II. Convergence

In addition to appealing more broadly to the mass market in urban/suburban parts of the country, DBS has capitalized on the early adopter demand for two potentially explosive new product categories—HDTV (high definition television) and PVRs (personal video recorders, à la TiVo). This reflects the DBS industry's typical lead-to-market advantage over cable (which occurred with interactive TV services, for instance) by virtue of having both ubiquitous national coverage (implying the existence of one headend to upgrade for DBS versus 10,000 cable system headends across the country) and a massive retail distribution infrastructure to leverage.

HDTV

Background

The introduction of High Definition Television (HDTV) has generally suffered from the chicken and egg problem of content and cost. With HDTV-capable televisions still in excess of $3,000-$6,000, including a decoder, the cost of a set is still out of the reach of the mass market. Hence, only about one million sets were sold in all of 2001. Content is also still limited, as television stations have been dragging their feet in transmitting their high definition programming due to high upfront equipment costs. It is estimated that only about 256 stations are now operating in digital format, with HDTV available in one form or another in markets covering 76% of all households. As costs continue to decline, television set sales should continue to increase and the Consumer Electronics Association (CEA) estimates that two million sets will be sold in 2002.

While still small in numbers, DBS has piggy-backed on these retail sales by leveraging its technical advantage over cable of having an all-digital architecture, which yields a superior picture quality to digital cable, that appears to be highlighted on HDTV's. Recall that digital cable is actually a hybrid analog-digital product, with the core 60-80 basic cable channels still broadcast in analog form and the additional 100-150 new channels broadcast in digital format, albeit at a high compression ratio (partially so as to not highlight a superior picture quality compared to the analog channels). Also benefiting the sale of DBS with high definition TV's is the obvious incentive of retailers that are commissioned to push satellite sales and the early availability of additional high definition digital content from DBS, as discussed below.

For DBS and cable, the prospect of offering HDTV to subscribers is somewhat daunting, given the amount of bandwidth needed. Digital compression has allowed DBS operators to pack 8-10 digitally compressed channels on one 24 MHz transponder, but with high definition channels, only two channels can fit on the same transponder. Cable is similarly challenged, with generally two channels taking up 6 MHz of bandwidth, equivalent to 10-12 digitally compressed channels. Due to the significant bandwidth needed, cable operators are likely to need at least 750 MHz plant (using today's compression standards) in order to offer HDTV along with its other services.

While DBS is capacity-constrained in its ability to eventually carry all local programming in high definition, the inevitable widespread availability of HDTV local signals via over-the-air transmission obviates the needs to replicate the carriage over satellite. Based on the FCC's mandate for the conversion from analog to digital to be completed by 2006, at which point analog spectrum of the broadcasters is to be reclaimed (provided that 85% of households have digital TV's), it will likely entail a requirement for over-the-air reception to be nearly ubiquitous (since the 10%-15% of U.S. households that receive over-the-air signals today instead of cable or DBS are not likely to be forced to take cable in order to get local channels). Note also that over-the-air digital signal reception has an all-or-nothing feature, as opposed to the potential "snowy" picture typically associated with receiving over-the-air reception via antenna today. Thus, we do not see any disadvantage to satellite longer term of being capacity-constrained to offer local high definition signals directly over satellite, with the ability to efficiently integrate DBS service with over-the-air HDTV local signals.

In fact, DBS has been able to exploit its normal first-to-market advantage over cable with HDTV by offering several national networks that have been produced in high definition, such as HBO and Showtime. Both premium movie channels, as well as limited pay-per-view offerings, are offered by each of the DBS providers in high definition, with DIRECTV also offering HDNet (a variety channel formed by Mark Cuban) and EchoStar offering the CBS network feed. Consumers are required to purchase an integrated DBS receiver/HD decoder, which retails for approximately $500-$700 that can be used with any HDTV. This incremental cost is also required for advanced digital cable set-tops with high def capability, as Motorola and Scientific-Atlanta have begun shipping integrated boxes for approximately $500 (with some operators like Charter and Comcast passing along these costs for an additional fee of $10 per month), although availability today is limited to a very small percentage of the country.

FCC Mandate

In order to kick start the industry, FCC Chairman Powell has set forth some voluntary milestones that he expressed a desire to see programmers, cable, DBS, equipment manufactures and retailers adhere to.

- By the 2002-2003 television season, the top four broadcast networks (ABC, CBS, Fox, and NBC) as well as HBO and Showtime, provide high-definition or "value-added DTV programming" during at least 50% of the prime-time schedule. By the beginning of 2003, affiliates of the top four broadcasters will obtain and install the equipment necessary to pass through the network signals
- By January 1, 2003, cable systems upgraded to at least 750MHz will provide at no cost to subscribers up to five programming channels of HD that provide at least 50% of the prime-time schedule. Cable subscribers should have the option of leasing or purchasing a single set-top box that can display high definition programming.
- By January 1, 2003, DBS operators carry up to five programming channels of HD that provide at least 50% of the prime-time schedule.

- Equipment manufacturers commit to meeting demand for cable set-top boxes that accommodate high definition programming, and that all television sets greater than 36" have DTV tuners in 50% of units by January 1, 2005, sets 25"-35" have DTV tuners in 50% of units by 2005, and all sets larger than 13" have DTV tuners by 2006.

EchoStar currently broadcasts Showtime, HBO, CBS (with both East and West coast feeds), pay-per-view, and a demo channel in high definition. The company's Model 6000 set-top box offers consumers the ability to watch high definition television programming if they have purchased a HDTV-capable television set. In addition to EchoStar-delivered HDTV programming, the Model 6000 provides a seamless interface to include locally transmitted over-the-air HDTV channels. The units sells for $499 stand-alone with the 8VSB tuner for an additional $149. For a complete system, the price is $699. DIRECTV currently broadcasts HBO, HDNet, Showtime, and a pay-per-view channel in high definition. Subscribers are required to have purchased a DIRECTV-enabled HD receiver and a triple-LNB, 18"x24" DIRECTV Multi-Satellite dish antenna. EchoStar and Hughes have indicated that post-merger, the combined company would carry at least 12 HDTV channels.

On the cable front, the introduction of HDTV has been mixed, with a few operators leading the pack. Charter announced that it is launching HDTV in five markets, with 249,000 current digital subscribers, in the second quarter of this year including Alhambra/Pasadena and Glendale/Burbank, CA, University Park, TX, South Miami, FL, and Birmingham, AL. The company anticipates two additional markets, Kalamazoo, MI, and St. Louis, MO, to be added in the third quarter. In addition to major broadcast television networks, premium programming from HBO and Showtime will be available in HDTV format. The company plans on accommodating the 1080i format with a 16:9 aspect ratio. Subscribers will need a separate set-top box to access the programming. Pricing has not been determined yet.

Comcast began offering HDTV in Pennsylvania, New Jersey and Delaware to 1.3 million subscribers starting last fall and plans to introduce service in Northern Virginia this summer and in Maryland, Detroit, Indianapolis later this year. Washington, D.C. is expected to be added next year after a system upgrade. Programming includes local broadcast channels as well as HBO and Showtime. Starting next year, Comcast expects to offer High Definition programming on its SportsNet channel, and plans to broadcast more than 200 basketball, baseball, and hockey games in HDTV. In Philadelphia, subscribers are currently paying an incremental $10.95 per month to receive high definition ABC, CBS, NBC, HBO and Showtime, which does not include the rental of a separate Motorola side-car set-top box (or it can be purchased for $300).

Personal Video Recorders (PVR)

Background

While video on demand (VOD) has been viewed as a significant competitive advantage for cable over DBS (as DBS is inherently disadvantaged with a one-way network and tight bandwidth constraints for interactive services), the

early results on VOD have been lackluster. Meanwhile, the competitive response from the DBS industry of using PVR hard drives in the set-top is potentially proving to elicit much greater consumer interest, which leverages significant competitive advantages of satellite over cable. In addition to allowing VCR functionality (pause, fast forward, rewind) of live television and advanced digital recording, PVR's will also soon allow the satellite provider to download a select number of hit titles to be cached on the hard drive. With a hard drive currently able to store up to 80 hours of video, which should rise to over 100 hours in the near future given the apparent Moore's Law curve on storage cost trends, a PVR-enabled DBS receiver can easily store the top 20–30 movies and allow access on a VOD-like basis.

The DBS industry is aggressively moving ahead with integrating personal video recorders in receivers, such as TiVo with DIRECTV. EchoStar was the first to offer a receiver with integrated PVR functionality with its DISHPlayer product three years ago and expanded that functionality with the DishPVR 501 receiver last year, which offers 35 hours of recording time. The company's newly updated personal video recorder, known as the DishPVR 508, takes the 501 model one step further through the addition of an 80 gigabyte hard disk drive (versus 40 gigabytes in the DishPVR 501) that allows up to 80 hours of recording time, of which EchoStar has reserved 20 hours for caching interactive content, music, software, and advertisements.

EchoStar has already reached 500,000 subscribers with PVR-enabled set-tops

With these product offerings, EchoStar has already reached 500,000 subscribers with PVR-enabled set-tops and is targeting to reach one million by the end of the year. Driving this, EchoStar plans to even more aggressively deploy the service in 2002, with the offering of a PVR-enabled DBS set-top for a mere $100 all-in price (compared to free standard equipment currently with a 12-month commitment) and no required monthly fee. This compares to a stand-alone TiVo device that retails for $399 for the equipment and $12.95 per month for the service. While appearing to reflect a substantial subsidization of the hard drive cost, EchoStar's planned $100 pricing actually reflects only a modest increase in subscriber acquisition cost as the company has been able to engineer the hard drive costs down to $100 to integrate into its receivers. This is based on an inherent ability to eliminate duplicative memory and processing power costs between the stand-alone PVR (as in a separate TiVo device) and take advantage of its all-digital architecture.

Competitive Advantage Versus Cable

The latter aspect mentioned above, in particular, highlights a significant advantage of DBS over cable in the integration of PVR technology into set-tops. This reflects the fact that digital cable set-tops are actually hybrid analog-digital boxes that require an inherently higher cost to implement hard drives due to the need to include an additional analog-to-digital converter in the set-top, at an additional estimated $50-$100 cost currently. (This is on top of the already higher cost of digital cable set-tops at an average of $250 compared to DBS receivers at slightly over $100.) In the case of satellite receivers, which are all-digital, the hard drive records the digital bit stream directly from the satellite, eliminating the need for an extra converter. These factors also provide for much higher quality recording and video output on the television for satellite, or result in the alternative trade-off of requiring

significantly greater storage in the hard drive for a cable set-top (or stand-alone PVR) in order to compensate for lesser recording quality.

DBS has been able to leverage retail distribution to gain a several year head start

As in the case of HDTV sales, DBS has been able to leverage its significant national retail distribution infrastructure to take a several year head start over cable's deployment of PVR technology. Exacerbating this delay on the cable industry side has been the sluggish pace of innovation from the industry's two main set-top suppliers—Motorola and Scientific-Atlanta—which have stymied open standards from developing that would drive down set-top box costs (which are approximately twice the level of satellite), open up retail distribution and stimulate technology improvements. All of these dynamics have occurred in a dramatic way on the cable modem side—DOCSIS standardization has caused prices to drop from over $200 to under $100 in the last two years, widespread retail availability, and several advancements in capability. Thus, as several operators have defensively begun ordering PVR-integrated digital set-tops, the cost of these boxes in the $500-$650 range and lack of retail distribution have resulted in a $10 monthly fee, which further extends the pricing gap between DBS and digital cable, outlined above.

Cable's VOD vendors, such as SeaChange and Concurrent, have proposed network-based PVR, using existing VOD servers. While technically a viable solution, we believe the simultaneous usage rates under network-based PVR would make the service economically unviable, given the experience of existing PVR users (that have been reported to watch recorded, rather than live TV, over 90% of the time). Additionally, unless the service were to become a significant loss leader, the cable industry would be competitively disadvantaged by having to charge a monthly rental fee, while the DBS industry led by EchoStar is offering the service at no monthly charge.

Ultimately, the cable companies expect to have hard drives built directly in the set-top boxes in order to lower the overall cost of equipment, similar to what DBS has been offering for several years. Motorola plans on introducing the DCT 2600 in the second half of this year which includes a disk drive, and a disk drive will be a standard feature in its 5200 series of set-top boxes. Charter is jointly developing a Broadband Media Center 8000 (BMC8000) sidecar and the BMC9000 set-top box with Digeo Inc. and Motorola, which will include an personal video recording options as well as a cable modem, wireless networking capability, telephony support, e-mail, music and photo storage. Field testing for the BMC8000 is expected in the summertime with commercial deployment in the fall. Scientific-Atlanta will include a two-tuner PVR with an 80 gigabyte hard drive in its 8000 series of set-tops, which are expected to be shipping this month. Time Warner has ordered 100,000 units, and Cox will begin trials soon. Pioneer's next generation set-top box, the Voyager 4000, will offer a two-tuner PVR and hard drive.

