Chapter - Satellite, Cable, Broadcasting

For the complete coverage of the subjects on this section, please refer to the Industry Edition report.

Satellite

DirecTV

CES 2007

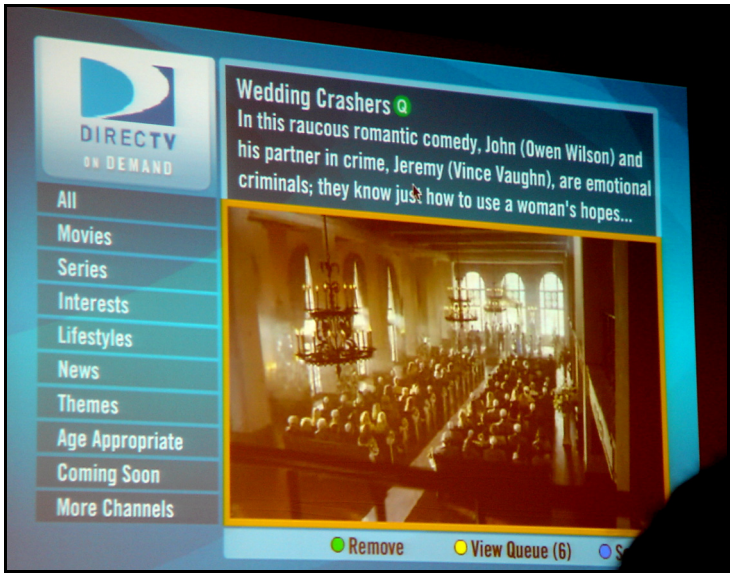
Current Satellite Fleet

Orbit in degrees	Service	Bird Name	Status
72.5	Local Broadcast Channels	D1	Existing
95	International Programming	G3C	Existing, Leased from PanAm Satellites
99	Local HD Broadcast Channels	SW2	Existing
		D10	D10 Planned for 07
101	Core Programming Services and Local Broadcast Channels	D1R D4S D8 D9S	All Existing
103	Local HD Broadcast Channels	SW1	Existing
		D11	D11 Planned for 07
110	HD Programming	D5	Existing
119	Spanish-Language Program. HD Programming Local Broadcast Channels	D7S	Existing

More Local HD Channels as Planned
DirecTV confirmed again that the company is on track with the plan to launch over 100 channels of HD programming in 2007, according to president and CEO Chase Carey, with most of those channels expected to be available 3Q07.

DirecTV stated the it has made agreements with 70 hi-def channels, among which are sports networks YES and NFL Network, CNN, USA, The Weather Channel, TBS, Food Network, A&E, Bravo, FX, HGTV, MTV, The History Channel, USA Network.

Comcast Sports Net, New England Sports Network, National Geographic, Cartoon Network, Sci-Fi Channel, Speed, and FOX Sports.



Gaming Channel (Although not in HD)
DirecTV announced the launch of a new professional sports league for video gaming on DirecTV 101, and commented that the program will have the best players in the world playing on franchise teams, and those players will be earning a salary in addition to compete for the $1 million price.

NASCAR HotPass HD
DirecTV introduced "The Zone", a NASCAR oriented service to provide exclusive coverage to subscriber fans with a mobile luxury lounge located within the infield at select NASCAR events. The service will debut at the Daytona 500 on February 18 at Daytona International Speedway, and appear at 17 races through out the 2007 NASCAR NEXTEL Cup season. http://www.directv.com/hotpass

Mobile DirecTV
DirecTV introduced a portable receiver/display system named "Sat-Go", ideal for traveling subscribers, as long as they can carry the 25-pound briefcase. TTM Spring 2007, $1,500.

The system features a flat DirecTV antenna, built-in 17" display, rechargeable laptop-type battery, and a receiver. The receiver can be detached and put to use in regular receiver applications.

