digital cable set-top terminals and more than 500 digital headends. The company reported annual sales of \$1.8 billion for its cable and satellite TV operations last year.

The deal benefits TCI, which has committed to buying 6.5 million-11.9 million of the 15 million GI boxes in exchange for a 16% equity interest in GI/Next Level.

In addition, TCI Ventures gains a 10% equity interest in GI as a result of GI's acquisition of the digital authorization business from TCI's HITS.

The deal does not affect TCI's control of the programming content of HITS.

"With this deal, TCI consolidates two assets," says Gary Farber at Cowen & Company. "TCI has plans to order 6.5 million to 11.9 million digital set-top boxes, and TCI is a significant owner of General Instrument. This also rounds out what GI is offering in terms of digital services."

General Instrument is expected to encourage sales of its authorization center services to small and midsize MSOs who might otherwise establish the same type of service in the individual headends in each of their systems.

"The HITS authorization center eliminates the need for individual services in the headends of separate cable systems," says Dan Sutorius, senior director of marketing for digital network systems at General Instrument.

"That's key for small and midsize operators because maintaining the authorization services at the individual headends can be costly." ■

# Wireless industry raises alarm on digital TV

**BY DAVID HATCH**

STAFF REPORTER

WASHINGTON—Digital broadcasters face yet another hurdle in getting their signals to consumers: wireless cable companies.

After rumblings last month from TCI Chairman and CEO John Malone that his company may have difficulty passing the 1080-interlaced high-definition TV programming format through to customers, the wireless cable industry last week raised the same red flag. TCI later said it would work with all digital broadcasters

to accommodate their needs.

At a Wireless Communications Association (formerly Wireless Cable Association) press conference in Washington, industry attorney Paul Sinderbrand said wireless operators will have difficulty carrying signals in the 1080i format, which CBS and NBC plan to use, because it eats up too much system capacity.

"We have the same issues as the cable industry here," he said. "The more spectrally inefficient formats really have to justify themselves in terms of consumer demand."

He predicted that member companies

will decide on an "operator-by-operator" basis which DTV formats to deliver.

Kevin Doyle, spokesman for BellSouth, a major wireless player, said the company's handling of the 1080i format is unclear, but he added, "I would envision that it could vary from market to market."

Said NBC lobbyist Bob Okun: "NBC is comfortable with its decision to broadcast in prime time in the 1080i format because we continue to believe it will be the best picture and sound quality."

He expressed hope that wireless operators will see the importance of passing

through NBC signals transmitted in the 1080i format and noted that NBC will use a less spectrum-hungry format during the day.

CBS spokesman Dana McClintock said the network is engaging in "mutually beneficial" carriage agreements with the entire cable industry, including wireless operators.

Wireless cable is not subject to must-carry restrictions for local analog TV signals, mainly because it's not a dominant programming provider and has limited capacity. The industry is hopeful such restrictions won't be imposed for digital signals. #

# SCTE lobbied for digital unity

BY RUSSELL SHAW  
CONTRIBUTING WRITER

DENVER—Cable television can roll out digital quality high-definition television services to large audiences on a fast-track schedule, but only if consumer electronics manufacturers and broadcasters work together with the industry on common agendas and cable-friendly presentation platforms.

That's the consensus of industry leaders who participated in two panel discussions at last week's Society of Cable Telecommunications Engineers Cable-Tec Expo '98.

Within that context, TCI Chairman and CEO John Malone used his appearance to—as he's done numerous times over the last several months—plug the virtues of 720-progressive scanning over competing 1080-interlace scanning as the best display mode for digital television.

"Obviously, the technical standard that will ultimately evolve for transmission is very important to the cable industry in terms of the efficiency of transport," Mr. Malone said. "720p is a superior presentation spectrum, especially for moving pictures. So from a cable industry efficiency point of view as well as a quality point of view, I favor progressive scan."

"We're beating the drums for that particular communication [progressive scan], and you'll probably see some announcements out of our company shortly with some programmers and some networks," he added.

MediaOne Group Senior Vice President Bud Wonsiewicz expanded on Mr. Malone's progressive scan stance—but in arguably more forceful tones.

There are "a number of issues we have that are mission critical to us with respect to the broadcasters. One is [that] we have to control the modulation of our signals so we can use these various spectrally efficient

*(Continued on Page 51)*

ELECTRONIC MEDIA June 15, 1998

## Digital unity

*(Continued from Page 10)*  
schemes in transmission," he said.

"We must avoid getting into a box where the broadcaster uses their channel allocation to package in multiple, standard digital signals and forces us to use the spectrum in that way," added Mr. Wonsiewicz, who is also MediaOne's chief strategy and technical officer.

"The high ground is: We will carry the signal at the quality the customers demand. We're responsible for delivering that pixel by pixel to the customer, but we are not in the business of having our spectrum expropriated for pay-per-view or standard definition," he said.

The SCTE show, now in its 22nd year, has long been far less of an industry summit and more of an extended briefing session for in-the-trenches multiple system operator engineers on how new technologies and products push the ball forward.

Yet, since this is a key time for rollout of digital set-tops, HDTV, fast cable modems and other advanced services, the timing of this year's show jelled well with the messages that cable's top executives wanted to deliver to their rank and file.

Other speakers also argued for better cooperation with consumer electronics manufacturers, particularly with regard to uniformity of on-screen navigation and technical speci-

fications in HDTV sets from various manufacturers.

"We've got to look to other industries to step up to this job with us. They've got to take part and not try to carve out a proprietary position in future business," said Time Warner Cable chief technical officer Jim Chiddix.

With regard to cable-modem deployment, several cable chief technical officers said they've heard the devices may be available at retail by Thanksgiving of this year.

Alex Best, senior vice president of engineering for Cox Communications, didn't express any fears that this coming-out-party would be overshadowed in any way by several digital subscriber line-related service announcements by several regional Bell operating companies—and, most recently, by Sprint.

Mr. Best cited "the difficulty of delivering megabits of data through a copper wire. It's not a slam dunk.

"From an efficiency standpoint, I can deliver [high-speed] telephone and data services with over 50 penetration in a thousand home node and use less than 1 percent of my capacity," Mr. Best added. "I understand what [Sprint and other telcos] are doing and why they're doing it. But I'll tell you what—it's hard to beat a megahertz capacity cable delivery mechanism."#

May 29, 1998

Mr. Brian P. Lamb  
C-SPAN  
400 North Capitol Street, N.W.  
Suite 650  
Washington, D.C. 20001

Dear Brian,

As President Reagan once remarked, "There you go again."

In your recent letter to Congress, you repeat the same tired claim that the adoption of must carry in the 1992 Cable Act caused C-SPAN to be dropped in "over 10 million households," and that "we still haven't recovered all of those losses." That sounds like a great story. Unfortunately, as you well know, it isn't true.

C-SPAN and other cable programmers were required in the *Turner* litigation to come forward with evidence to support their claims that must carry resulted in loss of carriage. Here's what that evidence showed:

- Nationwide, cable operators continued to carry *99.8 percent* of the cable programming that they carried before must carry.
- In October 1992, when Congress adopted must carry, C-SPAN was carried on 4,253 cable systems. In September 1994, more than a year after must carry went into effect, it was carried on 4,799 systems. By March 1995, it was carried on 5,200 systems, almost a 25 percent *increase* in cable carriage.
- When must carry was enacted, C-SPAN 2 was carried on 933 systems. In September 1994, carriage had gone up to 1,200 systems, and it was seen on 1,357 systems by March 1995. Thus, after must carry, the number of cable systems showing C-SPAN 2 went *up* by more than 45 percent.
- The same is true if you look at subscribers. In October 1992, C-SPAN was available in 53,600,000 households. That number went up by September 1994 to 58,640,000, and continued to rise to 62,400,00 households in March 1995. That's more than a 16 percent *increase*. For C-SPAN 2, it could be seen in 24,300,000 cable homes before must carry and in 37,000,000 in March 1995. Instead of losing households as you claimed, the subscriber figures you produced under oath show that C-SPAN 2 *gained* more than 52 percent in household availability after must carry.
- While you now claim that must carry resulted in C-SPAN's being dropped from cable systems, you told the FCC that its rate regulation rules were the reason C-SPAN was being dropped.
- At C-SPAN's deposition in April 1995, your witness was asked under oath to identify each cable system from which C-SPAN had been dropped because of must carry. You were only

able to identify *eight* cable systems (out of more than 11,000) where you claimed C-SPAN had been dropped, and eight more where C-SPAN 2 had allegedly been dropped. As the deposition revealed, for most – if not all – of those systems, you had no evidence that must carry was the cause of the drop. Indeed, in one of the eight systems where you claimed C-SPAN 2 had been dropped, the evidence showed that the reason claimed by the cable system was "that all viewership surveys consistently demonstrate that C-Span 2 is the lowest viewed service on their line-up."

The evidence of C-SPAN's own witness and documents is that, after must carry, C-SPAN and C-SPAN 2 were both carried on more cable systems and seen in far more households than before. You couldn't prove your claims of losing millions of viewers in court; it's time to stop peddling the same old line to Congress.

Kindest regards,

A handwritten signature in black ink, appearing to read "Erin Fitz". The signature is fluid and cursive, with a large initial "E" and "F".

cc: House and Senate Leadership

Members of the House and Senate Commerce Committees

Members of the House and Senate Judiciary Committees

Members of the Federal Communications Commission

**Time Warner Cable announced plans to launch field testing of Scientific-Atlanta's Explorer 2000 advanced digital set-top box** in

Austin, Tex., over the next few weeks. Time Warner will install the boxes in the homes of several hundred Time Warner employees and will evaluate the system's performance over several months. Time Warner hopes to make the boxes available commercially to its 240,000 Austin customers by the end of the year, depending on results from the field tests, says company spokesman Mike Luftman. The boxes initially will carry 60 digital channels with a mix of PPV services, premium channel multiplex services, digital feeds from basic cable networks and digital audio channels, Luftman says. Time Warner expects to offer at least 60 digital channels to consumers when the service is rolled out commercially after the company completes a rebuild of its Austin system, which could be done by year's end. 76

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## C-SPAN Networks in Jeopardy?