PVR Content

Under EchoStar's recent programming agreement with Vivendi, the company is expected to combine interactive software from Canal+ Technologies with a hard drive in EchoStar set-tops and access to Vivendi's content to provide content on-demand. While not required, the agreement carries incentives for Universal to provide theatrical and musical content on an expanded pay-per-

view basis and on an on-demand basis. Specifically, there are incentives for Universal to allow all current films, including library titles and events, and Universal music content to be stored on a hard drive in an EchoStar set-top and viewed by the subscriber on an on-demand basis. In addition, the agreement allows Universal to provide earlier windows for new movies for pay-per-view and VOD in exchange for improved economics. Offering such services will allow EchoStar to remain competitive vis-à-vis cable as the latter aggressively deploys video on demand (VOD) this year and, later, other interactive services, while giving EchoStar greater negotiating leverage with other content suppliers to obtain on-demand content.

Video on Demand

Cable operators are taking a much more aggressive approach to the rollout of VOD

Cable is preparing a response to DBS subscriber inroads with an aggressive launch of true video on demand (VOD) which reached 10 million homes at the end of 2001, and is expected to reach 30% of U.S. homes (although available only to those with digital set-tops) by the end of this year. Cable operators are taking a much more aggressive approach to the rollout of VOD partially owing to the inherent competitive advantage over the satellite industry, which is technologically unable to offer the product. In addition, cable can deploy VOD service in a sweeping fashion through software downloads to essentially all digital boxes in homes, offering the capability as a standard feature of the digital product offering. Tempering this advantage has been disappointing early results by cable in video on demand with movie buy-rates in the one per month or less range.

Though DBS is technologically unable to offer true video on demand, which delivers dedicated video streams from a central server containing a potentially unlimited library of content to a digital set-top, the DBS industry can use PVR hard drives in the set-top receiver to download a select number of hit titles which can be cached on the hard drive. With a hard drive currently able to store up to 80 hours, a PVR-enabled DBS receiver could easily store the top 20-30 movies and allow access on a VOD-like basis.

EchoStar's video on demand plans are currently in the development stage and are expected to be ready for consumer launch in 2003. VOD is expected to take advantage of the installed base of hard-drive equipped DishPVR 501 and DishPVR 508 set-top boxes to cache popular movies that can then be viewed for a fee. The company envisions charging one fee for limited use (24 or 48 hours) and a higher fee for unlimited use. The company is also working on music on demand, as mentioned above, in conjunction with Vivendi which will allow users to download music for a fee, with the ability to record to music onto a writeable compact disc for an additional fee.

Interactive TV

While not considered the revenue driver once envisioned, the DBS industry still anticipates enhancing its overall revenue through interactivity, via a combination of customer support functionality which ultimately leads to lower churn, incremental fee generating applications such as video on demand, and incremental revenue generating opportunities such as interactive advertising.

DBS moved quickly into the interactive TV front in 2000

DBS moved quickly into the interactive TV front in 2000, leveraging its ubiquitous coverage into a time-to-market advantage that was already evident in Europe, where satellite operators in the United Kingdom, France and Spain had already deployed very rich interactive TV applications nationwide. Thus, partnerships were formed between EchoStar and Microsoft's WebTV (which has since dissolved) and between DIRECTV and AOL TV, both to provide full Internet access to the television by integrating modems into DBS receivers and using the telephone line bi-directionally, while also delivering Webcasting services over satellite for limited interactive services. While sales of these products have been limited, DBS is able to capture this niche market, given cable's current indifference to providing Internet access to the TV.

DIRECTV and EchoStar also partnered with Wink and OpenTV

DIRECTV and EchoStar also partnered with Wink and OpenTV, respectively, to incorporate basic interactive features in the majority of new set-top boxes, which are enhancing existing programming with text of additional information (e.g., more news on CNN, biographies on actors, sports scores), enabling interactive ads/e-commerce (to get more product information or coupons and make purchases) and broadcasting multiple full-screen virtual channels for weather, sports, news, banking and e-commerce.

While DBS technology is limited in its ability to offer the same type of bandwidth on demand capability as cable (for server-based content on demand, for instance) due to its capacity limitations, it is ideally suited for push-technology types of applications, such as Webcasting (i.e., top 100 websites downloaded continuously to the set-top) and other enhanced television applications that can be downloaded and stored on digital set-top boxes, thus minimizing the demands on satellite capacity.

By the end of this year, EchoStar expects to have at least six million interactive capable set-top boxes installed in consumer's homes, up from approximately five million today. Powered by OpenTV middleware, these boxes currently offer customer support applications including the ability to upgrade programming packages (a call is still required to downgrade), view statements, pay the bill with a credit card, and access a list of frequently asked questions. Interactive applications currently deployed and/or under development include local weather, news and sports, horoscopes, Zap2it which provides local information, fantasy baseball and football, and lottery results.

EchoStar and Vivendi have agreed to "experiment" in the development of new interactive channels

As part of their last broader agreement, EchoStar and Vivendi agreed to "experiment" in the development of new interactive broadband channels (using bandwidth equivalent to eight broadcast channels) to be launched on EchoStar within three years of the contract. These interactive channels are expected to leverage Vivendi Universal's experience in Europe with technology from Canal+ Technologies and will feature interactive games, sports, education, movies and music. These interactive channels are also expected to leverage the hard drives in EchoStar's high-end set-top receivers, to provide content-on-demand and, thus, better compete with cable. Illustrating the potential demand for such services, the MediaHighway software deployed by Canal+, and to be used by EchoStar, currently conducts over one million transactions per month in France alone.

Broadband

Background

Broadband remains the satellite industry's main Achilles' heel vis-à-vis cable

Broadband remains the satellite industry's main Achilles' heel vis-à-vis cable, although the industry is making strides towards addressing its disadvantage in this area. Satellite transmission of two-way data has long been cost disadvantaged in two critical respects—space segment costs have made the cost per bit, or ultimately per subscriber, prohibitively expensive, while the ground segment costs to add a transmitter for return path capability to a traditional one-way receiver has pushed equipment costs into the $600-$800 neighborhood. EchoStar and Hughes have been offering two-way high speed Internet access over satellite for a number of years through DIRECWAY and StarBand, respectively, which have garnered an unimpressive 110,000 subscribers and 40,000 subscribers, respectively.

The product is packaged in the form of an integrated dish (which is elliptical at 21–24 inches across) through which the consumer can receive digital video to the TV and high speed data to the PC with download speeds at about 400 kbps and upstream throughput of 128 kbps. The product is deployed through the use of current generation Ku-band satellites, with upfront equipment pricing at $600-$800 and monthly pricing in the $60-$70 range, reinforcing the aforementioned major cost disadvantages. These factors have relegated marketing efforts toward rural areas, where competition from DSL and cable modems is largely non-existent.

As shown at the bottom of Figure 3 previously, DIRECWAY service offered through DIRECTV currently costs $579.98 for hardware an installation (which includes a $320 instant rebate) and ongoing monthly costs of $59.99. As of now, the company does not offer a bundled product. Due to FCC regulations, two-way satellite broadband services must be professionally installed.

Satellite Cost Disadvantage

The fixed cost economics for a broadband Ku-band satellite are difficult to justify at best. As the uplink and downlink frequencies must be shared across the entire U.S. if a full-CONUS satellite is used, and a specific portion of the uplink and downlink frequency can only be used by one person at a time, there is a finite limit to the number of subscribers that can simultaneously use a particular transponder. Each 36 MHz transponder can provide a forward path for approximately 10,000 subscribers assuming normal Internet usage patterns. However, for every three forward path transponders, one reverse path transponder is needed. Therefore, assuming a 24-transponder satellite, only 18 can be used for the forward path, resulting in a full capacity of 180,000 subscribers per satellite. Assuming that a traditional Ku-band satellite as described costs at least $150 million, including launch and insurance, the fixed costs works out to $833 per subscriber. Therefore, Ku-band satellites have been viewed as interim technology until the evolution of Ka-band frequencies with next-generation satellites.

Due to the prohibitive cost factor resulting in unfavorable economic returns, most satellite delivered consumer Internet plans have been pushed back or many cases shelved, highlighted by EchoStar's recent decision to discontinue

selling the StarBand product and write-down of an investment in WildBlue Communications, which was planning to launch a Ka-band service this year.

Ka-band Holds Promise

Next generation Ka-band technology holds promise, as it can be optimized for broadband data services, unlike existing Ku-band satellites, through the use of spot beams, which can offer frequency re-use, and promises two-way interactive capability, with bigger payload satellites, and increased capacity to allow faster speeds and a reduction in effective costs per bit, and per subscriber (based on an estimated 8-10 times increased efficiency of satellite capacity). Both DIRECTV and EchoStar have obtained Ka-band frequencies at neighboring locations to their primary slots, setting up the eventual possibility of integrating bandwidth on demand applications like VOD, interactive games, etc., with the traditional television services on one dish.

Hughes has led the most aggressive Ka-band effort and views the $2 billion satellite platform SPACEWAY, which is still unproven ahead of its 2003 commercial launch, as its best hope for developing an economically competitive alternative to residential cable modem service over the next several years. SPACEWAY is licensed to operate at two full-CONUS orbital slots at 99° WL and 101° WL. The first satellite, incorporating on-board processing and switching, is being constructed to use 500 MHz of spectrum in the 19.7-20.2 GHz range for downlink and 500 MHz of spectrum in the 29.5-30.0 GHz range for uplink. Hughes anticipates $1.8 billion in total capital expenditures for both satellites, of which it has already invested about $1.0 billion. SPACEWAY was originally developed towards the enterprise market, but plans now call for residential service as well.

DSL Solution

In the more urban areas, where satellite technology is likely to remain disadvantaged, DBS and DSL (digital subscriber line) technologies appear to be logical complements against their common competitor in cable. The limited bandwidth and distance restrictions inherent in DSL's twisted pair copper architecture cannot currently provide video service cost effectively, while DBS, with its broadcast architecture, is extremely cost effective at broadcasting video, but relatively inefficient at providing point-to-point communications, like internet access.

The bundled DBS-DSL product would be on par with cable's digital video-cable modem bundle from a consumer standpoint, although it does not realize the benefits of leveraging the same network as cable does. Recognizing these synergies, DIRECTV purchased Telocity last year, a national DSL operator, allowing DIRECTV to offer both video and a competitive high speed data solution to the entire country, although the economics of DSL resale appear tenuous currently.

More promising, however, are potential arrangements between the DBS providers and the incumbent RBOCs. While these types of relationships have generally been unsuccessful in the past, as in the case of DIRECTV's deals years ago in which Bell Atlantic and SBC agreed to resell DIRECTV service, we believe these alliances offer the potential to narrow DBS' only major disadvantage vis-à-vis cable. This stems from the increasing necessity by the RBOCs to find a video alternative, in light of cable's gradual encroachment with cable telephony, which has been demonstrated by Cox and AT&T

Broadband to lead to a 30% share of the local telephone market for cable within a few years of launch through discounting.

EchoStar recently signed agreements with SBC and Earthlink

Recognizing these logical synergies, EchoStar recently signed agreements with SBC and Earthlink, which entail offering consumers a bundled package of DBS and DSL with a $10 discount off the combined price. The bundled DBS-DSL product pricing will essentially blunt cable's digital video-cable modem bundle from a consumer standpoint, which also reflects a $10 discount (as purchasing cable modem without basic cable typically entails a $10 higher price point). Under the SBC joint marketing agreement announced on April 17 of this year, EchoStar and SBC will bundle EchoStar's video offering with SBC's high speed Internet DSL offering. Subscribers taking at least the AT100 programming package from EchoStar and SBC DSL will receive a $10 discount on the bundle, implemented as a $5 discount on each of the two company's respective bills. Under the terms of the deal, each company is incentivized to cross-sell the other's product. Exact terms of the deal have not yet been disclosed. Logistically, a subscriber that signs up for the other's service will be "hot transferred" to the other company's rep. Under the agreement, each provider provisions its own service, i.e. EchoStar does its own install and SBC ships the modem to the customer for self-install.

Other DSL Advantages

From DBS' perspective, the RBOC relationships also offer a path to eventually offer voice telephony, either through direct bundling agreements with the RBOCs or through emerging voice over DSL technology. Further, DSL appears to be a longer-term viable solution to providing a high speed, real-time return capability to the DBS video product offering. As an example, EchoStar's latest top-of-the-line receiver, the DISH Network PRO 701, is equipped with a built-in DSL modem, allowing for broadband Internet access on the television and more advanced interactive features. Over time, the integrated DSL modem could allow the possibility of offering true server-based video on demand as compression techniques advance to enable TV-quality video over the 500 kbps guaranteed speed capability of most DSL technologies. As a result, we view the SBC bundling arrangements by EchoStar as the first of a gradual set of partnerships to be formed with all the RBOCs in order to create a national alliance versus cable.