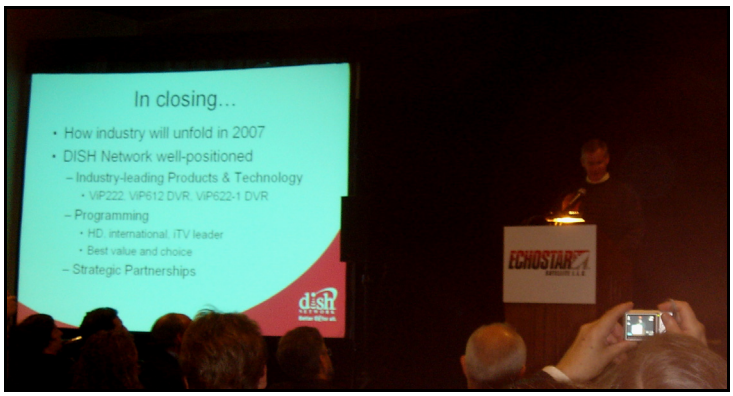
The portable receiver was designed by TV producer Rick Rosner, who licensed the technology to DirecTV.

More details in the HD Tuner/DVR Section.

Dish Network (EchoStar)

CES 2007

EchoStar announced their offering of free ViP622 HD-DVRs to new customers starting Feb. 1, 2007, and named the effort "Digital Home Advantage Program".



Please check the HD Tuner/DVR section for the features of this receiver.

EchoStar also introduced a portable DBS system (as DirecTV did) at CES 2007, TTM of the "MobileDISH" system is spring 07.

However this system is not as portable as DirecTV's, it is designed for vehicle applications with a roof-mounted antenna designed by RaySat.

At CES 2007 DishNetwork also showed a ViP 622 with an external expansion Hard Disc Drive (picture below; and back of the unit further below)

Microsoft Partnership

In February 2007, Dish Network has been reported to be working with Microsoft to offer satellite programming to PCs, one year after DirecTV's deal with Microsoft for direct downloads from DirecTV's STBs.

Cable

DOCSIS 3.0

DOCSIS® (Data Over Cable Service Interface Specification), is a CableLabs certified project to define interface requirements for cable modems implemented on cable television systems for high-speed data distribution, facilitating industry compliance with certification and retail sales of cable modems.

One benefit to consumers is a low-cost "always-on" Internet connection, including broadband Internet connectivity, telephony, real-time interactive gaming, and video conferencing, which could create business opportunities to cable companies.

According to James A. Fontaine, President and CEO of Microtune, "DOCSIS 3.0 represents a major technology shift in the cable industry, permitting cable operators to enable faster, scalable broadband Internet services, including movie downloads and other IP video".

"Our new wideband tuner is key to enabling true DOCSIS 3.0, and we have been actively involved in the definition of the DOCSIS 3.0 specification which ensures our compliance with this important standard. As a major supplier to the industry's premier equipment manufacturers, we are providing our customers cost-effective and highly advanced technology to help them accelerate adoption of DOCSIS 3.0 capabilities in their next-generation cable products".

"DOCSIS 3.0 and wideband technologies are part of the cable industry's effort to counter the Telco's capacity advantage, and Microtune's new wideband tuner is a key component that will enable cable operators to deliver new high-bandwidth broadband Internet services".

Microtune announced their new DOCSIS 3.0 wideband tuner chip (MicroTuner™ MT2170) capable to handle a wider (100 MHz) and faster (160 Mbps) cable modem connection to homes, competing with high-powered fiber-to-the-home networks.

The chip was said to be capable to tune between 50 MHz-1 GHz, which would make a cable plant of 750 MHz or 860 MHz to been able to grow to 1 GHz and accommodate for twenty extra 6 MHz channels, which could be used for IPTV services, HDTV, channel bonding, etc.

According with Microtune the spec would also permit the bonding of non-adjacent 6 MHz channels from a 64 MHz spectrum range, which the Wideband tuner can raise to 100 MHz, handling about 16 bonded channels. Please check the HD tuner section for specs.

CES 2007

Comcast Cable and Cox Communications are moving forward with their support for OCAP (Open Cable Application Platform) middleware by CableLabs.

Cox and Samsung signed a letter of intent to implement OCAP on several CE devices, such as TVs, set-top-boxes, and DVRs.

On the announcement Cox said, "Our successful trial of the Samsung OCAP solution illustrates Cox's dedication to offering customers additional devices that will operate seamlessly alongside our current leased devices".

CableLabs certified a 42"plasma from LG which implemented bi-directional OCAP middleware.

Comcast and Panasonic agreed to begin testing OCAP-based interactive digital cable-ready software in Panasonic's products in January 2007, with target availability beginning 2008.

Upon the agreement Comcast declared, "The development of OCAP-powered TVs is another example of how Comcast is working with the CE industry to enhance the consumer viewing experience by making it even easier to enjoy new interactive applications combined with the convenience of integrated digital cable services".