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### Text of C-SPAN Letter to Congress

May 22, 1998

Representative W. J. "Billy" Tauzin, Chairman  
House Subcommittee on Telecommunications,  
Trade and Consumer Protection  
United States House of Representatives  
2125 Rayburn House Office Building  
Washington, D.C. 20515

Dear Mr. Chairman:

As you are well aware, the rush is on toward digital technology in the cable television and broadcasting industries. All parties involved are working rapidly to meet the FCC's accelerated schedule as local broadcast stations prepare to simulcast their new digital signals to viewers, just as the Congress has prescribed. However, amid all this activity we at C-SPAN are having a terrible sense of déjà vu.

It wasn't so long ago that we were badly burned by the 1992 Cable Act. As a direct result of a resurrected must carry rule and the new retransmission consent provision, our carriage of the House of Representatives and the Senate was reduced or eliminated entirely in over 10 million households when C-SPAN and C-SPAN 2 were dropped from cable systems as operators scrambled to comply with the law. Even 5 years later, despite the extraordinary commitment of the cable industry and its leaders to keeping C-SPAN and C-SPAN 2 on systems, we still haven't recovered all of those losses.

Now, incredibly, it looks like it could happen again. This time the threat to our non-profit and purely public service programming is the possibility that must carry status could be granted to every local broadcaster's new digital channels.

Let me be absolutely clear on this point: if 'digital must carry' becomes law, C-SPAN and C-SPAN 2 will go dark in millions more American households.

The outcome is certain. It happened to us in 1993 and thereafter, and not enough has changed in the law, regulations, or the economics of the television business to lead to any other conclusion.

I tell this to you now (and to your colleagues on the telecommunications committees and in the leadership) because we waited too long last time to get our story out. Seven years ago in my testimony to the House telecommunications subcommittee I had only two messages for Congress on must carry. First, that if must carry became law, our public service efforts would be seriously harmed. They were. And second, that C-SPAN was not asking for any special favors for itself. Instead, we became second class citizens when the must carry rule forced us to take a back seat to every broadcast signal in a cable system's service area.

This time around, however, it may not be too late to get our

message across. So much about the actual implementation of digital television is still up in the air. Nevertheless, many smart people in the free market are coming up with solutions to make the new technology work for themselves and their future customers. Unless Congress and the FCC take the same approach to their jobs, we could easily be saddled with old-think rules for a brand new technology. Merely applying the analog-era must carry rule to digital television would be a mistake, and a disaster for us, even assuming "best case" scenarios in cable systems across the country.

For example, a typical 59-channel cable system in "Anytown, USA" with no empty channels that carries C-SPAN and C-SPAN 2 could easily be required to carry at least 10 local broadcast stations ( see the enclosed channel lineup). Even if each local broadcaster chose to create only one additional digital channel, the "Anytown, USA" system's must carry obligation would expand by at least 10 additional channels. The cable operator would then be forced to eliminate 10 existing programming services now watched and valued by his or her customers. (This is a "best case" scenario for us—even more satellite programmers would have to be dropped if a broadcast station used the new technology to create more than one channel within its new spectrum allocation.)

A cable operator's commitment to both C-SPAN and C-SPAN 2 (or to any programmer, for that matter), will be sorely tested under those circumstances. Our experience with must carry last time around tells us that C-SPAN and C-SPAN 2 will take a big hit with digital must carry, and it could start as early as later this year when the first digital channels become operational.

There is much more to be said about C-SPAN and digital must carry, and it cannot all be said in this letter. For now, however, I wanted you to be aware of our bitter experience with the must carry rule, and of our certainty that history will repeat itself unless Congress takes another look at must carry in the digital context.

I hope we will have an opportunity to discuss this in person before too long.

Cordially,



Brian P. Lamb, Chairman

[View a list of Members of Congress who received this letter](#)

[Encl: If you were the cable operator... which 10 channels would you take away from your customers?](#)

[Read Full Text of NAB Letter to C-SPAN.](#)

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TCI Chairman **John Malone** last week reassured **House Telecommunications Subcommittee Chairman Billy Tauzin** (R-La.) that TCI is "doing everything possible to ensure that our systems and digital devices can passively carry high-definition signals regardless of format." At the NCTA convention earlier this month, Malone created a fury of reaction when he told reporters that "if CBS does 1080 I, they are not getting on my systems. I'm not saying I cannot technologically carry them, but I'm not going to voluntarily carry them. No way." Malone told Tauzin that his statements were misinterpreted because of his "use of hyperbole and techno-jargon." Malone also said his "recent public statements represent an effort to initiate that bilateral dialogue" between broadcasters and cable operators.

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# Malone pulls switch on DTV

*In move seen as spur to CBS and NBC, TCI chairman says unqualified no, then qualified yes, to 1080 I signals*

By Paige Albinak and  
John M. Higgins

It's all about bandwidth.

That's the key to Tele-Communications Inc.'s confusing and very public flip-flop over HDTV standards last week, with TCI Chairman John Malone saying the company would not carry the 1080 I HDTV standard, fol-

lowed by a company statement saying it would not rule out

such carriage.

With ABC and Fox agreeing to the relatively space-efficient 720 P transmission standard, Malone's assertion at the NCTA convention in Atlanta that he would not voluntarily carry the fatter 1080 I scheme was aimed at trying to wrestle 1080 I fans CBS and NBC off their HDTV perches.

The statement apparently conflicted with a promise MSO President Leo Hindery made before the House telecommunications subcommittee on April 23. He said TCI would pass through 1080 I signals if the networks were using that for-



mat by the time TCI is ready to roll out its digital set-top boxes. Asked if he was contradicting Hindery, Malone replied: "I'm not our politician. All I

know is it's my money."

While some industry executives saw the gymnastics as an embarrassing political fumble, others contend it was a calculated move to pressure CBS and NBC. "John has two networks going his way," said the CEO of one cable operator. "He sees the other two within his grasp."

Malone said last week that in talks with the networks, NBC is thinking about going to 720 progressive, while CBS is split on the idea. That appeared to come as news to NBC and CBS, which said that they had no intention of changing formats.

Cable's carriage of digital broadcast signals is a hot political issue. Operators are trying to avoid the same must-carry obligations that they face with broadcasters conventional stations, which could require them to eventually find room on their systems for a dozen new stations in many markets and more than 20 stations in top markets.

To avoid congressional mandate, MSO executives have been saying that they'll carry whatever major broadcasters put out.

The technical standard is more important to Malone than to other operators because his systems have far less capacity. According to Bear, Stearns & Co. media analyst Ray Katz, just 20% of TCI's subscribers are on high-capacity 750 mhz systems versus 45% for US West Media Group and 56% for Cox Communications.

Malone touched off the controversy by declaring to reporters that TCI will

'98

not voluntarily carry the HDTV signals of any network that chooses the 1080 I display format.

If TCI cannot persuade the networks to back off 1080 I, Malone said he is willing to take his chances with the government. "I'm not going to voluntarily put a spectrum hog on my systems," Malone told reporters. "I'm not."

"If indeed John Malone said that, we're disappointed that it's at odds with TCI's previous commitments to carry any HDTV signal on its systems," said an NBC executive. CBS refused to be dragged into the controversy. "Progress is being made toward a mutually beneficial carriage agreement," said a company spokesperson.

But the comments quickly provoked sharp criticism from Capitol Hill and the NAB and a mini-panic among NCTA officials.

"It looks like the cable industry just fired on Fort Sumter," said Ken Johnson, an aide to House Telecommunications Subcommittee Chairman Billy Tauzin (R-La.). "If John Malone wants a war, he'll get one." The NAB said that

Malone's comments contradict the promise Hindery made to Congress.

So five hours after Malone's comments, TCI issued a more conciliatory statement (see box, page 8) saying no subscribers would be disenfranchised by standards decisions of broadcasters.

Malone said that government's role should be to pressure broadcasters and cable operators to reach private carriage agreements. "If the government wants to say you've got six weeks to work this

out, that would probably be helpful," Malone said. "Because [then] if it's not worked out in six [weeks], it's nuclear."

FCC Chairman Bill Kennard encourages such negotiations, but warned that time is running out for them to come to fruition: "My preference is to allow the market to work these solutions out.... My job is to do everything I can to promote choice and competition. If the industries don't move quickly to reach solutions, then government must step in." ■

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## **Malone: I'm Through Biting Tongue (Full Text)**

*At the National Show, Tele-Communications Inc. chairman and CEO John Malone held an impromptu discussion with reporters, including Multichannel News' Ted Hearn, over the high-definition TV and digital issue. An excerpted version appeared in the May 11 weekly edition of Multichannel News. The full text of the discussion follows:*

### **Q: Is the set-top box issue settled?**

**Malone:** What you're really talking about is high-definition digital. I think we are evolving to a consensus that probably [ABC Television Network president] Preston Padden has stated the best, which is progressive-scan 720p [format] will become, in my opinion, the transmission standard for cable and whether broadcasters put that over the air or want to broadcast 1080i [interlace format], I don't know. But I think what goes down the cable is going to be 720p.

### **Q: Do think the cable industry and the broadcasters can come to an agreement on digital must-carry?**

**Malone:** We will fight must-carry to the death on digital high-def, because who's going to tell use what channels to take away from 100 percent of the people so that 1 percent of the people can have something else?

So, you know, if [broadcasters] are going to cram it, I think they've got serious, serious political issues. That's just my personal opinion.

If, on the other hand, they cooperate with the formats, then we should be able to accommodate the carriage of anybody who can afford high definition within the normal parameters and bandwidths that we have available to us.

### **Q: Do you think there is room for local cable systems and local broadcasters to work out voluntary carriage agreements?**

**Malone:** Sure, absolutely. But they've got to pick a standard that's spectrum efficient. If they pick a standard that spectrum inefficient and we can't afford to process, then they've hung themselves in my opinion.