III. Cash Flow Profitability

The basic economic model for DBS remains compelling, and is actually improving

As shown in our industry revenue and cash flow projections in Figure 6, while having initially been deferred for several years due to stronger-than-anticipated subscriber growth, EchoStar generated positive operating cash flow (EBITDA) on a consistent basis in 2001, following DIRECTV which initially turned EBITDA positive in 1999. With expensed subscriber acquisition costs ranging from $500 to $550, average revenues per subscriber of $50-$60 per month, pre-marketing cash flow margins of 30%-40% and churn at 17%-20% annually, the basic economic model for DBS remains compelling, and in fact has improved since reaching a low point in early 2001.

We estimate the DBS industry will generate almost $1 billion in free cash flow in 2002

The future profitability of the business is particularly attractive given the scalable nature of the DBS infrastructure, which is entirely a fixed, upfront cost investment that will require minimal additional capital expenditures until replacement satellites are required in the 2007-2010 time frame (other than the launch of newer spot-beam satellites to address local channel must-carry). As shown in the bottom of Figure 6, we estimate the industry will generate almost $1 billion in free cash flow in 2002, up from $110 million in 2001. This should then roughly double in 2003 and ultimately increase to over $4 billion by 2008. The emergence of free cash flow also sets the stage for tremendous return on invested capital characteristics, the ultimate determination of value creation for shareholders.

Driving free cash flow are the industry's attractive operating metrics. As shown in the top portion of Figure 6, we expect average revenue per subscriber (**ARPU**) for the industry to show modest increases going forward due to increased penetration of local programming, equipment leasing revenue, continued modest rate increases, the introduction of new revenue streams from interactive services, and advertising. With respect to rates, the industry has taken very modest rate increases compared to cable's average 6%-8% price increases, resulting in a significant pricing umbrella between the two, as discussed above, which would allow DBS providers significant opportunity going forward. Taking all these factors into account, we are conservatively projecting 3%-5% average monthly revenue per subscriber increases for DIRECTV and EchoStar going forward.

An important indicator of underlying margins is **pre-marketing cash flow** (PMCF), which is defined as DBS revenue less programming and operating expenses, before direct subscriber acquisition costs. Programming expenses for DBS, at approximately 40%-45% of revenue, are the largest component of expenses and are significantly higher than cable, which typically run at 20%-25% of revenue. The wide gross margin disparity with cable reflects somewhat higher programming rates for DBS, but also the impact of having significantly more channels and a higher mix of low-margin pay movie revenue (as the studios take 50%-60% of pay-per-view and premium revenue).

On the higher programming rates, which stemmed from the industry's lack of leverage with programmers upon inception, we believe programming contract renewals over the next several years should provide opportunities for both DIRECTV and EchoStar to take advantage of increased scale in order

to drive programming prices lower. We would expect other pre-marketing expenses, particularly customer service, satellite tracking and telemetry as well as general and administrative, to show scale economies over time, driving pre-marketing cash flow margins from 35%-40% currently to the 40%-45% level by the end of our forecast period.

Marketing and selling expenses, referred to as **subscriber acquisition costs** (SAC), provide the greatest operating leverage opportunity in the DBS business. These costs generally include equipment and installation subsidies, retailer commissions and advertising spending implemented to drive subscriber growth. The direct relationship between subscriber additions and acquisition costs sets up a trade-off between growth and profitability, the net effect of which has been to defer operating cash flow (EBITDA) for the industry since inception.

Upfront equipment costs to consumers have fallen dramatically since the DBS industry's launch

Upfront equipment costs to consumers have fallen dramatically since the DBS industry's launch, from as high as $500-$700 five years ago for a professionally installed, fully loaded system, to as low as $0-$50 now with free installation and equipment offers. It is important to note that as important as subsidies in driving lower price points has been the reduction in manufactured costs of equipment from $500 several years ago to $100-$150 currently.

Longer term, we project DBS profit margins on an EBITDA basis will eventually reach 30%-35%, compared to the 40%-45% levels common in cable. The two main reasons are the industry's lower gross margins because of higher programming costs described above and higher ongoing costs to maintain its subscriber base due to higher subscriber acquisition expenses.

Churn appears to be trending down

The important balancing factor in the equation of increasing subscriber acquisition costs to drive subscriber growth, while preserving value, is **churn.** DIRECTV and EchoStar's monthly churn rates had historically remained at the low levels of 1.0%-1.3%, but last year rose to 1.7%-1.8%, coinciding with the sharp reduction in upfront investments required by subscribers. Both EchoStar and DIRECTV, however, have become adept in designing their new subscriber packages such that they are attracting higher quality subscribers, primarily through the requirement of 12-month commitments secured through credit card, which in the long run significantly reduces churn and improves ARPU. Hence, churn figures appear to have reached a high point in the middle of last year, and are now trending down.

IV. Consolidation

The prospects for consolidation under the proposed merger of EchoStar and Hughes Electronics/DIRECTV would substantially leverage the aforementioned subscriber growth and profitability dynamics.

Tremendous merger synergy potential

Underlying the merger is tremendous synergy potential in creating a single DBS platform that would represent the largest multichannel operator in the country with almost 18 million subscribers, from combining DIRECTV's 10.5 million subscribers with EchoStar's 7.2 million. The synergies to be realized are generally in terms of revenue enhancements, channel capacity utilization, and cost structure—valued by EchoStar at up to $56 billion on a net present value basis based on an expected $5.0 billion in incremental operating cash flow (EBITDA) by 2005.

Specifically, EchoStar has identified $36 billion in net present value of cost savings from reductions in programming costs, subscriber acquisition costs, subscriber churn and general and administrative expenses. On the revenue side, the remaining $20 billion in net present value synergies is expected to come mainly from expanding the number of markets where local-to-local via satellite is available to all 210 markets, as well as driving increased revenue from delivering internet access into rural parts of the country, higher advertising and interactive services, and increased programming through additional channel capacity (including HDTV, pay-per-view and specialized channels).

EchoStar estimates that the transaction would result in an incremental 9.4 million DBS subscribers by 2005

Furthermore, the company estimates that the transaction would result in an incremental 9.4 million DBS subscribers by 2005 through a combination of lower churn, higher penetrations in new local-to-local markets (DISH has experienced a 10% increase in penetration in areas where it has introduced local-to-local signals), and a more compelling value proposition to the consumer via a widespread rollout of PVR and other interactive functionality, as well as broadband access. Figure 1 illustrates this potential market expansion.

While the merger would require a major transition process given the different technical hardware standards—either through a forced conversion of one side's set-top boxes or a gradual transition by taking down niche programming on either side and forcing box replacements—it would ultimately realize the greatest utility of the 1,000-channel combined platform.

We believe that the most obvious area of cost savings are in equipment subsidies and dealer commissions

We believe that the most obvious area of cost savings are in equipment subsidies and dealer commissions, which have dramatically escalated over the last five years in response to intensifying intra-industry competitive dynamics, highlighted by the exclusive arrangements formed by DIRECTV with RadioShack, Circuit City and Best Buy. These cost reforms should allow the industry to accelerate the transition from subscriber growth to cash flow generation, thereby addressing ultimate profitability concerns in the market. Alternatively, or in addition, subscriber acquisition cost savings could be repurposed to drive enhancements in the DBS product offering. Specifically, the DBS industry could leverage its inherent advantage currently in the

integration of hard drive/PVR (personal video recording) technology into set-tops as more of a standard function.

Regulatory Status

The two companies are currently awaiting regulatory approval from both the FCC and the Department of Justice (DOJ) as well as a favorable tax ruling from the IRS. EchoStar has indicated that it believes the FCC will return with a ruling sometime in September, with the DOJ at the same time, or slightly before this. Upon approval, closing could occur in about one month's time.

Management remains confident on the regulatory prospects of the proposed merger

EchoStar and Hughes management remain confident on the regulatory prospects of their proposed merger, having presented their case to Capitol Hill with no new legislation being introduced that would jeopardize the merger. EchoStar's dialogue with the Department of Justice (DOJ) continues, with the DOJ expected to issue a final merger ruling no sooner than September. If the DOJ were to decide that the relevant market includes only satellite, rather than the entire pay TV industry including cable, then EchoStar management has indicated that it sees little chance of the merger being approved. However, EchoStar points to significant precedent that exists for the DOJ to a rule that the broader pay television market is the relevant market given the 1998 case of EchoStar's acquisition of the ASkyB assets from News Corp/MCI. In addition, management is optimistic given that since that time, cable and satellite have become increasingly competitive and interchangeable with the launch of digital by cable and local by satellite.

EchoStar believes that antitrust issues will be largely focused on the concern of collusion in urban/suburban markets where competition will be reduced from three players (EchoStar, DIRECTV, and cable) down to two, rather than in non-cabled rural markets where competition is being reduced from two to one. This is based on the fact that cable already has a monopoly in 17-20 million homes located in multiple dwelling units (apartment complexes, etc.) and that the creation of a monopoly in 5-7 million rural homes that do not have access to cable would be offset by the promise of a national pricing model. Further, management contends that its commitment to a national pricing policy would preclude any ability to collude with a fragmented cable industry. EchoStar also argues that in markets which do not currently offer local service, competition would essentially be enhanced from one to two players as the merger would free up satellite capacity to offer local signals in those markets and create for the first time a viable satellite offering. Reinforcing this benefit, on February 25, Hughes and EchoStar outlined a plan under their proposed merger that will lead the two companies to offer local channels in all 210 DMA markets (known as the "Local Channels, All Americans" plan), encompassing approximately 1,500 individual stations within 24 months of the closing its merger.

In terms of willingness to make further concessions EchoStar and Hughes management have stated that a forced divestiture of one of the three primary DBS orbital slots held by DIRECTV and EchoStar would result in a substantial reduction of merger synergies, which would lead both parties to call off the merger (Hughes management has publicly stated the same). If the merger was not consummated, under the merger agreement, EchoStar would acquire

Hughes' 81% interest in PanAmSat (SPOT) for $2.7 billion (121 million shares at $21.47) and pay a break-up fee of $600 million in cash to Hughes. EchoStar management has indicated strategic interest in PanAmSat, highlighting its status as the second largest satellite services provider in the world with 21 satellites providing global coverage, as well as potential merger synergies with EchoStar in the form of cross-selling opportunities and margin upside.

US
Satellite Communications

May 8, 2002

EchoStar Communications

Solid 1Q02 Masked by Lower EBITDA

Rating Remains
Strong Buy

Price 5/7/02
US$25.50

Target Price
US$50.00

Ticker/Code
NASDAQ: DISH

FY: (Dec.)	1Q	2Q	3Q	4Q	EPS
2001A	($0.35)	$0.00	$0.01	($0.09)	($0.45)
2002E	($0.20)A	$0.05	$0.08	$0.14	$0.07
2003E	—	—	—	—	$1.00