Thomson introduced their first OCAP cable HD STB for the US market.

The DCI9000 HD-STB.

Further detail on this subject is included in the Industry Edition.

CableCARD Implementation Analysis

Those that have followed my coverage of FCC's mandated integrated ATSC tuners and unidirectional CableCARDS/QAM tuners in HDTVs in my yearly reports, might be familiar with my position on the subject, and what that means to consumers pockets and their power of choice, which is my primary concern.

CableCARD was pushed as a positive feature to consumers, consumers believed cable STBs were not needed anymore, while the real situation was and still is, that CableCARDs into TVs made those sets cost more than they should, and most consumers still have their STBs on the same place they were before CableCARDs.

Cable companies did not implement CableCARD as the FCC has hoped. The CableCARD solution as implemented was only unidirectional, and still is after several years, while waiting for the proper solution. Consumers paid more for their DTVs but there were no (tuner-less) monitors around anymore to compare prices and determine the additional cost.

The idea of a TV being "cable ready" without a set-top box and simply plug the cable and install a CableCARD in the dedicated slot did not work as expected, it was a half-way to get to a final solution.

Many manufacturers have been removing the CableCARD tuners and some even the ATSC tuners from their newer lines since 2006, and label those sets "monitors", going around FCC's integrated tuner mandate by not including the legacy analog NTSC tuner into the sets. As mandated, if it has a legacy NTSC tuner, a display has to have digital tuner (and the CableCARD/QAM tuner went with it).

The main problems I saw since day one was that:

a) Digital tuners were still expensive at the time of the mandate, and still are,
b) The consumer did not have a choice, most DTV manufacturers did not produce monitor lines (tuner-less DTVs).
c) Over 90% of TV viewers would not need terrestrial tuners because they subscribe to cable or satellite, who supply their boxes anyway,
d) Satellite boxes already have a terrestrial over the air tuner,
e) Cable boxes are still needed for PPV, VOD, and cable supplied EPG, because CableCARD tuners, implemented as unidirectional, lacked those features.
f) The consumer is paying for the planned obsolescence of unidirectional CableCARD tuners into new DTVs that would not be able to be upgraded.

g) The saddest: Proper advice was not provided timely to most consumers and there are now millions of unidirectional CableCARD-ready DTVs in their homes, and still growing.

According to a recent report, Panasonic commented that the "CableCARD effort stalled, as the victim of conflicting business interests, manufacturing costs and a lack of consumer response. Out of six million, CableCARD-ready digital TV's sold only 170,000 sets. Less than 3 percent are actually using a CableCARD device. The rest are receiving digital cable and HDTV programming the more familiar way, through the cable company's rented set-top box."

In December 2006, an update of CableCARD deployments was reported by CED to have reach 216,000-plus, details in the DTV implementation section.

As mentioned above, according to a report made to the FCC in March 2007, more than 259,000 CableCARDs have been deployed by cable companies, among which are Comcast Corp., Time Warner Cable, Cox Communications, Charter Communications, Adelphia (now part of Comcast and TWC), and Cablevision Systems Corp.

Regarding CableCARD suited equipment, the NCTA reported over 548 models available from CE manufacturers, however, and those are unidirectional only.

However, a research from the Envisioneering Group revealed that "80 percent fewer television models with CableCARD are available this year [2006] than in 2005".

According to Sharp Electronics, offering 10 CableCARD sets in 2005, in 2006 did it in only 2 ($16K+ hi-end models).

Philips Electronics was reported to offer only 3 CableCARD models in 2006 (down from 7 last year).

Sony also reported a reduction to 2, from 4 ($5K+ models).

Rich Dinsmore, vice president for marketing at TTE Corporation, owner of the RCA brand, declared "As manufacturers, we are disappointed in the CableCARD's rollout, which increased the set's retail price by about $40, to collect that extra money in today's retail environment is very difficult when nobody talks about the feature in the retail store."

However, I believe Mr. Dinsmore was not considering the overall picture of tuner integration, which have cost consumers much more than those $40 per tuner.

When I did the first research on the year integrated TVs were mandated by the FCC the average difference between DTVs with digital tuners and their monitor counterparts, was $704 more. In some cases, plasmas were priced over $1000 more for that integrated tuner feature. Please read the details at my earlier reports

since 2004. The addition of a CableCARD/QAM cable tuner using the mandated digital tuner integration exacerbated that extra cost.