They can transmit anything they want. I'm not telling what to transmit over the air. I'm just telling them that what has to go up the cable system, if they are going to be efficient about it, needs to be a progressive-scan standard that doesn't require an extra 100 bucks of capital in everybody's set-top."

### **Q: So does that cut out 1080i?**

**Malone:** It cuts out 1080i because 1080i has a memory requirement and a processor requirement that makes it prohibitively expensive to put in every set-top box.

So you'd end up with a set-top box that was specialized only for the high-definition set customer and it would be a considerably more expensive box.

And, furthermore, the spectrum that 1080i would take up on the cable system or the satellite system -- same issue for the satellite guys -- would be highly wasteful.

And so we'll fight that pretty hard, because we think that the government would be making a huge mistake to drive toward an inefficient standard with respect to the use of spectrum, period -- and particularly our spectrum on our cable systems.

**Q: Where does that leave things then with HBO [which has announced support for 1080i]?**

**Malone:** They're not going 1080i. They're going to go whatever it turns out that they ought to go.

Everybody sort of grabbed for 1080i because, you know, there were proponents of it that said, "1080i's great -- Sony [Corp.] makes their studio equipment in 1080i," and so everybody sort of gravitated to 1080i.

They're are going to end up doing I think what is the most efficient, practical and quality-wise ... Go look at the Microsoft exhibit.

720p is a better format today for any kind of sports -- anything where you have moving pictures -- than a 1080i, and it will evolve to be far superior and far more affordable for the set manufacturers.

So it's just a question of, you know, let's not get for the next fifty years locked into an arcane technology because certain people are nervous about Microsoft.

**Q: I'm puzzled about one point. Why are broadcasters saying to you that they'll run into trouble with the government if you cut them in on digital revenues?**

**Malone:** The only ones who are saying that haven't heard the story. You want me to give you the story?

**Q: Sure.**

**Malone:** The story is as follows. Broadcasters transmit over the air high definition in whatever format that they think is appropriate for free.

They put up the cable system at 720p a multiplexed, compressed version which we deliver to our customers along with an HBO [Home Box Office] high-definition, a Madison Square Garden [high]-definition -- we probably offer the public 12 channels of high-definition signals, which at 720 progressive takes three analog channels. So it's spectrum efficient -- and, for that we charge the customer, a reasonable fee.

Now these are customers that are paying 8,000 bucks for a TV set. The government shouldn't be crying a lot about that. The broadcasters get a piece of that. That helps them defray the cost of doing it. And anybody who wants it for free can get it off the air."

That's my solution. Nobody gets hurt, they fulfill their public service obligation of over the air transmission. And if they want, the signal that they deliver to us can be time shifted, it can be modified from day and date with their standard broadcast signal, they can put data on it, they can do all kinds of things. So they can enhance it, in other words.

The consumer ends up with a product that can have on-screen graphics, that can have all kinds of things integrated with it because of the technology. That's the point we keep trying to make, which gets lost in all the noise.

But the reality is that from a cable transmission point of view, from a computer-technology point of view, a progressive-scan technology is the right way to go. It's at least comparable, if not superior, to 1080i, and it can evolve forward with the passage of time, whereas an interlace technology is dead. You're going to have standard that's dead for the next 50 years.

**Q: Would this be the problem, though, if the a broadcaster put out a signal at 1080i over the air but got paid by the cable to accept 720p? Then that would be a problem with the government.**

**Malone:** Why would it be? The customer would have the option.

What I am doing for the customer is just like I am doing for his existing signal. He can get it free over the air, but if he gets it from me, he pays.

I ain't free. It's private capital, guys. This is not the Internet. This isn't a government subsidy.

This is private enterprise and the broadcaster will have fulfilled his obligation to make it available for free and I will have done my private enterprise job of transporting it and defraying my costs, plus making a reasonable profit, by delivering it.

It seems to me that's exactly the model we have now on analog television and it's exactly the model that will evolve, in my opinion, on digital television.

And I think the real answer is: Let's be efficient about this, let's give the consumer a television set that he can afford and let's give him enough programming, enough choice that we are not becoming a very narrow ...

If you see this thing go 1080i, you're going to have a squeezing down of voices, because it's so inefficient on spectrum.

Instead of a proliferation of channels, you are going to see a diminution of channels, simply because that standard is too spectrum inefficient -- and look what it does to the satellite guys, whom I seldom cry for.

DirecTv [Inc.] has 32 transponders to work with. 1080i is one per transponder. Do you want DirecTv to shift from 168 channels to 32 channels? Tell them they got to carry high-def at 1080i? I mean, it's brain-dead.

The point is there has been a technological revolution which some of the people in the broadcast industry have missed. It sort of passed them by. It's called digital, it's called progressive scan, it's called microprocessors and digital memories and all that kind of shit. OK?

And they missed it -- some of them. Some of them got it, some of them missed it.

I think they are all going to get here pretty quick, and I think in and around that is peace in the valley between local cable and local broadcast.

Local cable has a big vested interest in helping local broadcast become successful in high definition. Localism is very powerful for cable. It enhances cable. It makes it more valuable to its customers.

So we're not at odds there at all with the local broadcasters. But they've got to get in line on a technical standard that's affordable and that we think is spectrum efficient.

That's the message, short and sweet. That's the page I'm on." And I really think that if the broadcasters dismiss this once-in-a-lifetime opportunity to claw their way into subscription revenue streams, then they really are suicidal.

And then I'll have to make a statement like [vice chairman of Time Warner Inc. Ted] Turner made to the publishers -- you know, that he's glad he came to their dinner because they won't be able to afford it much longer.

**Q: So you won't carry them unless the broadcasters [give up] the 1080i format?**

**Malone:** In high definition? Well, I'll do whatever the government orders me to do. But if the government orders me to do it, I'd hope they will also order me which channels to drop. That's my only request.

And it ought to be explicit, system by system. You know, here's the channels I'm carrying. Which ones do you want me to drop? C-Span? How about ESPN? How about CNN? Let's just shoot one of the three news networks we carry. Tell me which one, guys. You get the picture?

That's not to say that they couldn't come up with a must-carry theory that said as you rebuild, as you expand capacity, you've got allocate 20 percent of your expanded capacity to carrying this spectrum-inefficient signal that broadcasters want to burden you with.

I really think it's suicidal for them because I don't think it's the wave of the technological future.

So that's kind of the page we are on and I'm going to start evangelizing that position because I think it's very important.

**Q: How will you do that?**

**Malone:** I'm going to stop biting my tongue and I'm also going to approach friendly broadcasters and suggest we do bilateral deals, you know, like right now."

And my willingness to do those will be contingent upon the technology that we can agree on.

Does the government really want me to have my customers pay for an extra 100 bucks a box so that a very small percentage of people can get high definition?

Do they really want to tell me which channels to take off my cable systems so that the broadcasters can be a spectrum hog? I don't really think so." I really don't think the broadcasters who think about this really want to do this as a cost center. I think they want to do this as a profit center or at least as some offset to their incremental expense, or they get buried.

HBO has to do it once per country. The broadcasters have to do it in 185 markets or something.

You think about the cost differentials of doing that. We've got literally hundreds of satellite channels that we can use for multiplexing all the cable networks. We do that once per country.

If they want to play spectrum hog, I think it's almost suicidal for them. I think it would be very foolish for them to do that.

**Q: Where do things go from here? And what's the state of the negotiations with the major broadcasters?**

**Malone:** Well, I thought it was a huge breakthrough when the [Walt] Disney [Co.] guys came out publicly and supported the scheme I am talking about.

They haven't gone so far as to say that maybe they can get some subscription income out of it. But they have supported the technology.

We've got various TV set manufacturers now. And then ask [Microsoft Corp. chairman] Bill Gates what he wants, right? And then ask Silicon Valley what they want.

There's no question out there what they want. They need a progressive scan. They know it's more efficient.

So, you know, that's the message. We just have to keep delivering it.

**Q: What kind of bilateral deals did you have in mind?**

**Malone:** The one just described. I'll go to the four local broadcasters in a market and say, you know, work with me on this and I'll carry you for free and if you want to make a charge, I'll administer the charge. I'll secure it, I'll multiplex it, I'll deliver it, you can time-shift it if you want, and if it's a subscription business, we'll collect and pay, okay. That's the deal.

I haven't conspired with my satellite competitors. But my suspicion is that they are on the same page -- that anything that's spectrum-efficient in high-definition they would support.

**Q: [Tele-Communications Inc. president and COO] Leo Hindery told Congress that his box would pass though a 1080i signal.**

**Malone:** It will. It will. It will just pass it through. We can't do anything to it. We can't do anything with it. We can't enhance it. We can't put graphics on it. We can't do any interactive on it. But we can pass it through and it will use a full analog channel, OK?. It'll be a spectrum hog. That's the whole point I am making."

A 1080i, you know, is one that is just going to be passively passed through and it will displace a lot of other programming -- right now 14-to-one. So for every 1080i must-carry digital signal the government would make me carry, I've got to wipe out 14 networks. Get the leverage?

If they want to tell which 14, I guess I'm a servant of the government. But the reality is, I don't think it makes a lot of sense. It makes a lot of sense to cooperate, to have a standard that's spectrum efficient, that's affordable and that's the wave of the technological future.

In terms of passing through, yeah, I'll pass it through. But tell which 14 to take off. And the satellite guys -- tell them what 8 to take off.

**Q: You just deal with the first four broadcasters. What about the next three to seven broadcasters?**

**Malone:** Fine. If there's a demand and they want to spend the money on it, fine. We'll do two analog channels at four-to-one and multiplex. Look, it's in the interest of the cable company and the community and the broadcaster to work this out."

**Q: Leo [Hindery] insists that this is the networks' idea, so this isn't an agenda that you are necessarily pushing?**

**Malone:** Leo is welcome to his opinion. It's an agenda that I think is crucial for the cable industry in terms of spectrum efficiency. I think the broadcasters need to come to a consensus themselves, but I think they are getting there. And the set manufacturers have to come to a consensus and I think they are getting there.