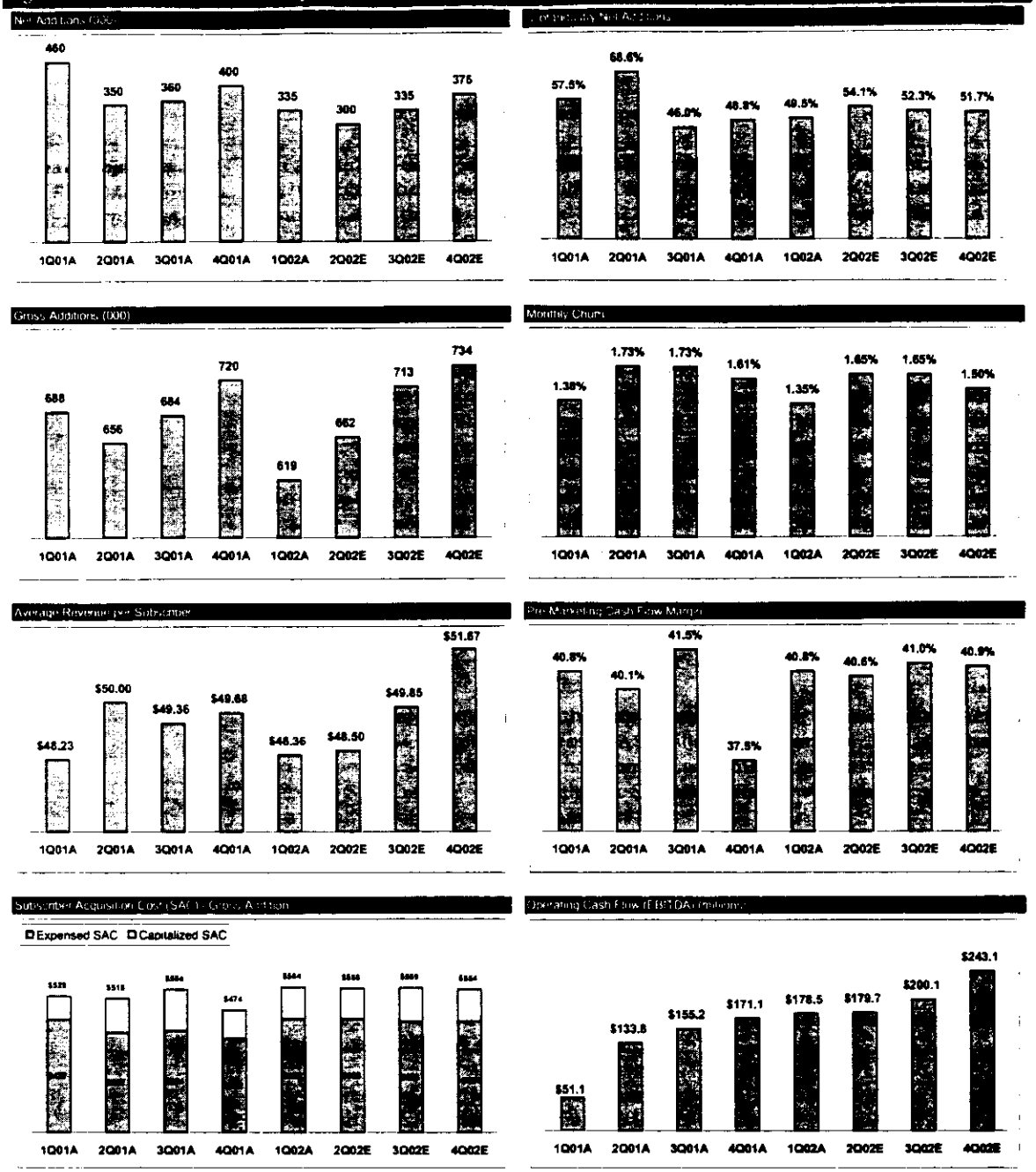
Source: Deutsche Bank Securities Inc. estimates and company information

52-Week Range:	**$39-$19**	5-Year EBITDA Growth Rate	**31%**
Shares Outstanding: (MM)	**601.8**	Adj. Ent. Value/'03 EBITDA	**10.6x**
Market Cap: (MM)	**$15,297**	Avg. Daily Volume: (MM)	**4.2**
S&P 500:	**1049.49**	Float: (MM)	**142.1**

EchoStar reported solid first quarter results on May 2, which were masked by lower-than-expected EBITDA and a downward revision in our full year 2002 EBITDA estimate from $976 million to $800 million.

- **1Q02 Subscribers:** EchoStar added 335,000 net new subs in the quarter, in line with our estimate of 325,000. Churn was managed down to 1.35%, versus 1.38% last year, and our estimate of 1.55%.
- **1Q02 EBITDA:** EchoStar reported EBITDA of $178.5 million, below our estimate of $227.5 million, reflecting a shift from capitalized SAC to expensed SAC, in addition to slightly higher subsidies, driven by the nature of current promotions.
- **2002/2003 Estimates:** We are maintaining our previous subscriber net addition and churn forecasts, in addition to revenue and pre-marketing cash flow margins. However, as a result of EchoStar's plans to continue its current promotional offers that subsidize the consumer purchase of multiple sets in lieu of leasing equipment, we have reduced our 2002 EBITDA forecast from $976 million to $800 million, while trimming our 2003 EBITDA projection from $1.44 billion to $1.32 billion. However, we note that this primarily reflects a shift from capitalizing SAC costs to expensing, as well as a shift to higher quality subscriber adds with a higher mix of multiple sets.
- **Valuation/Investment Outlook:** These solid results highlight, in our view, the continued strong subscriber growth momentum of the DBS industry. Despite the higher-than-projected SAC expected for the year, we believe the incremental costs are tied to an improving sub base profile, as the industry continues to acquire above-average quality cable subs. These factors are likely to lead to further improvements in ARPU, churn and SAC over time, fueling the industry's improving profitability characteristics, which are highlighted by the emergence of FCF and earnings during 2002. These factors also highlight the stock's attractive valuation of 10.6 times 2003 EBITDA, relative to prospects for 30% five-year EBITDA compound annual growth. As a result, we reiterate our Strong Buy rating and target price of $50 per share.

Figure 13 EchoStar—Quarterly DBS Metrics



Source: Deutsche Bank Securities Inc. estimates and company information

Viewpoint

EchoStar reported solid first quarter results on May 2, which were masked by lower-than-expected EBITDA and a downward revision in our full year 2002 EBITDA estimate from $976 million to $800 million.

Subscriber Growth: EchoStar added 335,000 net new subscribers in the first quarter, versus our estimate of 325,000 subscribers and overall Street estimates in the 280,000-350,000 range, to finish the quarter at 7.165 million subscribers, up from 6.83 million at the end of the fourth quarter of last year. With DIRECTV having already reported strong net additions of 342,000 in the first quarter, EchoStar attained essentially 50% incremental market share. Subscriber churn declined sequentially in the first quarter to 1.35% per month, versus 1.62% in the fourth quarter of last year, and essentially flat compared to 1.38% in the prior year. Churn was significantly better than our 1.55% estimate, as an increasing percentage of customers over the last 12 months have subscribed under 12-month programming commitments.

Revenue/Pre-Marketing Cash Flow: Total DISH Network revenue for the first quarter increased 27.9% to $1,018.9 million, in line with our estimate of $1,049.7 million. Revenue was driven by the substantially expanded subscriber base mentioned above and a slight increase in average revenue per subscriber (ARPU) to $48.36 per month, up from $48.23 per month in the prior year first quarter. Pre-marketing cash flow, measured as operating cash flow (EBITDA) before subscriber acquisition costs, increased 28.1% to $450.1 million, versus our estimate of $456.6 million, as the company continued to manage expenses exceptionally well.

SAC/EBITDA: Subscriber acquisition costs (SAC) expensed on the income statement totaled $271.6 million versus our estimate of $229 million and $300 million in the first quarter of last year. This implied an expensed SAC per gross addition of $439 in the quarter versus our estimate of $353 and $437 per gross addition last year. We attribute about half of the difference between the reported results and our estimate to an unexpected shift from capitalized subscriber acquisition costs (SAC) to expensed SAC (which we note does not significantly alter actual cash flow) driven by the nature of current promotions, and half to slightly higher subsidies and advertising expense. Including capitalized SAC under the company's Digital Home Plan leasing option, total SAC per gross addition was $564 in the quarter, up from $528 in the prior year, and above our estimate of $503.

Full Year 2002/2003 Outlook: We are maintaining our previous subscriber net addition and churn forecasts, in addition to revenue and pre-marketing cash flow margins. However, as a result of EchoStar's plans to continue its current promotional offers that subsidize the consumer purchase of multiple sets in lieu of leasing equipment, we have reduced our 2002 EBITDA forecast from $976 million to $800 million, while trimming our 2003 EBITDA projection from $1.44 billion to $1.32 billion. However, we note that this primarily reflects a shift from capitalizing SAC to expensing, as well as a shift to higher quality subscriber additions (higher ARPU, lower churn) with a higher mix of multiple sets.

Valuation/Investment Outlook: These solid first quarter results highlight, in our view, the continued strong subscriber growth momentum of the DBS industry. Despite the higher-than-projected subscriber acquisition costs expected for the year, approximately half of which reflect shifting capitalized SAC that is recorded below the EBITDA line to expensed SAC above the EBITDA line, we believe the incremental costs are directly tied to an improving subscriber base profile, as the industry continues to acquire above-average quality cable subscribers. These factors are likely to lead to further improvements in ARPU, churn and SAC over time, fueling the industry's improving profitability characteristics, which are highlighted by the emergence of free cash flow and earnings this year. These factors also highlight the stock's attractive valuation of 10.6 times 2003 EBITDA, relative to prospects for 30% five-year EBITDA compound annual growth. As a result, we reiterate our Strong Buy rating and target price of $50 per share.

First Quarter 2002 Review

Subscriber Growth

EchoStar added 335,000 net new subscribers in the first quarter, versus our estimate of 325,000 subscribers and overall Street estimates in the 280,000-350,000 range, to finish the quarter at 7.165 million subscribers, up from 6.83 million at the end of the fourth quarter of last year. With DIRECTV having already reported strong net additions of 342,000 in the first quarter, EchoStar attained essentially 50% incremental market share during the quarter.

We estimate that EchoStar added 619,000 gross subscribers, down 10% vs. last year

We estimate that EchoStar added 619,000 gross subscribers, down 10% compared to 688,000 gross additions in the same period last year, despite difficult economic conditions. (Note that last year's first quarter results included a significant, although undisclosed, contribution from the conversion of BellSouth video customers). EchoStar's results were driven by the continued success of selling local signals into the top 36 markets, the equipment leasing model under the Digital Home Plan, the innovative "I Like 9" promotion (which ended on January 31, 2002), and the new "1-2-3 Great TV" promotion which started in February.

Subscriber churn declined sequentially in the first quarter to 1.35% per month

Subscriber churn declined sequentially in the first quarter to 1.35% per month, versus 1.62% in the fourth quarter of last year, and was essentially flat compared to 1.38% in the prior year. Churn was significantly better than our 1.55% estimate, as a higher percentage of customers over the last 12 months have signed on under 12-month programming commitments. We would expect the company's churn rate to increase in the second quarter but remain below comparable 2001 levels, primarily the result of seasonality and a $1 rate increase implemented in March. We estimate that full year churn will be 1.54% per month versus 1.62% per month in 2001, reinforcing the improving quality of the company's subscriber base.

Management reiterated that it expects to end 2002 with at least 8 million subscribers

For 2002, management reiterated that it expects to end the year with at least 8 million subscribers, implying a minimum of 1.17 million net additions for the year, based on the assumption of a continued sluggish economy throughout 2002. We are maintaining our year-end 2002 estimate of 8.175 million subscribers, implying net additions of 1.345 million. Likely boosting net additions will be distribution starting in May of EchoStar equipment in RadioShack outlets, which historically have exclusively distributed DIRECTV equipment. With an estimated 20% of DIRECTV sales estimated to come from the RadioShack distribution channel, EchoStar stands to gain significant competitive market share.

Revenue

Total DISH Network revenue for the first quarter increased 27.9% to $1,018.9 million, in line with our estimate of $1,049.7 million. Revenue was driven by the substantially expanded subscriber base mentioned above and a slight increase in average revenue per subscriber (ARPU) to $48.36 per month, up from $48.23 per month in the prior year first quarter and down sequentially from $49.68 in the fourth quarter of last year. ARPU comparisons were

negatively affected by the company's promotional offers, which now offer discounted or free programming versus previous offers that were more equipment-subsidy oriented. For example, the company's "I Like 9" promotion introduced in August 2001 reduced monthly programming prices to the consumer by $22 per month for the first 12 months of service to $9 per month for America's Top 100 programming and included free installation, but required the customer to incur at least a $199 upfront cost for the equipment and make a one-year commitment. This offer was discontinued at the end of January and was replaced by the "1-2-3 Great TV" offer, which includes a free second receiver, three months of free programming (including local channels), and free installation for subscribers choosing to purchase a satellite system for $149 and committing to 12 months of service.

The negative effects of promotional activity on ARPU was partially offset by a $1 rate increase applied in February 2001 and March 2002 as well as increased subscriptions to local channels, which are purchased by roughly half the subscriber base, and the continued success of the Digital Home Plan, which adds $5-$10 per month in additional equipment lease revenue.

We estimate ARPU will remain relatively flat on a sequential basis in the second quarter at $48.50 per month, but then increase in the second half of the year as the two promotions mentioned above start to roll-off and we see the full effect of the recent rate increases. By the fourth quarter, we anticipate ARPU to be $51.67 per month, 4% above $49.68 reported in the fourth quarter of 2001. For the full year, management guidance is for a modest increase in ARPU over 2001, and we estimate full-year ARPU at $49.66 per month versus $49.35 in 2001.

EchoStar's total revenue increased 28.1% to $1.105 billion

EchoStar's total revenue, which includes the DISH Network as well as the company's Equipment and Satellite Services businesses, increased 28.1% to $1.105 billion, in line with our estimate of $1.126 billion, as DTH equipment revenue of $57.1 million and "Other" revenue of $28.5 million were in line with our estimates of $50.0 million and $26.4 million, respectively.

For 2002, management expects total revenue to increase 20%-25%, based on a continued weak economy. We expect total revenue to increase 21.5% to $4.861 billion in 2002, driven primarily by the aforementioned increase in subscribers and modest increase in ARPU.