In other words, a mandate could have worked well if a) tuners cost less, b) the bi-directional cable technology intended to replace the cable STB would have been ready and matured, and c) volume would have helped bring TV and component prices much lower than it did.

Those factors were not in place in a timely fashion, and a mandate without having those factors was not respectful of consumers pockets and freedom of choice. Consumers are also implicitly mandated to foot the bill for the planning errors of the DTV transition.

Ross Rubin from NPD group was reported to say "The set-top box offers cable providers a point of control, a presence in the living room, Comcast and Time Warner have had very good success with offering digital video recorders, which require a set-top box."

A research from Kagan Research, said "45 percent of the nation's cable customers used set-top boxes that enabled them to receive such digital services, not offered by CableCARDs, because those services require a bi-directional system, a feature CableCARD does not have as implemented."

Several manufacturers have been working with the cable industry to suit their TVs with two-way CableCARDs and OCAP software technology (mentioned earlier), but those products are not yet available in volume, and the millions of HDTVs that have already been sold with CableCARDs slots can not be retrofitted to accommodate for the new technology.

Please read the analysis on the subject on previous reports, millions of consumers and dollars were wasted on this effort for CableCARD products since they were introduced a few years ago, and many millions more will be sold before the complete solution is implemented into DTVs, probably in another year or two.

From another angle, "Some operators have made it difficult for consumers to get a card and encouraged them to take a set-top box instead. The cable operator is in the business of selling services, not hardware," said Neal Goldberg, general counsel for the National Cable and Telecommunications Association.

In addition, he added, "The Federal Communications Commission mandated that consumers be made aware of CableCARD's limitations, and the cable industry is following that mandate by posting information on its Web sites and supplying it when consumers request a card. Once consumers learn that they will not be able to get pay-per-view and video-on-demand with a CableCARD, many opt for a set-top box."

Over the past couple of years I personally did many calls to cable representatives to obtain the kind of information Mr. Goldberg mentions, cable companies never volunteered clear responses unless specifically asking for the issues, and in many cases the responses showed ignorance about the subject, intentionally or not.

Reportedly, "The CableCARD is essentially dead," said Mr. Doherty of Envisioneering. "It will go down in history like the Edsel."

I wonder if that history would also say "Rodolfo predicted it since day one, over 3 years ago".

Multi-Stream CableCARD

In July 2006, CableLabs® awarded qualified status to Motorola for its Multi-Stream CableCARD™ (M-Card™) that would allow STBs or Cable-ready TVs to tune to multiple programming to watch and/or record simultaneously.

The M-Card, a security component of the cable system, is also backwards compatible with unidirectional devices such as current CableCARD TV slots, but it would perform in a single-stream manner, similar to the current CableCARD.

M-Cards originally planned to become available from MSOs within 2006. They can be tested with a tool (HPNx PRO) made by Digital Keystone together with CableLabs, which would be made available to CE manufacturers to test M-Card related devices.

In November 2006, a "streamlined process" was launched for the testing the M-Card whereby manufacturers would be allowed to perform self-verification of their M-Card-enabled devices.

Support from TiVo Inc., Motorola, Digeo, Solekai, Digital Keystone, and ViXS was given to the process, according to CableLabs.

DVRs would be benefited by the M-Card approach because it would permit a dual channel reception to record one channel while viewing another.

Tivo Series 3 performs a similar feature but by designing the boxes with dual unidirectional CableCARDs (and dual slots in the box), which the M-Card would simplify to only one slot, one card**.**

The NCTA confirmed that CableLabs has qualified M-Cards from Cisco/Scientific Atlanta and Motorola.

Cable STB Integration Ban

By July 2007, cable service providers are supposed to separate their security functions from the other set-top-box functions; the use of a CableCARD for the security functions is expected to facilitate that split.

Under the plan, the consumer would be able to purchase a cable STB in a retail store and request a CableCARD to the cable company to unable the security features related to the subscribed service.

Further coverage on the Industry Edition.

Congress Support for DCAS

In November 2006, Congress sent a letter to the FCC to recommend not to implement the "Integration Ban" as planned for July 2007 using CableCARDs on STBs but to rather consider a software downloadable solution such as the one the industry has been working over the past few years, DCAS, Downloadable Conditional Access System, viewed as less expensive and more practical than the CableCARD.