The problem with the set manufacturers is that they thought it was either going to be 480p or it was going to be 1080i. The idea that it could be 720p -- you know, Japan doesn't move that fast. They are kind of still recovering from the shock that they've engineered the wrong thing. But they'll get there.

**Q: A six to 10 digital subscription tier -- what would be the programming on that tier?**

**Malone:** It would be, in my view, the local broadcasters that choose to be high definition, plus it would be the key major cable networks whose programming is readily adaptable into that format. So anything that's movie-based or anything that's currently produced on the sports side or Discovery [Channel], which has always been producing its programming in a high-def format. So, you know, Discovery, HBO, and Starz! and Showtime and pay-per-view, probably Fox Sports and ESPN would probably be the early high-def.

**Q: Not duplication, you're talking about new programming?**

**Malone:** No. It would be their existing programming in high-def format.

**Q: How much do you expect the cable networks to be charging you for an HDTV feed?**

**Malone:** I'd hope it's free and then I can charge a lot for it when I pass it on. What do I really think? I think it will vary from supplier to supplier. Some of them will have very low incremental costs of doing it and they'll probably bundle it with their analog. So maybe it's a way for ESPN to give back a little of the money they just stole. It would be to say, "OK, the bad news is the ESPN rate is going up, the good news is you can have ESPN high-def without a charge." Wouldn't that be nice? Why don't you guys suggest that to Disney?

**Q: So you got four major networks in a 10-channel package at \$10. What do you expect to be paying the four major networks?**

**Malone:** I don't know. Something reasonable.

**Q: Forty percent of the take? Sixty percent of the take?**

**Malone:** I think you would have to do some focus group and some sense of what the values were. Don't forget these are available off-air for free.

I remember a phone call I got a few years ago from one of the network heads who said if we were to pull the network off broadcast and put it on cable, would you pay \$2 a month a subscriber for it? I said no, but I'd pay \$1. It never happened.

It's worth a helluva lot more if it's exclusive than if it's free. How much does a supermarket charge for eggs if there's a truck out there with eggs for free? You don't sell a lot of eggs in the supermarket.

So to us it would be more of a service, since you can get it for free otherwise if you go through the

technical issues of receiving it.

**Q: How much of an economic incentive are they going to need?**

**Malone:** Anything's better than nothing. My mother used to tell me that and she also said beggars can't be choosers.

**Q: Maybe universal must-carry is better than up on a tier for 50 cents a month?**

**Malone:** You mean for them?

**Q: Yeah.**

**Malone:** They've got huge costs and no incremental revenue. So why is high-def a good economic proposition for a broadcaster? Give me any business model that says that it's not just a cost center, a big loser. At best, they retain parity, because cable networks will clearly go high-def in a spectrum-efficient way. So the question is, then, what does a broadcaster do if he's faced with HBO and Fox and so on going high-def?

I think it's better than that. It's clear to us that we can make deals with Fox and Disney. It's sort of clear to me that I can make a deal with NBC. I don't know whether I can make a deal with CBS. I'm sure I can make a deal with PBS [Public Broadcasting Service].

And then the independent stations, I think, we have a fair degree of leverage over because of our transport -- so I'm sure we can make deals with them.

So really, I think it's a question of pounding this thing. If the government wants to say, "You got six weeks to work this out," that would probably be a help -- and if it's not worked out in six [weeks], it's nuclear. Sometimes you need that to drive to a consensus.

Look, a lot of this is fear of the computers, fear of Microsoft, fear that if you go to a progressive scan, somehow or other Bill [Gates] got some trick up his sleeve and he's going to own the world -- which really is only a timing difference, because he is going to own the world anyway. It's a question of whether this is his route or some other route.

**Q: Could the studios derail this by charging too much money for time-shifting their programs, like Seinfeld?**

**Malone:** That's why it is important. If there was any must-carry, it would probably be day and date identical signal, you can't have two bites at the apple and so on.

Whereas a private deal with cable gives the station flexibility to broadcast one thing at analog and a different thing up the cable for high-def. So no one studio could really hold you for ransom. If it turned out they could make a high-def with every other supplier except Seinfeld, then they just don't put Seinfeld at high-def and they still have a high-def signal.

**Q: What if the government comes back to you and says, "We are imposing must-carry," and also says that the digital-broadcast signal is the first purchase the cable subscriber has to make?**

**Malone:** I think I would short my stock and hire the best constitutional lawyer I could find, because I think that's a taking. But I'd also start a PR [public relations] campaign with the public about here's what you are going to lose and here's the relevant phone numbers of the relevant federal officials who seem to be making this decision.

**Q: But that's never worked for you. Any time you've taken off a channel for any reason, it's always backfired on you.**

**Malone:** This is massive. You are not talking about a channel with a programmer who's upset. You're talking here about lots of channels and lots of programmers who will be upset.

It's just that you can't put 10 pounds of programming in a five-pound bag. You can't do it. If they are going to force the programming decision, then they are going to force some pretty tough ... near term.

Now as I said before, the way they do this is probably to say, "We'll phase it in over rebuild time," or whatever. Or they'll have some rule that says you don't have to use more than x percent of your channel capacity for this in any event.

I just don't see our government telling us that we've got to drop lots of currently carried networks in order to accommodate a spectrum-inefficient transmission for a customer set that does not even exist today.

**Q: But they have done it before, and the arguments you're making didn't work politically the last time and didn't work legally.**

**Malone:** Well, they really didn't do it before. If you remember how they phased in must-carry: There was phase in; there was a rule you're only required to carry a certain percentage of your channels have to be broadcast. They were careful about the imposition.

**Q: You didn't think so at the time.**

**Malone:** My job is to bellyache, right? I mean it did hurt. It wasn't fun. But it was at least rational and you were talking about making a judgment call between two signals -- both of which everybody was going to get to see. Now you're talking about making a decision between one signal everybody gets to see and another signal nobody gets to see -- unless they pay \$8,000 for a TV set. I wouldn't want to run for political office on that platform, OK?

**Q: What sense are you getting from regulators and Congress?**

**Malone:** They want us to work this out. They want a summer of love between the cable industry and the broadcast industry.

**Q: If that's the case, they why are we all talking about this every day?**

**Malone:** Because it hasn't been decided yet, it hasn't been announced yet, and because the broadcasters are building up their intestinal fortitude to decide how much risk they take on these licenses and just how greedy they can afford to look. And there is clearly a big split between the networks and the NAB [National Association of Broadcasters] on this.

**Q: How far along would say talks are?**

**Malone:** We've been talking for about 9 months -- "we" being CableLabs [Cable Television Laboratories Inc.], since this is a technological issue and I'm chairman of CableLabs.

We've had seriatim meetings with all the networks now I think three times and one-on-ones with several of them and a lot of sidebar discussions. I think we are making progress.

Basically, the array, as I read the array, is that Fox would love to stay at 480p and multiplex, but they are willing to do 720p as a high-def standard.

Disney -- Preston Padden -- has clearly signed up for 720p. And he expects to do 480p during the day and 720p at night. And, of course, 720p is a high-def standard. So there is no question that it is high-def.

I think NBC is thinking about it. And I think there is a split within CBS.

**Q: I talked with CBS in the last week and they said 1080i.**

**Malone:** Well, then they are not getting on my systems and they may be the only broadcaster that doesn't.

**Q: So you're saying that if CBS picks 1080i, they're not getting on your systems.**

**Malone:** They are not getting on my systems.

**Q: That's different from what Mr. Hindery said last week at the hearing.**

**Malone:** They're not getting on my systems. I'm not saying I can't technologically carry them, but I am not going to voluntarily put them on. No way.

**Q: Can they get on Leo [Hindery's] systems?**

**Malone:** They can get on all Leo's systems and none of mine. We'll make a deal. I am not going to voluntarily put a spectrum hog on my systems. I'm not.

If I am ordered to do so, I'll comply with orders ... by the FCC [Federal Communications Commission]. They have the authority. They can do that, if they want.

But I am not going to voluntarily do that ... for all the reasons I have just been describing. It's wasteful, it's inefficient, it's not the wave of the future, it's a spectrum hog, it'll force many programmers off. It just doesn't make sense.

If they are dug in on a technical standard that we don't think makes sense and the other guys are willing to go the other way, then I'm going to go as far as I can with the guys who are willing to go the way I think they ought to go and I'll play hardball with the guys who won't. I mean, what else do I do as a businessman?

**Q: Is there some misunderstanding between you and Mr. Hindery on this issue?**

**Malone:** Well, I'm more, I'm more ... I'm not our politician. All I know is that it's my money, it's my consumer and I'm trying to satisfy my customers' needs and be as efficient as possible and I am not going to do something voluntarily that I think is against the interests of my end customer.

**Q: Have you lost the 16-by-9 battle? Are the new sets going to be made in that format?**

**Malone:** At 720p, the set-top box can accommodate either format on the fly, which means the signal we put out can go either way. Also, at 720p we can decimate the digital signal and offer it for standard definition. In other words, every TV set could receive the broadcast transmission whether it was high-def or standard def, which means the broadcasters, if they want to differential their signals,

would get two bites at the apple instead of one.

It's what makes it so attractive. And, you know, for the life of me, I don't why these guy are dug in where they are. But that's kind of where it sits.

But my guess is that if one of the broadcasters hangs in at 1080i, that there will be no general agreement reached and it'll it be a marketplace-driven agreement and we'll just start going ahead doing bilateral deals with the broadcasters who do want to do it with us. And the ones who don't just won't get parity, won't get carried, won't get whatever.

**Q: Some thoughts on satellite as an ally on this? Maybe a competitor?**

**Malone:** I think satellite has exactly the same issues that we have on this subject. They want to be spectrum efficient. They wouldn't have a business if they weren't spectrum efficient. So we've got more spectrum to play with than they do.

**Q: So why not demand must-carry and screw up their lives?**

**Malone:** I think it's bad for the public. How can you possibly justify taking programming away from everybody in order to inefficiently deliver programming to a very few people? That's the question.