Pre-Marketing Cash Flow

PMCF increased 28.1% to $450.1 million

Pre-marketing cash flow (PMCF), measured as operating cash flow (EBITDA) before subscriber acquisition costs, increased 28.1% to $450.1 million, versus our estimate of $456.6 million, as the company continued to manage expenses tightly. Overall pre-marketing cash flow margins of 40.8% were flat compared to the prior year first quarter and exceed management's target for year-end of 40%. We note that the company's current free three-month programming offer is substantially depressing PMCF margins by approximately 200-300 basis points, which should be revealed as current promotions roll off later in the year. For 2002, management reiterated that it expects pre-marketing cash flow margin to be about 40%, essentially flat with 2001, as the company expects to make additional investments in customer

service, including an additional customer service call center later this year. We estimate 2002 pre-marketing cash flow to be $1.985 billion, yielding a 40.8% margin.

Subscriber Acquisition Costs

Subscriber acquisition costs expensed on the income statement totaled $271.6 million

Subscriber acquisition costs (SAC) expensed on the income statement totaled $271.6 million versus our estimate of $229 million and $300 million in the first quarter of last year, or equivalently $439 per gross addition in the quarter, versus $437 per gross addition last year. We attribute about half of the difference between the reported results and our estimate to an unexpected shift from capitalized SAC to expensed SAC driven by the nature of current promotions, and the other half to slightly higher subsidies and advertising expenses. Including capitalized SAC under the company's Digital Home Plan leasing option, total SAC per gross addition was $564 in the quarter, up from $528 in the prior year and above our estimate of $503.

Overall, we estimate that 31% of the company's total gross additions signed up for the Digital Home Plan leasing program, flat compared to the fourth quarter of last year, and below our estimate of 50%, as the introduction of the company's "1-2-3 Great TV" promotion which targets two receiver households proved more popular than we had expected. The leasing program entails capitalization of equipment-related acquisition costs (estimated currently at $400 per subscriber for EchoStar), thereby reducing operating expenses and raising operating cash flow.

EchoStar reported that it had recouped $12 million in cash and returned equipment

EchoStar also reported that it had recouped $12 million in cash and returned equipment (representing the depreciated value of the equipment) from customers that churned under the Digital Home Plan. The equipment will be refurbished and either resold or redeployed to new leasing households, effectively lowering the company's overall subscriber acquisition costs over time.

For 2002, the company indicated that it expects expensed acquisition costs per subscriber to be similar to those in the first quarter, and above its previous guidance of being similar to 2001 levels. Therefore, we now expect total SAC to be $558 in 2002, up from our previous estimate of $516, of which $434 is expensed. Based on our full-year estimate of 2.7 million gross additions, we now estimated expensed SAC of $1.18 billion (up from $1.01 billion previously) and capitalized SAC of $340 million in 2002 (down from $415 million, previously).

Operating Cash Flow (EBITDA)

After subtracting the expensed subscriber acquisition costs from pre-marketing cash flow, the company reported EBITDA of $178.5 million, versus our estimate of $227.5 million, up from $51.1 million in the first quarter of last year. The difference between the reported results and our estimate reflects the shift from capitalized subscriber acquisition costs to expensed SAC, driven by the nature of current promotions, in addition to slightly higher subsidies and advertising expense mentioned above.

To highlight the cash-flow nature of the shift in capitalized to expensed SAC, we note that reported EBITDA less capitalized SAC during the quarter was $101.5 million, closer to our estimate of $130 million on an equivalent basis, with the remaining difference coming from higher subsidies (related to a higher percentage of new customers taking multiple sets) and $10 million in higher-than-expected advertising expenses in the quarter.

We have adjusted our 2002 EBITDA estimate down to $801 million and 2003 EBITDA estimate down to $1.322 billion

As a result of these trends, we have adjusted our 2002 EBITDA estimate from $976 million down to $801 million and lowered our 2003 EBITDA estimate from $1.436 billion down to $1.322 billion. However, we note that this primarily reflects a shift from capitalizing SAC costs to expensing, as well as a shift to higher quality subscriber additions with a higher mix of multiple sets.

Net Income

EchoStar reported operating income of $95.3 million. However, a $36 million write-down of the company's remaining stake in StarBand, a $61.9 million one-time charge related to the Series D Preferred Vivendi stock, and $19 million in merger related costs resulted in a loss attributable to common shareholders of $(0.20) per share. Management has previously stated that in the long term it hopes to consistently generate earnings and that it expects positive earnings in 2002. We anticipate positive earnings per share to emerge permanently this year, with estimated EPS of $0.07 per share for 2002, including the one-time items mentioned above, rising to $1.00 per share in 2003.

Balance Sheet

At the end of the quarter, the company reported cash and marketable securities of $4.50 billion, up from $2.95 billion at the end of 2001 after having closed on the $1.5 billion Vivendi equity investment during the quarter. Total debt of $5.7 billion, which includes $2 billion in convertible securities, was essentially unchanged from year-end 2001.

Capital expenditures during the quarter totaled $102.9 million, of which $77 million was related to capitalized equipment under the lease program. For 2002, the company reiterated its capital expenditure guidance of $500-$750 million, with approximately 25% of this amount related to satellite construction and the remainder to capitalized equipment and other corporate purposes. Our capital expenditure estimate for 2002 is $635 million, down from our previous forecast of $715 million with approximately $340 million related to capitalized equipment costs.

We estimate that the company reported free cash flow (cash flow from operations less capital expenditures) of $89 million for the quarter and expect free cash flow for full year 2002 of $64 million, which we expect to rapidly rise to nearly $350 million in 2003.

Figure 14 EchoStar—Projected Subscriber Model

	2000A	1Q01A	2Q01A	3Q01A	4Q01A	2001A	1Q02A	2Q02E	3Q02E	4Q02E	2002E	2003E	2004E	2005E	2006E	2007E	2008E
DBS Industry Subscribers																	
Beginning of Period	10,092	14,781	15,200	15,710	16,350	14,781	17,170	17,725	18,280	18,920	17,170	19,645	21,688	23,467	25,015	26,366	27,526
End of Period	14,781	15,200	15,710	16,350	17,170	17,170	17,725	18,280	18,920	19,645	19,645	21,688	23,467	25,015	26,366	27,526	28,517
• % Change Yr. / Yr.	46.5%	35.4%	25.1%	18.8%	16.2%	16.2%	16.6%	16.4%	15.7%	14.4%	14.4%	10.4%	8.2%	6.6%	5.4%	4.4%	3.6%
Industry Net Additions	4,689	419	510	640	820	2,389	555	555	640	725	2,475	2,043	1,778	1,549	1,351	1,160	991
EchoStar Subscribers																	
Beginning of Period DBS Subscribers	3,410	5,260	5,720	6,070	6,430	5,260	6,830	7,165	7,465	7,800	6,830	8,175	9,299	10,277	11,129	11,872	12,510
Gross Additions	2,555	688	656	684	720	2,747	619	662	713	734	2,728	2,759	2,834	2,907	2,979	3,037	3,092
• % Change Yr. / Yr.	36.2%	17.6%	6.3%	5.4%	2.2%	7.5%	-10.0%	0.9%	4.3%	2.0%	-0.7%	1.2%	2.7%	2.6%	2.5%	2.0%	1.8%
• Marketing Expenses (millions)	(1,020)	(273)	(227)	(224)	(214)	(938)	(234)	(250)	(261)	(269)	(1,014)	(966)	(975)	(983)	(989)	(990)	(989)
• Advertising and Other (millions)	(139)	(27)	(27)	(45)	(47)	(147)	(37)	(40)	(44)	(48)	(169)	(166)	(170)	(174)	(179)	(182)	(185)
• Retention Marketing Adjustment (millions)	4	3	2	2	4	10	6	6	6	6	24	27	30	32	34	36	38
• Reported SAC (from 100)	$453	$432	$384	$392	$357	$395	$430	$429	$420	$423	$425	$400	$394	$387	$380	$374	$368
Disconnects	(705)	(228)	(306)	(324)	(320)	(1,177)	(284)	(362)	(378)	(359)	(1,383)	(1,636)	(1,856)	(2,055)	(2,236)	(2,399)	(2,547)
• Monthly Churn	1.36%	1.38%	1.73%	1.73%	1.61%	1.62%	1.35%	1.65%	1.66%	1.50%	1.54%	1.56%	1.58%	1.60%	1.62%	1.64%	1.66%
Net Additions	**1,850**	**460**	**350**	**360**	**400**	**1,570**	**335**	**300**	**335**	**375**	**1,345**	**1,124**	**978**	**852**	**743**	**638**	**545**
• % Change Yr. / Yr.	25.9%	1.1%	-21.3%	-20.9%	-19.2%	-15.1%	-27.2%	-14.3%	-6.9%	-6.3%	-14.3%	-16.5%	-13.0%	-12.9%	-12.8%	-14.1%	-14.6%
• % Market Share of Net Additions	39.5%	109.8%	68.6%	56.3%	48.8%	65.7%	60.4%	54.1%	52.3%	51.7%	54.3%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%
								Guidance: More than 8 mil. (5/2/02)									
End of Period EchoStar Subs	**5,260**	**5,720**	**6,070**	**6,430**	**6,830**	**6,830**	**7,165**	**7,465**	**7,800**	**8,175**	**8,175**	**9,299**	**10,277**	**11,129**	**11,872**	**12,510**	**13,055**
• % Change Yr. / Yr.	54.3%	48.0%	40.8%	34.9%	29.8%	29.8%	25.3%	23.0%	21.3%	19.7%	19.7%	13.7%	10.5%	8.3%	6.7%	5.4%	4.4%
• Average DBS Subscribers	4,314	5,491	5,887	6,219	6,642	6,060	7,003	7,315	7,633	7,988	7,485	8,737	9,788	10,703	11,500	12,191	12,782
• DBS Market Share	35.6%	37.6%	38.6%	39.3%	39.8%	39.8%	40.4%	40.8%	41.2%	41.6%	41.6%	42.9%	43.8%	44.5%	45.0%	45.4%	45.8%

