



# Yale SCHOOL *of* MANAGEMENT

## Comcast Initiation Report

April 2, 2006

### *Investment Thesis:*

- Comcast is competitively advantaged versus telecom, cable, and satellite peers in the quest to grow subscribers and increase average revenue per user.
  - Comcast offers a triple play bundle (voice, data, video) to a larger subscriber base than peers.
  - Demand for HDTV, VOD, and DVRs is accelerating, driving average revenues per user higher.
  - Comcast's infrastructure is built. Telecom companies need substantial capital expenditures and operational success to offer a competitive product on par with Comcast's.
- Comcast's long term prospects depend on the telecom carriers' ability to successfully reach scale in video and offer a competitive bundled product.

**Recommendation: BUY**

**Current Price: \$26.16**

**Target Price: \$30.00**

**Return to Target: 14%**

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## ***Business Summary:***

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Comcast Corporation provides cable and other consumer entertainment and communication products and services in the United States. Comcast is the largest cable operator in the U.S. with approximately 22 million basic subscribers, 9.4 million digital video subscribers, and 8.1 million high speed data customers. The Cable segment of the business develops, manages, and operates broadband communications networks, including video, Internet, and phone services, and regional sports and news networks. Its video services include basic and digital cable, video on demand, high-definition television, digital video recorder, premium channel programming, and pay-per-view programming. Cable segment's high-speed Internet service includes an interactive portal, Comcast.net, which provides multiple email addresses, online storage, and other value-added features and enhancements. Its IP-enabled phone service provides local and domestic long-distance calling, which includes features, such as voice mail, caller id, and call waiting.

Comcast also owns several cable programming assets such as E! Entertainment Television (60.5%), Style Network (60.5%), The Golf Channel (99.9%), Outdoor Life (100%), G4 – Gaming Channel (83.5%), and AZN (100%). Comcast owns or manages facilities for the Philadelphia Flyers, Philadelphia 76ers, and several minor league baseball teams.

## **Cable TV & VOD:**

This is the largest segment of the Comcast business model, and generates the most revenue, attention, and soon competition. Going forward, with the increase in HDTV penetration and the increase in use of Video on Demand, ARPU increases will be a key to Comcast's success.

A quick note on how Comcast is able to offer the end user cable TV. Comcast uses digital technology to compress video signals, allowing more than one program service to be carried in the bandwidth space normally required for one analog program service. Typically, the signal is sent through the head-end and to the home and decompressed in the set-top box for display on the television. Digital cable can provide a host of services, such as video-on-demand, interactive television and commercial-free CD-quality music. Digital television also allows Comcast to offer high-definition television (HDTV), which offers a movie theater-like viewing experience, complete with Dolby® Digital sound and a resolution of either 1,280 or 1,920 active horizontal pixels by 720 or 1,080 active scanning lines respectively.

High-Definition Television or HDTV is a digital television format delivering theater-quality pictures and CD-quality sound. HDTV offers an increase in picture quality by providing up to 1,920 active horizontal pixels by 1,080 active scanning lines, representing an image resolution of more than two million pixels. In addition to providing improved picture quality with more visible detail, hi-def offers a widescreen format and Dolby® Digital 5.1 surround sound. Comcast began delivering HD service in earnest to customers in 2002, and deployment has been slow but steady. Currently, Comcast offers a channel line-up of exclusive HDTV content that includes channels such as ESPN, HBO, Showtime, TNT, all the major broadcasting networks, as well as other smaller cable channels. It has become extremely advantageous for a content provider to



sell their product in the form of HDTV programming, and many other channels are following suit.

Right now, the one thing that is holding up HDTV roll-out is the need for consumers to purchase 16 x 9 ratio televisions that allow proper viewing of a HDTV signal. As a quick refresher, see the diagram below for an overview of the difference between a 16 x 9 ratio television and the traditional 4 x 3 ratio television. Essentially, the new HDTV format allows the viewer to see a wider range of action on the screen, much like you would experience at the movies. This format proves particularly advantageous when watching sporting events, action movies, or any other content that has a broad focal point of action. The clarity, as many of you by now know, is head and shoulders above traditional analogue signals. As many will attest, once you go HD, it's hard to go back to watching normal programming.