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May 6, 1998

## Big Cable Company Fighting New CBS and NBC Signals

By THE ASSOCIATED PRESS

**A**TLANTA -- The cable giant Tele-Communications Inc. is threatening not to carry CBS' and NBC's new digital high-definition TV channels unless they switch to a format that takes up less channel space.

TCI's chairman, John Malone, talking to reporters Tuesday at the industry's annual convention, said: "If they want to play spectrum hog, I think it is almost suicidal for them. I think it would be very foolish for them."

CBS and NBC have said they will offer high-definition television, which provides viewers with supersharp pictures and sound, in a technical format dubbed 1080i that Malone said would eat up too much space on cable TV systems.

He said he is talking to ABC, CBS, NBC and Fox to work out voluntary agreements to carry their high-definition and other digital signals on cable systems. Some digital high-definition broadcasts are to begin this fall.

Malone said the networks other than CBS and NBC are using formats that won't take up too much space.

Unless those two change, Malone said he would not voluntarily carry their stations on local cable systems. Such a move would mean that cable TV customers who wanted to watch those networks' digital channels would flick an a/b switch, bypass the cable and get them from an antenna.

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"We are disappointed," said Bob Okun, an NBC vice president, adding that the network has no intention of changing its format. Malone's threatened action "will disenfranchise consumers and there is always the possibility of a consumer backlash," Okun said in an interview. He said Malone's remarks appeared to contradict assurances that TCI's president, Leo Hindery, recently gave to House lawmakers.

Still, Okun said he was hopeful an arrangement with TCI would be worked out.

A CBS spokesman said, "CBS' discussions with the cable industry have been constructive and we believe progress is being made toward mutually beneficial carriage agreements that will serve the best interests of the

audience we share."

Hours after Malone's remarks, TCI issued a statement saying: "No cable customer with an HDTV receiver will be disenfranchised from receiving an HDTV broadcast signal through the cable system" because customers can get the signals from an antenna. The statement, however, did not promise that TCI would carry NBC's and CBS' digital signals on its systems.

A spokesman for Representative Billy Tauzin, the Louisiana Republican who is chairman of a House telecommunications subcommittee, said that if Malone follows through on his threat Tauzin will introduce legislation to force carriage.

Malone said he would carry CBS' and NBC's high-definition signals only if forced. "I'll do whatever the government orders me to do," he said. But he added that carrying the two networks' technical format would force TCI to drop many cable channels.

Next month, the Federal Communications Commission will consider whether to force cable systems nationwide to carry broadcasters' digital channels.

The FCC's chairman, Bill Kennard, addressing the convention Tuesday, urged the broadcast and cable industries to come up with a plan for cable systems to carry TV stations' digital programs.

"We are going to give you a period of time to try to work these issues out, but we've all got to recognize that the clock is ticking," he told cable executives.

Broadcasters want the FCC to require cable systems to carry their new digital channels along with stations' analog ones, which are currently carried on cable systems. The cable industry prefers voluntary carriage agreements for the digital signals.

"We'll fight 'must-carry' to the death," Malone said.

Some TV stations will begin airing digital shows this fall. All TV stations must offer digital broadcasts by 2006. Cable carriage is important to broadcasters given that two-thirds of TV homes in the United States get their TV via cable.

"Fundamentally, I think that it would be a mistake not to let the industries try to work these compromises out," Kennard said.

Malone quipped that the FCC wants a "summer of love" between the rival cable and broadcasting industries.

The FCC also intends to issue final rules next month aimed at giving cable customers the option of buying set-top boxes in retail stores, Kennard said.

A 1996 telecommunications law requires the FCC to do this.

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## Ramping up cable-ready

Cable and consumer electronics engineers say they have taken the first step toward defining a cable-ready digital TV set.

A joint group of the Consumer Electronics Manufacturers Association (CEMA) and the National Cable Television Association have identified eight essential elements that TV sets will need in order to display digital programming delivered by cable operators. The group has been seeking to define the technology that sets must have to display any nonscrambled digital programs offered by a cable operator, whether the programs originate from a broadcaster or a cable network.

"We tried to ask what possible kinds of signals would be on a cable system?" says George Hanover, CEMA's vice president of engineering. Hanover calls the group's identification of the basic elements a starting point toward defining a cable-ready DTV set.

Hanover adds that the group will look next at whether there are additional technical elements that should be included in a cable-ready digital TV.

—Chris McConnell

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May 4 1998 **Broadcasting & Cable**

# Digital cable: when, not if

*Most estimates say digital will replace advanced analog within seven to 10 years*

By Price Colman

**A**s the National Cable Television Association's annual convention opens, there has been a clear shift in attitude about digital cable: The issue is no longer whether all major MSOs will deploy it, but when and how fast.

From the analysts' perspective, much of the debate about digital is becoming moot. The bottom line is the ability to offer more video and such advanced services as Internet access, interactivity and over-the-tube transactions.

"You have the approach TCI is taking and the approach Time Warner is taking," says Tom Wolzien of Sanford C. Bernstein. "They're all going to end up in the same place at the same time. They're just taking different routes."

Tele-Communications Inc., spurred by financial considerations, is clearly the leader of the pack, with digital cable now available to more than 11 million of its 14.4 million subscribers. TCI projects that as many as 1 million of its customers will be digital subscribers by year-end.

Absent the same financial constraints, other major MSOs have focused on rebuilding and upgrading analog capacity. But even for them, digital looms large.

At the far end of the spectrum from

***"You have the approach TCI is taking and the approach Time Warner is taking. They're all going to end up in the same place at the same time."***

—Tom Wolzien,  
Sanford C. Bernstein & Co.

TCI are Time Warner, MediaOne and Cablevision Systems. With aggressive analog rebuilds in effect, they're taking a more restrained approach, focusing on the return on investment from advanced analog.

"We have always been believers in a full two-way digital box," says Time Warner Cable spokesman Mike Luftman. "Those are just now becoming available. We're doubling our commitment to buy Scientific-Atlanta Explorer 2000 set-tops, to 1.1 million."

Time Warner is "preparing to launch 75 channels of digital on top of 75-80 channels of analog," Luftman says. "That's our approach. It offers maximum choice." But, he adds, "We think ultimately digital will predominate."

It's no surprise that Time Warner and MediaOne share a similar, deliberate approach to digital. They were part-

ners in the Full-Service Network trial in Orlando, Fla., and what they learned there helped spell out their digital strategies.

"They're just saying, from their experience in Orlando, that the transactional business is not as large as some think," Wolzien says.

"To date, we've had success with advanced analog," says MediaOne President Jan Peters. "The way we're thinking about digital video is that it will occur. Our network is in a prime position to offer digital video. ... But another determinant is HDTV and set-tops compatible with HDTV."

In between the TCI and Time Warner/MediaOne approaches to digital cable, there are Cox and Comcast. Cox is marketing its digital product in six major markets already and by year-end intends to offer digital in all nine of its major cluster markets. While those markets encompass roughly 85% of Cox's total subscriber base, the company expects the digital product to be available to some 33% of those customers because it is activating digital only in those systems that have been rebuilt to 750 MHz with two-way capability.

"We're on schedule pretty well," says Lynne Elander, Cox's director of product development. "We got off to a slower start than initially anticipated. But we also intended to be launched

right, and not go to market before we were ready.”

Comcast has rolled out digital in two key markets—Orange County, where it has 200,000 subscribers, and the Philadelphia suburbs, where it has 175,000 subs. A rollout in Detroit systems is imminent, and five to six additional markets, as yet undisclosed, are on tap for this year. Comcast is making no projections about year-end digital subscriber counts, says Comcast spokesman Joe Waz. “But there’s no doubt they represent, in the main, our most significant clusters,” he adds.

### The return-on-investment equation

The MSOs’ differing approaches to digital cable boil down to how they have calculated their expected return on investment in digital and advanced analog.

That’s a simplistic explanation, because the details are exceedingly complex. What is emerging from real-world experience is that digital makes economic sense in larger markets, i.e. Cox’s 300,000-subscriber clusters, and in smaller markets. It’s the midsize markets where digital is on the cusp.

There are various reasons for the gap. Under Cox’s scenario, larger markets that have been rebuilt offer economies of scale. Advanced analog boxes offer 15-16 additional video channels, digital music and an interactive guide.

“If you look at digital, we have the same bandwidth, but we can [fit a total of] 200 different channels of video programming, plus music, plus processors in [digital] boxes that offer an enhanced interactive guide,” Elander says. “Digital boxes far outstrip advanced analog boxes.”

The situation differs for smaller operators such as Buford Television, a Texas MSO. To figure out if there was a case for digital, Buford Vice Presi-

<b>Digital Cable Penetration</b>				
As a percentage of basic subs				
	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
TCI	8.6%	22.8%	37.8%	52.8%
Cox	1.4%	7.1%	16%	26.8%
Comcast	0.7%	4.9%	12.9%	22.8%
Cablevision	1.3%	10%	21.4%	35.8%
Adelphia	0.9%	8.4%	15.9%	25.9%
UMG	0.7%	6.6%	15.4%	25.7%

\*Source: Bear, Stearns & Co.

dent Ron Martin calculated the cost for an analog rebuild versus the cost for digital.

Under his model, based on a system of 5,000 subscribers and passing 8,000 homes where the goal was to add 95 channels, the fixed costs for an analog upgrade were far higher. Martin figured that for advanced analog, it would cost some \$2,000 per channel, roughly \$10,000 per mile for plant upgrade and about \$10,000 in other headend costs. In contrast, the cost per channel for a digital upgrade is just under \$1,000, with no need to rebuild the cable plant. Other headend costs also were eliminated under the digital plan.

But, Martin acknowledges, variable costs—set-tops and home installation—are about \$400 per customer for digital compared with about \$180 for advanced analog.

The advantage of digital is that “we don’t have to fix costs up front in rebuilding cable systems,” Martin says. “The capital follows the revenue stream. With advanced analog, you have very high fixed costs. With digital you have higher variable costs, but it goes only into homes that are paying.”