Source: Deutsche Bank Securities Inc. estimates and company information

Figure 15 EchoStar—Projected Operating Model

	2000A	1Q01A	2Q01A	3Q01A	4Q01A	2001A	1Q02A	2Q02E	3Q02E	4Q02E	2002E	2003E	2004E	2005E	2006E	2007E	2008E
DISH Network Revenue																	
Subscription Television Services	$2,348.7	$794.4	$883.1	$921.0	$990.0	$3,588.4	$1,036.1	$1,064.3	$1,141.5	$1,238.1	$4,480.0	$5,414.4	$6,278.0	$7,105.2	$7,901.7	$8,689.3	$9,408.2
• Revenue / Avg. Sub / Month	$45.33	$48.23	$50.00	$49.38	$49.68	$49.35	$48.36	$48.50	$49.85	$51.67	$49.66	$51.84	$53.45	$55.32	$57.28	$59.26	$61.34
• % Change Yr. / Yr.	6.1%	10.0%	10.8%	8.8%	6.9%	8.9%	0.3%	-3.0%	1.0%	4.0%	0.6%	4.0%	3.5%	3.5%	3.5%	3.5%	3.5%
Other	5.5	2.5	3.2	3.7	7.9	17.3	2.8	2.5	2.5	2.5	10.3	10.6	10.8	11.1	11.4	11.7	12.0
Total DISH Network Revenue	$2,352.2	$796.9	$886.3	$924.6	$997.9	$3,605.7	$1,038.9	$1,066.8	$1,144.0	$1,240.6	$4,479.3	$5,425.0	$6,288.9	$7,116.3	$7,913.1	$8,701.0	$9,420.1
• % Change Yr. / Yr.	73.9%	66.7%	59.0%	49.8%	42.7%	53.3%	27.9%	20.4%	23.7%	24.3%	24.0%	21.4%	15.9%	13.2%	11.2%	9.7%	8.5%
• Revenue / Avg. Sub / Month	$45.44	$48.38	$50.18	$49.56	$50.08	$49.58	$48.49	$48.61	$49.98	$51.77	$49.77	$51.74	$53.54	$55.41	$57.34	$59.34	$61.41
							Guidance: Modest increase vs. 2001 (5/2/02)										
DTH Equip. Sales & Integration Services	$259.8	$41.0	$47.2	$73.2	$109.8	$271.2	$57.1	$55.0	$60.0	$60.0	$232.1	221.8	201.8	189.7	180.2	171.2	162.7
• % Change Yr. / Yr.	41.2%	-34.6%	-21.4%	34.4%	33.0%	4.4%	39.1%	16.6%	-18.1%	-27.2%	-7.1%	-12.0%	-9.0%	-6.0%	-5.0%	-5.0%	-5.0%
Other	103.2	24.0	32.8	24.6	42.8	124.2	26.5	36.1	27.1	47.0	136.7	145.7	153.0	160.6	168.6	177.1	185.9
• % Change Yr. / Yr.	53.9%	-3.4%	14.7%	-8.0%	81.8%	20.4%	19.0%	10.0%	10.0%	10.0%	11.7%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Revenue	$2,715.2	$861.9	$966.3	$1,022.5	$1,150.4	$4,001.1	$1,104.5	$1,157.9	$1,231.1	$1,367.6	$4,861.1	$5,792.5	$6,843.7	$7,466.6	$8,262.0	$9,029.3	$9,768.7
• % Change Yr. / Yr.	69.3%	52.4%	49.5%	48.5%	42.8%	47.4%	28.1%	19.8%	20.4%	18.9%	21.5%	19.2%	14.7%	12.4%	10.7%	9.3%	8.2%
								Guidance: 20-25% (5/2/02)									
Operating Expenses																	
Subscriber-related Expenses	($970.4)	($316.3)	($358.6)	($362.8)	($395.4)	($1,433.2)	($406.2)	($425.7)	($454.3)	($491.5)	($1,779.8)	($2,136.7)	($2,448.4)	($2,735.5)	($3,018.5)	($3,285.7)	($3,537.5)
• % Subscription TV Services Revenue	41.4%	39.8%	40.6%	39.4%	39.9%	39.9%	40.2%	40.0%	39.8%	39.7%	39.9%	39.5%	39.0%	38.5%	38.2%	37.9%	37.6%
Customer Service Center and Other	(250.7)	(64.6)	(69.9)	(72.6)	(77.4)	(284.9)	(82.9)	(88.5)	(90.0)	(93.5)	(352.8)	(403.6)	(438.1)	(463.8)	(481.8)	(493.0)	(498.5)
• $ / Avg. Sub / Month	$4.64	$3.93	$3.86	$3.90	$3.88	$3.92	$3.94	$3.84	$3.93	$3.90	$3.93	$3.85	$3.73	$3.81	$3.48	$3.37	$3.25
• % Subscription TV Services Revenue	10.7%	8.2%	7.9%	7.9%	7.8%	7.8%	8.2%	8.1%	7.9%	7.5%	7.8%	7.5%	7.0%	6.5%	6.1%	5.7%	5.3%
Satellite and Transmission	(44.4)	(9.1)	(8.8)	(11.3)	(10.4)	(39.6)	(13.2)	(13.3)	(14.3)	(16.1)	(56.8)	(81.2)	(94.2)	(99.5)	(102.7)	(112.7)	(122.3)
• % Subscription TV Services Revenue	1.9%	1.1%	1.0%	1.2%	1.1%	1.1%	1.3%	1.3%	1.3%	1.3%	1.3%	1.5%	1.5%	1.4%	1.3%	1.3%	1.3%
Total DISH Network	($1,265.4)	($390.2)	($437.4)	($446.9)	($483.3)	($1,757.8)	($504.3)	($525.5)	($558.6)	($601.1)	($2,189.4)	($2,623.6)	($2,980.7)	($3,298.8)	($3,602.8)	($3,891.4)	($4,158.3)
• % Total DISH Network Revenue	53.8%	48.0%	49.3%	48.3%	48.4%	48.7%	49.5%	49.3%	48.8%	48.5%	49.0%	48.4%	47.4%	46.4%	45.5%	44.8%	44.1%
								Guidance: Similar to '02 (2/28/02)									
Cost of Sales-DTH Equip. & Integ. Serv.	($195.0)	($28.8)	($31.2)	($49.4)	($78.7)	($188.0)	($39.4)	($38.5)	($42.0)	($58.0)	($175.9)	($155.3)	($141.3)	($132.8)	($126.2)	($119.9)	($113.9)
• % DTH Equipment Sales Revenue	75.0%	70.3%	66.1%	67.4%	71.8%	69.3%	69.0%	70.0%	70.0%	70.0%	69.8%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Cost of Sales - Other	(33.0)	(15.9)	(22.6)	(15.7)	(27.8)	(82.0)	(16.2)	(23.5)	(17.8)	(30.6)	(87.8)	(94.7)	(99.4)	(104.4)	(109.6)	(115.1)	(120.9)
• % Other Revenue	32.0%	66.4%	65.8%	63.7%	65.0%	66.0%	56.8%	65.0%	65.0%	65.0%	63.3%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
General and Administrative	(250.4)	(75.7)	(87.7)	(85.8)	(128.8)	(377.9)	(94.5)	(100.7)	(107.7)	(120.3)	(423.3)	(485.7)	(507.6)	(546.7)	(584.4)	(622.4)	(661.8)
• % Change Yr. / Yr.	66.5%	36.2%	50.7%	35.5%	75.4%	50.9%	24.8%	14.9%	25.6%	-6.5%	12.0%	10.0%	9.0%	7.7%	6.9%	6.5%	6.3%
• % of Total Revenue	9.2%	8.8%	9.1%	8.4%	11.2%	9.4%	8.6%	8.7%	8.8%	8.8%	8.7%	8.0%	7.6%	7.3%	7.1%	6.9%	6.8%
Total Operating Expenses	($1,743.8)	($510.6)	($578.8)	($597.7)	($718.5)	($2,405.6)	($654.4)	($688.2)	($725.9)	($808.0)	($2,876.5)	($3,339.2)	($3,729.0)	($4,082.5)	($4,423.0)	($4,748.7)	($5,054.6)
								Guidance: Similar to 1Q02 (5/2/02)									
Pre-Marketing Cash Flow	$971.4	$351.3	$387.5	$424.6	$432.0	$1,595.5	$450.1	$469.7	$505.2	$559.6	$1,984.7	$2,453.3	$2,914.7	$3,384.2	$3,839.0	$4,280.6	$4,714.2
• % Change Yr. / Yr.	75.0%	88.2%	75.5%	62.2%	42.5%	64.2%	28.1%	21.2%	18.9%	29.6%	24.4%	23.6%	18.6%	18.1%	13.4%	11.5%	10.1%
• Pre-Marketing Cash Flow Margin	35.8%	40.8%	40.1%	41.5%	37.5%	39.9%	40.8%	40.6%	41.0%	40.9%	40.8%	42.4%	43.0%	45.3%	46.5%	47.4%	48.3%
									Guidance: 40% (5/2/02)								
DISH Network Marketing Expenses																	
Subscriber Promo Subsidies - DTH Equip	($747.0)	($128.3)	($105.5)	($111.3)	($114.8)	($459.9)	($100.9)	($111.2)	($111.2)	($114.8)	($437.9)	($413.9)	($416.6)	($418.6)	($420.0)	($419.2)	($417.4)
• $ / Gross Addition	$292	$187	$181	$163	$159	$187	$163	$168	$158	$158	$161	$150	$147	$144	$141	$138	$135
• $ / Non-Lease Gross Addition	$320	$268	$270	$290	$227	$263	$237	$240	$240	$240	$239	$250	$245	$240	$235	$230	$225
Subscriber Promo Subsidies - Other	(273.1)	(144.9)	(121.4)	(112.9)	(98.7)	(477.9)	(133.4)	(138.0)	(149.7)	(154.2)	(575.3)	(551.9)	(558.3)	(564.0)	(569.0)	(571.0)	(571.9)
• $ / Gross Addition	$107	$211	$185	$165	$137	$174	$218	$210	$210	$210	$211	$200	$197	$194	$191	$189	$185
Advertising and Other	(138.5)	(28.9)	(25.9)	(45.4)	(47.4)	(146.6)	(37.3)	(39.7)	(44.2)	(47.7)	(169.0)	(165.6)	(170.0)	(174.4)	(178.7)	(182.2)	(185.5)
• $ / Gross Addition	$54	$38	$41	$66	$68	$53	$60	$60	$62	$65	$62	$60	$60	$60	$60	$60	$60
Total DISH Network Marketing Expenses	($1,158.6)	($300.2)	($253.7)	($269.6)	($260.9)	($1,084.4)	($271.6)	($290.0)	($305.1)	($316.5)	($1,183.2)	($1,131.4)	($1,145.0)	($1,157.0)	($1,167.7)	($1,172.5)	($1,174.8)
• Expensed SAC / Gross Addition	$453	$437	$387	$394	$362	$395	$439	$438	$428	$431	$434	$410	$404	$398	$392	$386	$380
								Guidance: Similar to 1Q02 (5/2/02)									
Operating Cash Flow (EBITDA)	($187.2)	$51.1	$133.6	$155.2	$171.1	$511.1	$178.5	$179.7	$200.1	$243.1	$801.4	$1,321.9	$1,769.7	$2,227.1	$2,671.3	$3,108.2	$3,539.4
• % Change Yr. / Yr.	6.9%	-158.4%	-524.7%	-698.8%	-505.4%	-373.0%	248.1%	34.4%	28.9%	42.1%	56.8%	65.0%	33.8%	25.9%	19.8%	16.4%	13.9%
• EBITDA Margin	-6.9%	5.9%	13.8%	15.2%	14.9%	12.8%	16.2%	15.5%	16.3%	17.8%	16.5%	22.8%	26.8%	29.8%	32.3%	34.4%	36.2%
								Guidance: Up 80%-100% (5/2/02)									
Memo: Total Subscriber Acquisition Costs																	
Expensed Subscriber Acquisition Costs	($1,158.6)	($300.2)	($253.7)	($269.6)	($260.9)	($1,084.4)	($271.6)	($290.0)	($305.1)	($316.5)	($1,183.2)	($1,131.4)	($1,145.0)	($1,157.0)	($1,167.7)	($1,172.5)	($1,174.8)
• Expensed SAC / Gross Addition	$453	$437	$387	$394	$362	$395	$439	$438	$428	$431	$434	$410	$404	$398	$392	$386	$380
Capitalized Subscriber Acquisition Costs	($85.4)	($62.7)	($88.4)	($108.9)	($80.0)	($338.0)	($77.0)	($79.5)	($93.6)	($90.0)	($340.0)	($386.3)	($385.4)	($383.7)	($381.3)	($378.6)	($371.0)
• Capitalized SAC / Gross Addition	$28	$81	$132	$159	$111	$123	$124	$120	$131	$123	$128	$140	$138	$132	$126	$124	$120
• Capitalized SAC / Gross Lease Add	$300	$300	$325	$350	$375	$338	$400	$400	$375	$350	$379	$350	$348	$330	$320	$310	$300
• Gross Lease Adds	218.0	209	268	311	213	999.3	193	198	248	257	897.7	1,104	1,184	1,163	1,192	1,215	1,237
• % Leased	8.8%	30.4%	40.5%	45.5%	29.8%	36.4%	31.1%	30.0%	35.0%	35.0%	32.8%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Total DBS SAC	($1,224.0)	($362.9)	($340.1)	($378.5)	($340.9)	($1,422.4)	($348.6)	($369.4)	($398.6)	($406.5)	($1,523.2)	($1,517.7)	($1,530.4)	($1,540.7)	($1,549.0)	($1,549.1)	($1,545.8)
• Total SAC / Gross Addition	$479	$528	$518	$554	$474	$518	$564	$558	$559	$554	$558	$550	$540	$530	$520	$510	$500