According to CED, "the letter - dated Nov. 27, 2006, and signed by Senate Commerce Committee Chairman Ted Stevens (R-Alaska); House Energy and Commerce Committee Chairman Joe Barton (R-Texas); and Rep. Fred Upton (R-Mich.), Chairman of the House Subcommittee on Telecommunications and the Internet - argued that the FCC has 'ample authority at its disposal' to establish a timeframe for cable operators to develop and deploy downloadable security."

Further coverage on the Industry Edition.

FCC Approved DCAS – Some Integrated Ban Waivers

In January 2007, the FCC agreed that DCAS (Downloadable Conditional Access System) would comply with its rules of separating security from cable tuner functionality, recognizing that the solution was a "more elegant and less expensive" option.

FCC's Media Bureau denied the waiver Comcast filed in May 2006 regarding Motorola DCT700, Scientific Atlanta Explorer 940, and Pace Micro Technology DC501p (Chicago); reportedly, Comcast will pursue their case with the Full Commission.

Other waiver requests from Verizon, RCN, and Charter Communications, were still on hold by the FCC.

However, the FCC granted requests from BendBroadband and Cablevision Systems Corp.

Cablevision's request was granted on the merits that their STBs already had a Smartcard design since 2001, although not performing the kind of security-independence a CableCARD solution would. The FCC granted a temporary grandfather permission to continue using the Smartcard boxes, but they would have to be replaced by July 2009, granting 2 years of extension to the full replacement.

BendBroadband request dated October 2006 was approved; the company's limited capability boxes can be used until digital replacement be done in 2008.

Further coverage on the Industry Edition.

Switched Digital Video (SDV)

Using SDV a cable company can dynamically make available only the channels that are actively requested in a given area, using only the bandwidth required by those, which allows for increased allocation for hi-speed internet and telephone services

using the same pipe. It would also allow increasing the number of channels in the cable service without incurring in expensive upgrades.

The dynamic distribution of channels to nodes is triggered by viewers requesting them, once the last viewer on a given channel ceases to view the channel, it is no longer sent to that node.

The system permits the continuous use of existing coax to the home without having to upgrade to Fiber, which is expensive to a cable company.

Please consult further detail on the Industry Edition.

Broadcasting

Please consult the Must-Carry subject on the Industry Ediition.

3-in-One TV Tuner

In February 2006, MicroTune announced a chip capable to tune ATSC/NTSC/Digital Cable Ready (DCR) for under $3, the MicroTuner MT2131.

As you see on the photo the tuner is very small, and it performs the functions of about 100 silicon components, reducing the bill of materials by about 60%, according to the company.

Down-Conversion Proposal

In Aug 06, Broadcasters from ABC, CBS, NBC and Telemundo complained to Senators and leaders of the house about a U.S. House of Representatives plan (H.R. 5252) allowing cable and satellite TV operators to down convert over-the-air HD programming to SD resolution for delivery to subscribers until Feb 17, 2014.

"It would be like allowing a third-party competitor to convert color TV to black and white", some broadcasters wrote to the legislators.

The complaint did not include down conversion from digital to analog devices.

Do You Know Where Your Recording is Tonight?

In April 2006, Cablevision announced plans to offer for later in 2006 RS-DVR (remote-storage digital video recorder), a service for subscribers to make remote video recording, without a DVR at their homes, with current STBs, at the control of the viewer's remote, in other words, transparent to the user.

The recording would be stored at servers located at Cablevision's facilities, which means no DVR distribution, installation, and maintenance, reduced costs.

Some issues needed to get resolved at the time of announcement such as the expected cost-savings to be passed on to customers, legal issues with program providers.

Cablevision had plans to test the service in its Long Island, NY, market for 60 days, which would require a software download on set top boxes.

Broadcasting Industry Preparing for 1080p Production

In Feb 07, the industry said it was reading the offering of a number 1080-line progressive production products and the implementation of a 3Gbps networking pipe for delivering 1080p HD throughout a station, automatic analog-to-digital conversion of audio and video, and multi-channel solutions, running under the same control and monitoring system.

Harris' Platinum and Panacea are some examples.

Pro-Bel's Cygnus router, 1080p capable, 576x576 routing in a single 26 rack-unit housing.

NVision will introduce their 3 Gbps router at NAB 2007.