The breakeven point for digital or analog largely is a function of headend size, says Martin. Under Buford’s model, digital cable’s economics work in systems as small as 3,000 subs, given about 20% penetration.

“It increases cash flow per sub about 7 percent,” says Martin. “That’s better than break-even.” Moreover, Martin says, the break-even point drops as digital set-top prices come down.

One key question: If Buford’s economic model for digital is accurate, why isn’t everybody scrambling to get on board? There are several reasons: box

availability and features, follow-through on business strategies and need.

As Luftman points out, set-tops only now are being equipped to offer more than just additional video programming. Couple that with the fact that many bigger operators are well along in advanced analog rebuilds and the urgency for moving to digital decreases.

“I think their view is that where bandwidth is more plentiful, they can wait for digital to look better,” says Dan Moloney, general manager of advanced network systems at General Instrument.

“A number of players in the industry—including Cox and Comcast, and not just Time Warner and MediaOne—feel there is a hybrid approach. They look at their subscriber base where they have 65 percent penetration into a system. A number of those are basic-basic who don’t need set-top technology. Another group moves up to a one-pay tier. Ultimately, they [cable operators] want to drive advanced analog into those, get them into taking premium or multipay tiers, and then they can drive them more easily into other advanced services, such as Internet access and enhanced TV.

“The economics play out well for that strategy. Then you lay on top of that the percentage [of subscribers] that you want to drive into digital. Ultimately, they want to drive digital deeper and deeper, but it will take a number of years to do that. ... Operators want to get technology to their entire base that allows offering of new products and services,” Moloney says.

Eventually, digital will supplant advanced analog. When does that happen? Most estimates put it at seven to 10 years from now. ■

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# CABLELABS

## Opening the door to digital

By Price Colman

**C**able Television Laboratories has long been crucial to the cable industry as its research and development arm. Its importance moved to a new level last year when CableLabs launched its OpenCable initiative.

OpenCable's prime directive is to establish standards for digital set-top boxes, devices many see as the key to the telecommunications future. But it has an objective perhaps even more ambitious: Uniting often-competing cable, computer and consumer electronics industries in a triumvirate that will bring about the digitization of telecommunications and video entertainment.

OpenCable has removed the barriers to an industry that has long been closed to outsiders. No other single development in cable so effectively highlights how the industry has matured as it enters the new age of electronic communications, entertainment and commerce.

CableLabs would not exist without the support of member cable companies—TCI, Time Warner, MediaOne, Comcast, Cox, Cablevision Systems and others—which not only fund the operation's

nonprofit CableLabs but also lend vision, leadership and personnel.

But it is the CableLabs executives themselves who shoulder the burden of turning vision into reality—people such as Richard Green (l), CableLabs president and CEO; Jerry Bennington (r), senior vice president, and Laurie Schwartz, director of digital video services. In a recent panel discussion with BROADCASTING & CABLE Denver Bureau Chief Price Colman, the three executives detailed OpenCable's progress as well as challenges and opportunities ahead for the cable industry.

**Dick, let's start with you and get an update on the status of OpenCable.**

*Green:* It's on schedule. OpenCable has turned out to be a very useful and productive vehicle for resolving industry problems vis-a-vis development of advanced set-tops and integration of functions. We see it as a long-term project with a whole series of possible ramifications and goals.

*Schwartz:* Right now is probably the busiest we've been on OpenCable. We're about ready to release our first specifications—what the box has to do and how we expect it will accomplish that—for vendor comment. At the same time, we're releasing a number of key interface documents for our

members' comments. Those are more detailed, down to the bits and bytes and prongs, the interfaces to ... the TV, to a removable security module, to the headend. The software environment continues to move along. We have lots of good input from the computer industry and we expect to release that in June for vendor comment. We're right in the heart of the real, defining stages of it.

**What deadlines are you looking at? You mentioned June.**

*Schwartz:* This summer is when we want to get initial drafts out there and [have] the vendors communicating about them. [We will] integrate their input. We'd really like to have something finalized, so that when we get to the International Telecommunications Union [which sets international standards] in November, we can submit it at least for a review. Our members are deploying boxes that will be

*"This is a multi-industry approach to solving what amounts to a very significant development problem. It's important to recognize the complexity and the depth of the task. Having said that, we intend to get these boxes in the field as soon as humanly possible."*

[OpenCable] compatible and our intention is that whatever we put into OpenCable will allow those boxes to operate in the same system in the future.

*Green:* OpenCable is a family of products, a family of set-top boxes, with varying capability and purpose.

**Getting a box out there for the retail market is a significant goal?**

*Green:* It is a significant goal, and a significant driver in the process. The ultimate goal, though, is to get this functionality built into the [television] receivers.

*Schwartz:* Major milestones, before we get to either of those, will be things like the common software environment.

**In the PC industry, they talk about forward and backward compatibility. That sounds like what you're talking about.**

*Green:* Yes. This would be the first time at CableLabs that we've undertaken a major effort in software specification. That is the enabling point for software developers to begin delivering product.

**You're looking at more than delivering digital signals.**

*Green:* Yes. This is integration of services. OpenCable is a nexus of the two networks, the digital downstream broadcast network and the two-way packet network of which the

DOCSIS [Data Over Cable Service Interface Specifications] modem is the early representation. These things begin to blend in the OpenCable set-top. OpenCable is largely a collection of extant specifications.

*Schwartz:* On the software side, we've tried to pick specs that have been adopted in the Internet environment, things like HTML and JavaScript. But what we have to create is something that allows us to get that software to talk to the real world of set-tops. How do you get an HTML application to tune a tuner, things like that. The other thing is applications security. How do we make sure that if someone goes out to the Internet and pulls down an application that it runs safely and doesn't affect the whole network? Viruses, rogue applications, people writing over advertising—these are things we don't want to happen. This is space that traditionally has been very controlled. Now that we're opening it up, how do we control that opening? One of the things is to contain it at the highest level possible. You never let those resources talk directly to the CPU. They always have to go through some sort of a control level, so that they don't have direct access.

*Green:* There are openness issues, as well. You want to be as open as possible, to encourage the most development. It's a very tricky equation.

**What's the price of being late or not being able to resolve some of these things?**

*Green:* This is a development cycle and it has all the problems of a development cycle. All we can do is try to be available to resolve issues and clarify specifications and assist manufacturers in developing the product. We can't do [the development]. It takes an enormous design and manufacturing capability, and that is supplied by other industries. This is a multi-industry approach to solving what amounts to a very significant development problem. It's important to recognize the complexity and the depth of the task. Having said that, we intend to get these boxes in the field as soon as humanly possible.

*Schwartz:* Because we are moving to a software environment, and we are not dictating what the hardware implementation is, our members have the opportunity and the flexibility to come up with the right solution for their needs at the hardware level. And because the software is being designed to be upgradeable—downloadable—we have flexibility going forward to make changes.

*Green:* [The set-top] can be configured differently in a TCI environment versus a Time Warner environment.

**What impact is the regulatory environment having on your ability to meet the OpenCable deadline?**

*Green:* The regulatory requirements help set schedules for us. They move us along. The '96 Act has a provision that these boxes should be available at retail. To do that, issues regarding the security, removable security [conditional access], and so on, have to be resolved. We were pretty far along in developing that, and having that requirement helps us solidify dates so that we can meet those goals. In a way, we would prefer to be in an environment where we com-

pletely make the decision. But we are involved in a development that includes a lot of other industries and the interests of the government as well.

**There was an agreement just recently with Hollywood studios. Is this the kind of thing you're talking about?**

**Bennington:** That's a different issue. With the advent of digital video, and particularly high-definition, the studios are concerned about consumers being able—easily—to produce a perfect copy of a movie. It's different from stealing services from the cable company. They've been working for a number of years to produce copy-protection schemes they would use on consumer electronics devices. Between the set-top and the digital television set, they're finally getting to where we can start to implement that kind of technology.

**Green:** We haven't quite gotten there yet, but we can foresee

*"We deliver TV in most of the households in the country—and certainly those that have the demographics to buy hi-def. We're as motivated as anybody else to give them better pictures, and we have a better system to do it."*

that in the next year we'll start deploying that technology, especially in the high-definition arena.

**Many in Washington and elsewhere are concerned about whether HDTV is going to work through cable. Lay it out once and for all.**

**Green:** Commercial rivals are confusing the government in a lot of ways here. Somebody's spreading confusion and doubt.

**Bennington:** The truth is that we will carry broadcasters' signals. We will not degrade the quality of the audio-video signals. Nobody has ever proposed doing anything else with cable, so a lot of the questions raised we have answered before and we'll answer again, until finally people get the message. We deliver TV in most of the households in the country—and certainly those that have the demographics to buy hi-def. We're as motivated as anybody else to give them better pictures, and we have a better system to do it. Schedules are pretty daunting, but that's not the real issue. The issue is that if you look ahead to where you can deploy the right stuff and who's going to do the best job at it, cable will do the best job. It's our business.

**Green:** The cable industry is concerned with quality programs for our viewers. When broadcasters produce the quality programs in high-definition that people want to see, obviously we'll carry them. If there are simulcast programs, there are

going to be some questions about that. What I hope will happen is that the advent of high-definition will encourage broadcasters and others to develop new, original programming that will have audience appeal—not high-definition versions of what's on the normal channel. People who are inventive and creative are going to get certain advantages. That's what the marketplace ought to do. It ought not to follow some federally mandated guideline that requires repetition of the same material without innovative marketplace activity.

**Schwartz:** Technically, we need a short-term solution and a long-term solution and we have a lot of work to do in that area. Software, a hi-def solution, security—those are our top three [priorities] and continue to be. Plus, how do we get all of them working in the right time frames.

**Green:** The danger for the cable industry is that many systems simply don't have the capacity to carry a whole duplicate set of broadcasters' signals, as well as programming that cable customers have grown accustomed to. Efficiency in the transmission is very important. Another problem we want to avoid is carrying a lot of bits that simply don't make any difference to the consumer. We want to test those things in some detail, and the best place to test them is in the open marketplace. Fortunately, broadcasters are providing a spectrum of choices here. They plan to provide programs in a wide variety of formats. We'll carry those. We'll see which ones have viability.