Source: Deutsche Bank Securities Inc. estimates and company information

Figure 16 EchoStar—Projected Income Statement

	2000A	1Q01A	2Q01A	3Q01A	4Q01A	2001A	1Q02A	2Q02E	3Q02E	4Q02E	2002E	2003E	2004E	2005E	2006E	2007E	2008E
Revenue																	
Dish Network	2,352.2	$796.9	$886.3	$924.6	$997.9	$3,605.7	$1,018.9	$1,066.8	$1,144.0	$1,240.6	$4,470.3	$5,425.0	$6,288.9	$7,116.3	$7,913.1	$8,681.0	$9,420.1
DTH Equip. Sales & Integration Services	259.8	41.0	47.2	73.2	109.8	271.2	57.1	55.0	60.0	80.0	252.1	221.8	201.8	189.7	180.2	171.2	162.7
Other	103.2	24.0	32.8	24.6	42.8	124.2	28.5	36.1	27.1	47.0	138.7	145.7	153.0	160.6	168.6	177.1	185.9
Total Revenue	$2,715.2	$861.9	$966.3	$1,022.5	$1,150.4	$4,001.1	$1,104.5	$1,157.9	$1,231.1	$1,367.6	$4,861.1	$5,792.5	$6,643.7	$7,466.6	$8,262.0	$9,029.3	$9,768.7
Operating Expenses																	
DISH Network	($1,265.4)	($390.2)	($437.4)	($446.9)	($483.3)	($1,757.8)	($504.3)	($525.5)	($558.6)	($601.1)	($2,189.4)	($2,623.6)	($2,980.7)	($3,298.6)	($3,602.8)	($3,891.4)	($4,158.3)
Cost of Sales-DTH Equip. & Integration	(195.0)	(28.8)	(31.2)	(49.4)	(78.7)	(188.0)	(39.4)	(38.5)	(42.0)	(56.0)	(175.9)	(155.3)	(141.3)	(132.8)	(126.2)	(119.9)	(113.9)
Cost of Sales - Other	(33.0)	(15.9)	(22.6)	(15.7)	(27.8)	(82.0)	(16.2)	(23.5)	(17.6)	(30.6)	(87.8)	(94.7)	(99.4)	(104.4)	(109.6)	(115.1)	(120.9)
General and Administrative	(250.4)	(75.7)	(87.7)	(85.8)	(128.8)	(377.9)	(94.5)	(100.7)	(107.7)	(120.3)	(423.3)	(465.7)	(507.6)	(546.7)	(584.4)	(622.4)	(661.6)
Total Operating Expenses	($1,743.8)	($510.6)	($578.8)	($597.7)	($718.5)	($2,405.6)	($654.4)	($688.2)	($725.9)	($808.0)	($2,876.5)	($3,339.2)	($3,729.0)	($4,082.5)	($4,423.0)	($4,748.7)	($5,054.6)
Pre-Marketing Cash Flow	$971.4	$351.3	$387.5	$424.8	$432.0	$1,595.5	$450.1	$469.7	$505.2	$559.6	$1,984.7	$2,453.3	$2,914.7	$3,384.2	$3,839.0	$4,280.6	$4,714.2
• % Change Yr. / Yr.	75.0%	69.2%	75.5%	62.2%	42.5%	64.2%	28.1%	21.2%	16.9%	29.6%	24.4%	23.6%	18.8%	16.1%	13.4%	11.5%	10.1%
• Pre-Marketing Cash Flow Margin	35.8%	40.8%	40.1%	41.5%	37.5%	39.9%	40.8%	40.6%	41.0%	40.9%	40.8%	42.4%	43.9%	45.3%	46.5%	47.4%	48.3%
DISH Network Marketing Expenses	(1,158.6)	(300.2)	(253.7)	(269.6)	(260.9)	(1,084.4)	(271.6)	(290.0)	(305.1)	(318.5)	(1,183.2)	(1,131.4)	(1,145.0)	(1,157.0)	(1,167.7)	(1,172.5)	(1,174.8)
Operating Cash Flow (EBITDA)	($187.2)	$51.1	$133.8	$155.2	$171.1	$511.1	$178.5	$179.7	$200.1	$243.1	$801.4	$1,321.9	$1,769.7	$2,227.1	$2,671.3	$3,108.2	$3,539.4
• % Change Yr. / Yr.	8.9%	-158.4%	-524.7%	-696.8%	-505.4%	-373.0%	249.1%	34.4%	29.0%	42.1%	56.8%	85.0%	33.9%	25.9%	19.9%	16.4%	13.9%
• EBITDA Margin	-6.9%	5.9%	13.8%	15.2%	14.9%	12.8%	16.2%	15.5%	16.3%	17.8%	16.5%	22.8%	26.6%	29.8%	32.3%	34.4%	36.2%
Non-Cash, Stock-Based Compensation	($51.5)	($7.5)	($7.0)	($6.8)	$1.1	($20.2)	($1.7)	($1.7)	($1.7)	($1.7)	($6.8)	($15.6)	$0.0	$0.0	$0.0	$0.0	$0.0
Depreciation and Amortization	(185.4)	(58.9)	(62.8)	(72.9)	(84.1)	(278.7)	(81.5)	(86.2)	(97.5)	(103.3)	(368.5)	(485.9)	(567.9)	(627.7)	(652.0)	(668.8)	(669.7)
Operating Income	($424.1)	($15.2)	$63.9	$75.5	$88.1	$212.3	$95.3	$91.9	$101.0	$138.1	$426.2	$820.5	$1,201.7	$1,599.4	$2,019.3	$2,439.4	$2,869.6
Interest Income	$79.7	$24.6	$22.2	$27.7	$23.3	$97.7	$29.8	$56.2	$56.1	$56.0	$198.2	$229.2	$246.9	$274.5	$304.7	$331.5	$375.3
Interest Expense	(268.0)	(83.1)	(86.1)	(95.4)	(106.8)	(371.4)	(129.2)	(117.0)	(112.0)	(121.9)	(480.2)	(464.0)	(441.2)	(441.2)	(441.6)	(316.6)	(226.3)
Loss on Investments	0.0	(91.8)	0.0	0.0	(27.0)	(118.8)	(24.0)	0.0	0.0	0.0	(24.0)	0.0	0.0	0.0	0.0	0.0	0.0
Other	(8.3)	(4.3)	(5.6)	(4.5)	(19.2)	(33.6)	(10.2)	(5.0)	(5.0)	(5.0)	(25.2)	(35.0)	(35.0)	(35.0)	(35.0)	(35.0)	(35.0)
Income / (Loss) Before Taxes	($620.7)	($169.8)	($5.6)	$3.2	($41.6)	($213.6)	($38.4)	$26.1	$40.0	$67.2	$95.0	$550.7	$972.4	$1,397.7	$1,847.3	$2,419.3	$2,983.7
Income Taxes	(0.6)	(0.0)	(0.0)	(0.1)	(1.2)	(1.5)	(0.2)	0.0	0.0	0.0	(0.2)	0.0	0.0	(316.3)	(646.6)	(846.7)	(1,044.3)
• Effective Tax Rate	-0.1%	0.0%	-0.9%	3.6%	-3.0%	-0.7%	-0.6%	0.0%	0.0%	0.0%	-0.2%	0.0%	0.0%	22.6%	35.0%	35.0%	35.0%
• Net Operating Loss Carryforwards	(2,050.0)	(2,219.8)	(2,225.4)	(2,222.2)	(2,112.0)	(2,112.0)	(2,150.4)	(2,124.3)	(2,084.3)	(2,017.0)	(2,017.0)	(1,466.3)	(493.9)	0.0	0.0	0.0	0.0
Net Income / (Loss)	($621.2)	($169.9)	($5.6)	$3.1	($42.9)	($215.3)	($38.6)	$26.1	$40.0	$67.2	$94.7	$550.7	$972.4	$1,081.4	$1,200.8	$1,572.5	$1,939.4
Extraordinary Items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Series D Preferred Stock Accretion	0.0	0.0	0.0	0.0	0.0	0.0	(61.9)	0.0	0.0	0.0	(61.9)	0.0	0.0	0.0	0.0	0.0	0.0
Change in Value of CVR	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Preferred Stock Dividends	(1.1)	(0.2)	(0.2)	(0.0)	0.0	(0.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Income / (Loss) to Common	($622.4)	($170.0)	($5.8)	$3.1	($42.9)	($215.7)	($97.0)	$26.1	$40.0	$67.2	$36.3	$550.7	$972.4	$1,081.4	$1,200.8	$1,572.5	$1,939.4
Average Diluted Common Shares	471.0	474.6	475.8	486.6	479.4	477.2	479.7	487.7	488.2	488.7	488.0	549.3	552.3	555.3	558.3	583.3	609.4
Earnings Per Share	($1.32)	($0.36)	($0.01)	$0.01	($0.09)	($0.45)	($0.20)	$0.05	$0.08	$0.14	$0.07	$1.00	$1.76	$1.95	$2.15	$2.70	$3.18

Source: Deutsche Bank Securities Inc. estimates and company information

Figure 17 EchoStar—Projected Sources and Uses Statement

	2000A	1Q01A	2Q01A	3Q01A	4Q01A	2001A	1Q02A	2Q02E	3Q02E	4Q02E	2002E	2003E	2004E	2005E	2006E	2007E	2008E
Sources and Uses																	
Net Income (Loss) Before Extraordinary Items	($621.2)	($169.9)	($5.6)	$3.1	($42.9)	($215.3)	($38.6)	$26.1	$40.0	$67.2	$94.7	$550.7	$972.4	$1,081.4	$1,200.8	$1,572.5	$1,939.4
Non-Cash, Stock-Based Compensation	51.5	7.5	7.0	6.8	(1.1)	20.2	1.7	1.7	1.7	1.7	6.8	15.6	0.0	0.0	0.0	0.0	0.0
Depreciation and Amortization	185.4	58.9	62.8	72.9	84.1	278.7	81.5	86.2	97.5	103.3	368.5	485.9	567.9	627.7	652.0	668.8	669.7
Amort. of Debt Discount and Def. Fin. Costs	6.5	1.9	1.9	2.6	2.6	9.2	2.6	2.6	2.6	2.6	10.4	7.5	7.5	7.5	0.0	0.0	0.0
Change in Working Capital	244.3	(13.9)	65.1	82.3	35.7	169.1	93.2	30.0	20.0	10.0	153.2	0.0	0.0	0.0	0.0	0.0	0.0
Other, Net	6.9	95.3	43.4	10.3	78.6	227.6	51.4	5.0	5.0	5.0	66.4	35.0	35.0	35.0	35.0	35.0	35.0
Cash Flow From Operations	**($118.7)**	**($20.3)**	**$174.8**	**$178.3**	**$156.9**	**$489.5**	**$191.8**	**$151.5**	**$166.8**	**$189.8**	**$700.0**	**$1,094.7**	**$1,582.9**	**$1,751.6**	**$1,887.8**	**$2,276.3**	**$2,644.1**
Satellite Capital Expenditures	(150.9)	(58.9)	(40.3)	(55.2)	(37.0)	(191.5)	(5.9)	(60.0)	(60.0)	(60.0)	(185.9)	(250.0)	(250.0)	(250.0)	0.0	0.0	0.0
Capitalized Subscriber Acquisition Costs	(65.4)	(62.7)	(86.4)	(108.9)	(80.0)	(338.0)	(77.0)	(79.5)	(93.6)	(90.0)	(340.0)	(386.3)	(385.4)	(383.7)	(381.3)	(378.6)	(371.0)
Other Capital Expenditures	(115.1)	(27.0)	(27.0)	(27.0)	(27.0)	(108.0)	(20.0)	(30.0)	(30.0)	(30.0)	(110.0)	(110.0)	(113.0)	(116.0)	(119.0)	(122.0)	(125.0)
Total Capital Expenditures	($331.4)	($148.6)	($153.7)	($191.1)	($144.0)	(637.5)	($102.9)	($169.5)	($183.6)	($180.0)	($635.9)	($746.3)	($748.4)	($749.7)	($500.3)	($498.6)	($496.0)
								Guidance: $500-750 mil (5/2/02)									
Free Cash Flow	**($450.1)**	**($168.9)**	**$20.9**	**($12.9)**	**$12.9**	**($148.0)**	**$88.9**	**($17.9)**	**($16.8)**	**$9.9**	**$64.1**	**$348.4**	**$834.4**	**$1,001.9**	**$1,387.5**	**$1,777.7**	**$2,148.1**
- % Change Yr. / Yr.	—	—	—	—	—	—	—	—	—	—	—	—	139.5%	20.1%	38.5%	28.1%	20.8%
Other Sources and Uses																	
Debt Proceeds	$990.4	$0.0	$980.0	$0.0	$685.0	$1,665.0	$1,483.5	$0.0	$0.0	$0.0	$1,483.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Issuance of Notes Receivable	(8.7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Proceeds from Options & ESOP	11.6	1.5	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Debt Redemption	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(14.8)	(14.7)	(2.0)	(0.7)	(0.7)	(375.7)	(1,000.7)	(0.8)
Investments	(60.0)	0.0	0.0	(50.0)	0.0	(50.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	(190.8)	(11.3)	20.3	(28.0)	(47.4)	(66.4)	(21.5)	0.0	0.0	0.0	(21.5)	0.0	0.0	0.0	0.0	0.0	0.0
Balance Available	**$292.4**	**($178.7)**	**$1,021.2**	**($90.9)**	**$650.5**	**$1,402.1**	**$1,550.9**	**($17.9)**	**($16.8)**	**($4.9)**	**$1,511.4**	**$346.4**	**$833.7**	**$1,001.1**	**$1,011.8**	**$777.8**	**$2,147.3**