**Bennington:** Because of the FCC grant of spectrum to the broadcasters, most of the Washington debate has been around broadcasters launching hi-def. But if you look at the cable industry, sports and movies are going to be the killer products.

**Green:** Cable is going to be the place to be for hi-def. Broadcasters are going to add to that, but it's not going to be a one-ring circus at all. Broadcasters have a valuable product and our viewers want to see that product. However, Jerry is right. High-definition tends to give an advantage to some of our kinds of programs—ESPN and HBO, for example.

**Schwartz:** This notion of enhanced TV, which is the other really neat application we've been working on ...

**Bennington:** That's the sleeper.

**Schwartz:** It allows you to take Internet data or data from other server locations and integrate it and synchronize it with video. So, you put that with regular video, you put it with standard-definition video, or you put it with hi-def—and you create a whole new experience.

**Green:** When we get in the marketplace, high-definition is going to be only one of many attractive new options in television. These integrated options—where you're using video as an application on a PC or you're using the television set as a display terminal to swap in and out of the Web while watching a program—are a way of enhancing video.

**Bennington:** OpenCable boxes are going to deploy for conventional TVs. You don't have to buy a \$7,000 TV set. The potential for enhanced television and Web TV-like products is they can deploy much quicker than hi-def.

**Green:** From a digital broadcast point of view, you're trying to offer new features to a very small base to start with. No matter

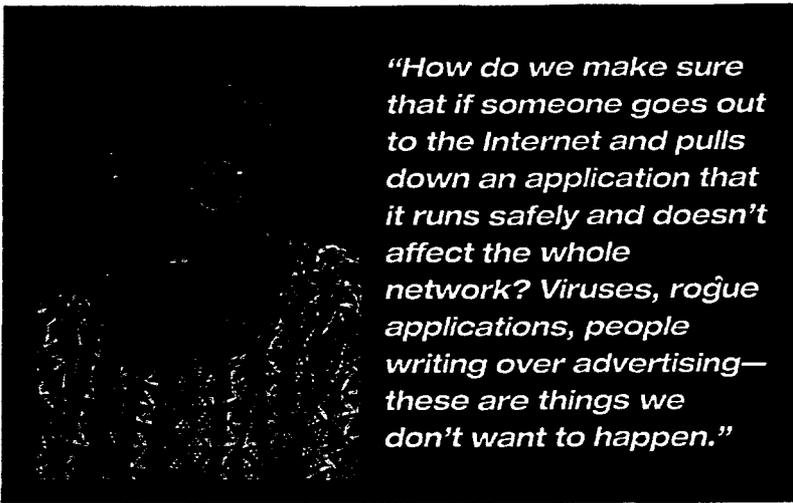
how good that new service is, the attractiveness of a broader base and a wider variety of applications and new services is going to have much more impact on viewers in North America.

**In the cable industry, is there unanimity on the issue of HDTV and delivering that signal to viewers, even if there is not necessarily agreement on the deadlines?**

*Green:* On the general philosophy of carriage, there's unanimity. There's also unanimity on the concerns about capacity. And on the penalty that would arise if there are mandates for big chunks of spectrum being devoted to low-penetration services.

**As in must carry?**

*Green:* I'm hoping that we can come up with interindustry business solutions, a la retransmission consent agreements, that will lead to win/win scenarios for deployment. Govern-



*"How do we make sure that if someone goes out to the Internet and pulls down an application that it runs safely and doesn't affect the whole network? Viruses, rogue applications, people writing over advertising—these are things we don't want to happen."*

ment mandates will most likely fall very short in really providing viable win/win services and businesses. We're trying hard to encourage these interindustry agreements and discussions. I'm hopeful that in the top 10 markets we'll have high-definition. We have retransmission agreements already, and that should form a base—so that we will provide an interindustry solution, and we will not find ourselves in a situation where must carry is necessary.

**There's so much going on at CableLabs. Why not use it as sort of an incubator for new products and services for the industry? Spinning off technologies and companies. Maybe you're already doing that.**

*Green:* We are, and we are authorized by our charter to start new companies, to make equity investments in companies, in order to bring new technologies to the marketplace, and we have done that. We have a project internally where we track and watch new technology to see if it may be an advantage for the industry to spin off a company to develop it.

**How important is IP telephony going to be for CableLabs moving forward?**

*Green:* It's not the telephony part of it that is the key factor here, although that certainly is an element. When you blend the broadcast digital network with a two-way IP network, that is an extraordinarily capable and powerful platform. The real

attribute that we bring to interindustry agreements is the access to customers with those two networks. Any business you're in, you're going to want access to that network, because you'll want to get to customers and that network will provide you with the very best access that you can get anywhere. It's very important to us. It is probably a step beyond OpenCable in that it uses that platform and connects to all cable homes, connects to backbones across North America. It's the Internet, but it's a cable intranet as well, because we have parallel backbones.

**The cable industry is pinning a lot on this digital future. What happens if there is a failure to execute, or to execute in a timely manner?**

*Schwartz:* We've already solved one of the big digital TV issues—our operators are putting out digital-capable boxes. They're delivering more channels. They're able to compete on the choice factor. That was the number-one priority. It's happening and it's going to continue to happen. Then, it's how quickly you get out the boxes that have the next layer. They're on track to do it in the next 12 to 18 months.

*Bennington:* You have to worry about creating false expectations, and those typically revolve around timing. Everything takes twice as long as you ever wanted to think. As an industry we need to be reasonable and expect that.

*Green:* There's consensus in the industry that moving to digital technology is absolutely essential. Different companies have different deployment plans based on what levels of penetration are necessary for the digital boxes and what features should be in there. That's good, healthy, marketplace kind of testing. Whoever turns out to be right, we'll all get lined up to that approach and do it.

*Bennington:* The advent of Internet technology has created a catalyst for our industry to act as a whole. You can see it in how people start thinking about new ideas. How do we bring the 60 million, 70 million households in one piece to a problem, to an opportunity? That's scale we just didn't have before.

**You're hedging the threat, but also perhaps diluting the revenue potential to cable by bringing in other players.**

*Bennington:* So you'd better get some money selling pizza. You'd better get some money selling ads. You'd better get some money by helping sell cars. But you're not going to get a lot more money watching television. That pot has a certain expandability. But if you can use this platform to do a little bit of this and a little bit of that, maybe the total take is bigger.

*Green:* It's not a zero-sum game. It's like the gas stations on the corner. Where there was one before, now we'll have three or four. Everybody will do better than the one that was there to start with. There's more traffic. There's more choice. It attracts more people. It becomes an even more important part of people's lives than it has been in the past.

*Bennington:* In the last year, Dick and I have spent a lot of time talking to people with new ideas. None of them has said: "Look, I want 10 percent of your video business." Nobody is trying to get that pot. They're trying to create another pot. That's a good deal for our industry, as opposed to trying to divvy up the same dollar. ■

# Bite-sized branding in digital age

*Networks press ahead with compressed channels and sub counts*

By Donna Petrozzello

**C**able networks are accustomed to thinking big. A big programming splash, big promotions, big distribution and then, corresponding big advertising revenue. In the advent of digital, they now are forced to think small.

Programming is small. Digital networks largely clone their parents or rely on ultra-cheap programming and leftovers from the library.

Distribution is small. Instead of dreaming of the day their network would reach 70 million homes, digital programmers pray for the day they will hit 10-million. That means ad revenue also will be small. Some start-ups aren't even bothering to try to sell ads in the first year.

Nevertheless, networks are forging ahead on plans to launch digital channels. Most programmers contend that if they don't spend money up front to brand their products in the digital landscape, they'll miss the opportunity to do so later.

The key element of digital cable is opening up channel capacity. By adding extra electronics at the headend and in the home, operators can compress 10 to 12 networks into the space ordinarily taken up by one. The digital set-top converters allow some other advantages, namely, clearer signals, electronic program guides and, ultimately, Internet surfing. But the immediate benefit for programmers is the creation of new real estate for them to fill.

New networks, intended for cable operators' new digital tiers, are proliferating quickly. Discovery Networks has six; MTV Networks is planning 10, and Disney Channel and Lifetime Television each are offering one. HBO and Showtime are also rolling out time-shifted networks for the digital world.

That's a lot of networks, given that less than 2% of cable's 67 million households now have access to a digital tier. And the percentage is not expected to grow rapidly. Media analyst Tom Wolzien of Sanford C. Bernstein & Co., pegs it at 15% in four to five years.

The programmers accept that they



*'Labor of Love' (above) is an offering on Lifetime's new digital network, The Lifetime Movie Network. Discovery Kids Channel is one of six new networks from Discovery.*



will be able to command far less in license fees and can rely on little, if any, advertising revenue from the digital services. Yet, network officials agree its worth the price to pay to be on the digital map.

"For the first couple of years, launching digital networks is a not-for-profit business," says Discovery Networks U.S. President Johnathan Rodgers. "It's an investment and we may not see a profit five years down the road, if then. However, we believe it's money well spent."

Although he would not be specific about costs needed to launch the digital

services, Rodgers says, to program a digital channel, Discovery will spend about a fifth of what it does for an analog one.

"We are the pre-eminent early adopter channel and it is important for us to be on the cutting edge," says Rodgers. "We're prepared to do high definition television tomorrow. We think we have to send out the message of being at the top of our game and we're prepared to be anywhere."

In October, 1996 Discovery introduced four digital channels—Discovery Science, Discovery for Kids, Discovery Civilization and Discovery Home and Leisure. On June 30, 1998, Discovery will launch two more digital services, Discovery Health and Discovery Wings, a channel about aviation.

In March, Discovery announced a marketing and programming alliance to launch BBC Americas, a digital service which launched three weeks ago in a partnership with the British Broadcasting Corporation.

Discovery Networks has taken a common sense approach to developing its digital services by using a sizable amount of library programming from its four analog channels—Discovery Channel, The Learning Channel (TLC), Animal Planet and Travel Channel.

Discovery has carefully branded its digital networks with the Discovery name, making the channels easily recognizable to an audience familiar with Discovery. Programming on the digital channels is an extension of topics covered in the analog services, not a departure from what viewers are accustomed to seeing on Discovery's analog services.

The company has capitalized on "the luxury of having a huge base of programming" from which to draw, Rodgers says.

"We're able to launch digital networks based on the fact that we have an extensive library of high-priced, quality programming in a number of these specific genres, but all that does is help you launch," says Rodgers. "After that we need to go back into the original programming mode like we do on our analog channels. But, having this luxury of a huge base of programming allows us

to be ahead of most of our competitors."

Likewise, MTV Networks' digital roll-outs recall its familiar analog programming.

Noggin is the first digital spin-off from MTV Networks' popular children's channel, Nickelodeon. Nickelodeon will develop Noggin in concert with Children's Television Workshop. Slated to debut in January, 1999, the service will be pitched as an educational channel for children, with pre-schoolers as its target audience in the first year.

Commercial-free, Noggin will tap CTW's 3,000 library hours of *Sesame Street* along with Nickelodeon's library of *Blues Clues*, *Nick Jr.* and *Nick News* for programming. The channel may add original programming after the first year.

Three additional children's programming digital channels are expected to be announced at this week's National Cable Television Association convention in Atlanta. In part, the quartet of networks is MTV Networks' digital answer to Disney, which launched Toon Disney on April 18.

The four children's networks bring MTV Networks' digital total to 10. Earlier this year, it announced "The Suite from MTV and VH1," a collection of six digital music channels.

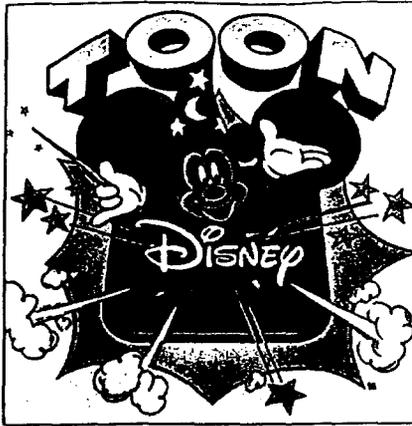
MTV Networks President Mark Rosenthal described the company's planned 10-pack of digital channels as directed at "the last, big unserved niche in cable television."

"This takes our brands into the digital era," says Rosenthal. "It's also MTV Networks' way of supporting the deployment of digital boxes. We are creating channels to drive that distribution, and we want to be part of the emerging digital world."

"What is happening in the digital cable world is important to operators," says Nickelodeon President Herb Scannell. "It's a good idea for Nickelodeon to be in digital in its multiple variations. You have to believe that the multi-channel world will get even more multi, and Nick has to be there in different manifestations."

Lifetime Television President Doug McCormick agrees that if networks offer digital offshoots, consumers need to instantly recognize the link with the analog parent.

"For us, digital is a wonderful way to expand our franchise, to get more space



on the dial and more presence in the viewers' mind," says McCormick. "It's a way for us to leverage the brand name and having a brand is very important in helping operators sell digital."

"When women hear the name Lifetime, they know it's a channel for women. They know its brand attributes, its association. It's something operators can sell in one sentence, and it's a way for us to join in the marketing effort with the MSO."

Media analyst Tom Eagan at Paine Webber agrees that Discovery, MTV Networks and others are playing the digital game strategically.

"These networks want to maintain their brand name and market share of programming in the digital world and if you don't get on the digital tier early, someone else will," says Eagan. "From a strategic standpoint, it makes sense for basic networks to be on digital tiers."

"It's hard to assess a value for digital networks because all networks are doing is putting a stake in the ground that five years from now can create value," says analyst Wolzien. "The cost of the digital feed is minimal for networks."

"As long as you've got the programming in the vaults, you might as well put it on and get yourself a place holder, even if there is nobody watching digital yet," says Wolzien.

"Until we start to see sizable penetration of digital set-top boxes, it's pretty hard to gauge what the economic value of these channels will be for the networks," Wolzien says. "I'll wait until I actually see some acceptance of digital boxes."

Like other basic cable networks, MTV Networks finds itself shelling out cash to launch digital channels without any firm promise of how it will recoup

the loss or whether the channels will become profitable anytime soon.

"You've got to have a place holder," contends VH1 President John Sykes. "Twenty years ago the broadcast networks said, who wants to watch more than three channels. They didn't want to cannibalize their core businesses. But, you've got to straddle and walk all those lines. The winner is going to be the one with market share."

MTV Networks' executives expect license fees for Noggin not to exceed 25 cents per subscriber. Rosenthal says the commercial-free service will be offered at a discount to operators who agree to launch it on both a digital and analog tier.

"I can't imagine that the networks with digital feeds will get the same kind of revenues, whether from license fees or advertising, as they can with analog feeds," agrees Eagan. "It's a completely different economic model for digital than for the analog networks."

The digital equation stacks up differently for pay-TV services such as Home Box Office and Showtime.

On the pay-TV side, Home Box Office by the end of 1998 will have 10 digital channels, including digital varieties of Cinemax. Showtime Networks has nine digital channels, each of which have dual East Coast and West Coast feeds, giving Showtime a total of 17 channels.

This year, HBO will introduce its "megabrand multiplex" package of 10 channels including four new channels for digital distribution. In fourth quarter 1998, HBO will launch HBO Comedy and HBO Zone. On June 1, HBO will launch ActionMax and ThrillerMax, two themed digital channels spun off from Cinemax.

Showtime's portfolio of 17 screens includes the core products of Showtime, Showtime 2, Showtime 3, Showtime Extreme, The Movie Channel, The Movie Channel 2, Sundance Channel and Flix. Each has an East Coast and West Coast feed. The Movie Channel and Showtime each also have a Rocky Mountain time zone feed.

Jeff Wade, Showtime Networks executive vice president of sales and affiliate marketing, says its crucial, even for pay-TV services, to get into the digital game as quickly as possible.

"In our business, you have to have

something available to present to consumers well before it can be used because they are making their decision what to use before they actually have it," says Wade. "It's almost the same kind of thing where you have to have the software before you have the hardware."

"Launching these digital channels does cost us something, but if digital deployment is successful, the big bet is that surely it will cause more subscriptions and that will increase our revenue and we'll be more profitable than if we'd not done it," says Wade. "It's proven in the satellite TV market, so I can't imagine it wouldn't succeed in cable."

Wade and other pay-TV officials feel that offering a wider range of services through digital cable could also reduce the industry's average double-digit churn rate, the percentage of subscribers that don't renew their subscriptions in a given month.

"Anytime you offer more value and more channels, subscribers will think twice about dropping a service," says Wade. "There is more reason to buy it and more reason to keep it."

"There's obviously a much higher level of satisfaction" with more channels, says HBO Senior Vice President of Affiliate Relations Bob Grassi. "We know that because of our experience with digital broadcast satellite where

high capacity allows subscribers to get nine versions of HBO alone. Intuitively, you would think this will help retention."

Analysts agree adding digital "plexes" may lower churn. "What we're seeing in satellite homes is that people like movies and they like choice and that's taken its toll on home video rentals and even pay-per-view," says Wolzien.

Lifetime's McCormick agrees the race to digital is crucial, both for programmers and MSOs. "No one in this business has ever made out on the programming side by waiting a few more years to launch their service," he says. "Who in cable has ever say, boy, I'm glad I waited." ■

# Hindery sees capital improvement

Says DC system will be upgraded, tells Cable Club crowd he doesn't plan to bump channels to carry all of broadcasters' digital signals

By Paige Albinak

One year after TCI President Leo Hindery promised an audience at the Washington Metro Cable Club that he would revamp Washington's much-maligned cable system, Hindery says he has approved a system upgrade to go along with the new manager brought in at the end of last year.

Brad Anderson, whom Hindery called "the best manager in my company, bar none," came from Cable Co-Op in Palo Alto, Calif., to take over the system last November. Anderson recently submitted a plan to upgrade the system, and Hindery agreed to it two weeks ago, he said last week fol-

**"If you are the only one in the [D.C.] market that buys a high-definition television set, it's a little rude to ask every customer in DC to drop 14 [cable networks] for you and your \$10,000 set."**

**TCI President Leo Hindery**

lowing a speech before the Washington Metro Cable Club.

Customers of District Cablevision long have complained about the sys-

tem's poor customer service, lack of channels and high price. TCI in March launched its digital service, which offers additional TV and music channels and an interactive program schedule with a parental lock-out feature. Adding digital service costs subscribers \$13.30 per month on top of existing fees. The system has planned to have 7,000 customers by the end of 1998.

Hindery repeated that TCI is opposed to Congress or the FCC requiring cable operators to carry all broadcasters' digital signals. "I'm not going to seek to carry product for which there is no audience if the price or consequence of carrying it is a displacement of product that people are

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watching robustly at night," Hindery said. "If you are the only one in the [D.C.] market that buys a high-definition television set, it's a little rude to ask every customer in DC to drop 14 [cable networks] for you and your \$10,000 set."

Hindery said broadcasters and cable operators should finish up talks on HDTV standards this summer. "My guess is this summer we will start to define what we will do with [high-definition television] when it starts showing up," Hindery said.

Hindery implied that the networks are still unsure what HDTV formats they will use. "It seems to be coming down to one [format] or the other—720 progressive or 1080 interlace—and we'll pass through 480, 720, 1080 interlace or progressive."

But sources at CBS and NBC verified that their plans to use 1080 I as their HDTV format were firm.

Hindery also encouraged the FCC and Congress not to impose any new regulation or legislation on the cable

industry, which is in a period of financial health and high stock prices.

"I strongly believe that reregulation will have serious negative consequences for our industry and, especial-

ly, for our customers. It will slow innovation. It will dampen competition. Notably, it will undermine the quality and quantity of choices available to our customers," Hindery said. ■

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