Source: Deutsche Bank Securities Inc. estimates and company information

Figure 18 EchoStar—Projected Balance Sheet

	2000A	1Q01A	2Q01A	3Q01A	4Q01A	2001A	1Q02A	2Q02E	3Q02E	4Q02E	2002E	2003E	2004E	2005E	2006E	2007E	2008E
Long-Term Debt																	
12 7/8% Sen. Sec. Dis. Notes due 2004	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
13 1/8% Sen. Sec. Dis. Notes due 2004	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 1/2% Sen. Sec. Notes due 2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9 1/8 Senior Notes due 2009	0.0	0.0	0.0	0.0	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)	(700.0)
9 1/4% Senior Notes due 2006	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	(375.0)	0.0	0.0	0.0
9 3/8% Senior Notes due 2009	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)	(1,625.0)
10 3/8% Senior Notes due 2007	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	0.0	0.0
Mortgage and Other Notes Payable	(35.9)	(32.0)	(29.2)	(26.2)	(21.3)	(21.3)	(21.3)	(21.3)	(21.3)	(6.5)	(6.5)	(4.5)	(3.8)	(3.1)	(2.3)	(1.5)	(0.7)
Total Long-Term Debt	($3,035.9)	($3,032.0)	($3,029.2)	($3,026.2)	($3,721.3)	($3,721.3)	($3,721.3)	($3,721.3)	($3,721.3)	($3,706.5)	($3,706.5)	($3,704.5)	($3,703.8)	($3,703.1)	($3,327.3)	($2,326.5)	($2,325.7)
• Interest Expense	($229.7)	($73.4)	($73.3)	($73.3)	($73.3)	($293.3)	($89.1)	($89.1)	($89.1)	($89.0)	($356.3)	($355.1)	($355.0)	($354.9)	($337.5)	($266.2)	($216.3)
Cash and Cash Equivalents																	
Beginning of Period Cash & Cash Equivalents	$908.3	$942.2	$877.3	$1,568.8	$1,333.1	$942.2	$1,801.2	$2,499.3	$2,481.4	$2,464.6	$1,801.2	$2,459.7	$2,806.1	$3,639.8	$4,640.9	$5,652.7	$6,429.7
End of Period Cash & Cash Equivalents	942.2	877.3	1,568.8	1,333.1	1,801.2	1,801.2	2,499.3	2,481.4	2,484.6	2,459.7	2,459.7	2,806.1	3,639.8	4,640.9	5,652.7	6,429.7	8,577.0
• Average Cash	858.0	909.8	1,223.1	1,451.0	1,567.2	1,287.7	1,783.6	2,490.3	2,473.0	2,462.2	2,302.3	2,632.9	3,223.0	4,140.4	5,146.8	6,041.2	7,503.4
• Interest Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
• Interest Income	25.7	6.8	9.2	10.9	11.8	38.6	13.4	18.7	18.5	18.5	68.1	79.0	96.7	124.2	154.4	181.2	225.1
Marketable Investment Securities																	
Beginning of Period Marketable Securities	$348.9	$607.4	$493.5	$823.3	$968.1	$607.4	$1,150.4	$2,003.3	$2,003.3	$2,003.3	$1,150.4	$2,003.3	$2,003.3	$2,003.3	$2,003.3	$2,003.3	$2,003.3
End of Period Marketable Securities	607.4	493.5	823.3	968.1	1,150.4	1,150.4	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3
• Average Marketable Investments	408.0	550.5	658.4	895.7	1,059.2	790.9	1,576.9	2,003.3	2,003.3	2,003.3	1,896.7	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3	2,003.3
• Interest Rate	13.2%	12.9%	7.9%	7.5%	4.3%	7.5%	7.5%	7.5%	7.5%	7.5%	6.8%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%
• Interest Income	54.0	17.7	13.0	16.8	11.5	59.0	16.4	37.6	37.6	37.6	129.1	150.2	150.2	150.2	150.2	150.2	150.2
Beginning of Period Debt, Net	($795.5)	($1,486.4)	($1,661.1)	($637.1)	($725.0)	($1,486.4)	($769.6)	$781.3	$763.4	$746.6	($769.6)	$756.5	$1,104.9	$1,939.3	$2,941.2	$4,328.8	$6,106.5
End of Period Debt, Net	(1,486.4)	(1,661.1)	(637.1)	(725.0)	(769.6)	(769.6)	781.3	763.4	746.6	756.5	756.5	1,104.9	1,939.3	2,941.2	4,328.8	6,106.5	8,254.7
• Average Debt, Net	(1,154.0)	(1,573.7)	(1,149.1)	(681.1)	(747.3)	(1,037.8)	5.8	772.4	765.0	751.8	571.2	930.7	1,522.1	2,440.3	3,635.0	5,217.6	7,180.6
Convertible Notes *(Treated as Equity)*																	
4.875% Convertible Sub. Notes due 2007	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	0.0	0.0
• Interest Expense	(48.8)	(12.2)	(12.2)	(12.2)	(12.2)	(48.8)	(12.2)	(12.2)	(12.2)	(12.2)	(48.8)	(48.8)	(48.8)	(48.8)	(36.6)	0.0	0.0
5.75% Convertible Sub. Notes due 2008	0.0	0.0	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	(1,000.0)	0.0
• Interest Expense	0.0	0.0	(4.8)	(14.4)	(14.4)	(33.5)	(14.4)	(14.4)	(14.4)	(14.4)	(57.5)	(57.5)	(57.5)	(57.5)	(57.5)	(38.3)	0.0
Total Convertible Notes	(1,000.0)	(1,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(2,000.0)	(1,000.0)	0.0
• Interest Expense	(48.8)	(12.2)	(17.0)	(26.6)	(26.6)	(82.3)	(26.6)	(26.6)	(26.6)	(26.6)	(106.3)	(106.3)	(106.3)	(106.3)	(94.1)	(38.3)	0.0
Preferred Stock *(Treated as Equity)*																	
6 3/4% Series C Cumulative Conv. Pref. Stock	(10.9)	(9.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
• Accrued Preferred Stock Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
• Cash Preferred Stock Dividends	(1.1)	(0.2)	(0.1)	0.0	0.0	(0.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8% Series A Cumulative Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
• Accrued Preferred Stock Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Series D Convertible Preferred (Vivendi)	0.0	0.0	0.0	0.0	0.0	0.0	(1,500.0)	(1,500.0)	(1,500.0)	(1,500.0)	(1,500.0)	0.0	0.0	0.0	0.0	0.0	0.0
• Accrued Preferred Stock Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Preferred Stock	(10.9)	(9.0)	0.0	0.0	0.0	0.0	(1,500.0)	(1,500.0)	(1,500.0)	(1,500.0)	(1,500.0)	0.0	0.0	0.0	0.0	0.0	0.0
• Accrued Preferred Stock Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
• Cash Preferred Stock Dividends	(1.1)	(0.2)	(0.1)	0.0	0.0	(0.3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interest Expense Summary:																	
Long-Term Debt	($229.7)	($73.4)	($73.3)	($73.3)	($73.3)	($293.3)	($89.1)	($89.1)	($89.1)	($89.0)	($356.3)	($355.1)	($355.0)	($354.9)	($337.5)	($266.2)	($216.3)
Convertible Notes	(48.8)	(12.2)	(17.0)	(26.6)	(26.6)	(82.3)	(26.6)	(26.6)	(26.6)	(26.6)	(106.3)	(106.3)	(106.3)	(106.3)	(94.1)	(38.3)	0.0
Bridge Commitment Fees	0.0	0.0	0.0	0.0	(7.4)	(7.4)	(15.0)	0.0	0.0	(10.0)	(25.0)	(22.6)	0.0	0.0	0.0	0.0	0.0
Bridge Ticking Fees	0.0	0.0	0.0	0.0	(4.9)	(4.9)	(4.0)	(4.2)	(4.2)	(4.2)	(16.5)	0.0	0.0	0.0	0.0	0.0	0.0
Capitalized Interest	5.0	4.7	6.5	7.2	7.6	26.0	5.0	5.0	10.0	10.0	30.0	30.0	30.0	30.0	0.0	0.0	0.0
Other Interest Expense	5.5	(2.2)	(2.3)	(2.8)	(2.3)	(9.5)	0.4	(2.2)	(2.2)	(2.2)	(6.2)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
Book Interest Expense	($268.0)	($83.1)	($86.1)	($95.4)	($106.8)	($371.4)	($129.2)	($117.0)	($112.0)	($121.9)	($480.2)	($464.0)	($441.2)	($441.2)	($441.6)	($316.6)	($228.3)

Source: Deutsche Bank Securities Inc. estimates and company information

Figure 19 EchoStar—Discounted Cash Flow Valuation

Dollars and Shares in Millions

	2002E	2003E	2004E	2005E	2006E	2007E	2008E
Free Cash Flow	$64.1	$348.4	$834.4	$1,001.9	$1,387.5	$1,777.7	$2,148.1
Plus: Interest Expense, Net	282.0	234.7	194.3	166.7	136.9	(14.9)	(149.0)
Less: Income Tax Credit (35.0%)	(98.7)	(82.2)	(68.0)	(58.4)	(47.9)	5.2	52.2
Unlevered Free Cash Flow	$247.4	$501.0	$960.7	$1,110.2	$1,476.5	$1,768.0	$2,051.3
2002 PV of FCF discounted at 10.0%		$455.4	$794.0	$834.1	$1,008.5	$1,097.8	$1,157.9
2003 PV of FCF discounted at 10.0%			873.4	917.6	1,109.3	1,207.6	1,273.7
2004 PV of FCF discounted at 10.0%				1,009.3	1,220.3	1,328.3	1,401.0
Terminal Value @ 11.0x EBITDA							$38,933.0
• Subscriber Multiple							$2,982
• Free Cash Flow Multiple							22.0x
Sum of Free Cash Flow at PV	$5,347.7	$5,381.5	$4,958.9				
Plus: Terminal Value (10.0% discount rate)	21,976.7	24,174.3	26,591.8				
Total Enterprise Value	$27,324.4	$29,555.8	$31,550.7				
• EV / DBS Subscriber	$3,342	$3,178	$3,070				
• EV / EBITDA	34.1x	22.4x	17.8x				
Less: End of Year Debt	($3,706.5)	($3,704.5)	($3,703.8)				
Less: 4.875% Convertible Sub. Notes	0.0	0.0	0.0				
Less: 5.75% Convertible Sub. Notes	0.0	0.0	0.0				
Plus: End of Year Cash	2,459.7	2,806.1	3,639.8				
Plus: End of Year Marketable Securities	2,003.3	2,003.3	2,003.3				
Plus: Non-Marketable Investment Securities	44.9	48.1	51.5				
Plus: Option Proceeds	355.9	355.9	355.9				
Net Asset Value	**$28,481.7**	**$31,064.8**	**$33,897.4**				
Class A Common Stock	241.3	241.3	241.3				
Class B Common Stock	238.4	238.4	238.4				
4.875% Convertible Sub. Notes	22.0	22.0	22.0				
5.75% Convertible Sub. Notes	23.1	23.1	23.1				
Series D Convertible Preferred (Vivendi)	57.6	57.6	57.6				
Stock Options	24.8	24.8	24.8				
Fully Diluted Shares Outstanding	607.3	607.3	607.3				
Private Market Value Per Share	**$46.90**	**$51.16**	**$55.82**				
Discount to Private Market Value	10.0%	10.0%	10.0%				
Public Market Value per Share	**$42.21**	**$46.04**	**$50.24**				
Current Price on: 5/7/02	$25.50	$25.50	$25.50				
Upside to Target Price Per Share	65.5%	80.6%	97.0%				

Source: Deutsche Bank Securities Inc. estimates and company information

Figure 20 EchoStar—Valuation Multiple Analysis
Dollars in Millions, except Ratios

	2002E	2003E	2004E
Current Price on: 5/7/02	$25.50	$25.50	$25.50
Fully Diluted Shares (1)	601.8	601.8	601.8
Total Market Capitalization	$15,345.0	$15,345.0	$15,345.0
Plus: End of Year Debt	$3,706.5	$3,704.5	$3,703.8
Less: End of Year Cash	(2,459.7)	(2,806.1)	(3,639.8)
Less: End of Year Marketable Securities	(2,003.3)	(2,003.3)	(2,003.3)
Less: Non-Mkt Investment Securities (@90% PMV)	(40.4)	(43.3)	(46.3)
Less: Option Proceeds (1)	(137.5)	(137.5)	(137.5)
Total EchoStar Enterprise Value	**$14,410.5**	**$14,059.3**	**$13,221.8**
EchoStar Year-End DBS Subscribers	8,175	9,299	10,277
Enterprise Value Per Subscriber	**$1,763**	**$1,512**	**$1,287**
Operating Cash Flow (EBITDA)	$801.4	$1,321.9	$1,769.7
• Operating Cash Flow Margin	16.5%	22.8%	26.6%
EBITDA Multiple	**18.0X**	**10.6X**	**7.5X**
Free Cash Flow	$64.1	$348.4	$834.4
FCF Multiple	**----**	**44.0X**	**18.4X**
Earnings per Share	$0.07	$1.00	$1.76
P/E Multiple	**----**	**25.4X**	**14.5X**

(1) Fully Diluted Shares and Option Proceeds include only in-the-money options

Source: Deutsche Bank Securities Inc. estimates and company information