### *4 x 3 Ratio Programming: Traditional*



### *16 x 9 Ratio Programming: HDTV*

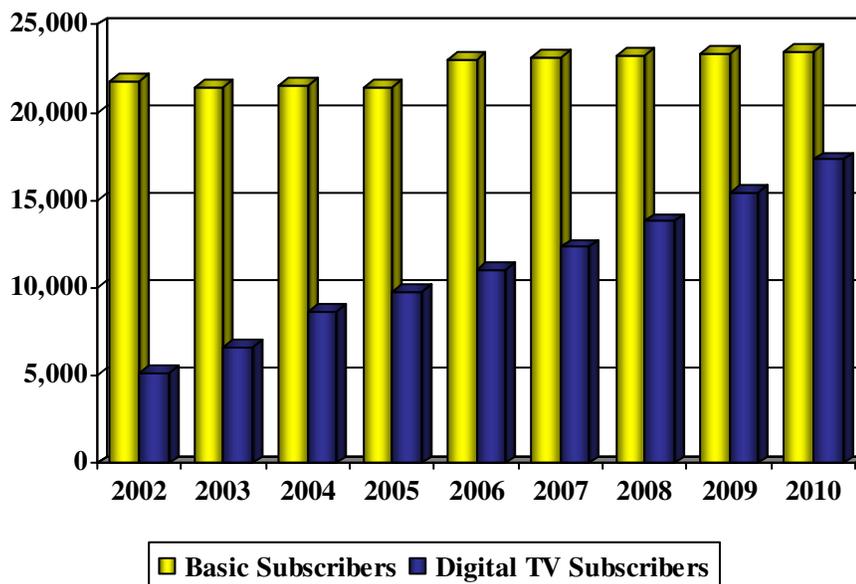




Comcast's video subscriber numbers have remained relatively flat over the past three years, achieving growth rates of -1.6%, 0.1%, and -0.5% respectively. Churn rates have seriously impacted subscriber growth, as DBS operators have driven pricing down in overlapping markets. While there are very few major markets that actually have two competing cable operators competing against each other, the versatility and cost effectiveness of the satellite operators have created a very tough environment to increase subscriber count. As we will highlight in later sections, Comcast's video offering faces the very real prospect of the telecom carriers competing with their fiber to the home solution in the next few years. Our gut feeling is that Comcast has already been penalized by investors for this potential loss of subscribers, and that this penalty is in the form of a worst case scenario. Should Verizon and AT&T fail to gain the type of traction that Wall Street is expecting, we believe there is significant upside to Comcast's expected share price, due to the direct link to revenue to subscriber count.

So where do we find any data that will help us form this conclusion? Verizon's FioS cable service has recently begun service in areas already serviced by Cablevision. Although a very small sample size, it has been closely watched by industry insiders across the board. Fourth quarter numbers provided by Cablevision indicate that there has been no effect on net additions for the quarter, and in fact their subscriber numbers have increased on a net basis compared to previous quarters. While hardly a telling sample, this does indicate that cable operators can withstand the telecom invasion. Looking at the overall competitive environment, we have to realize that the telecom threat comes with a number of disclaimers. Unlike the DBS operators, they cannot compete with exclusive content. Furthermore, they are already entering into a highly competitive pricing environment, and their market share has to be carved out with overly aggressive pricing structures which may not support the capital expenditures needed to build out the fiber to the home network. These build-out costs have been highlighted in recent press as being not nearly as cost effective as the telecom carriers would have helped.

### *Basic and Digital Cable Subscribers 2002A – 2010E:*





## High Speed Data:

The data aspect of the business will also be sensitive to pricing pressures going forward. Comcast's fiber optic broadband platform transmits vast amounts of information - data, graphics, and video at high speed to the end user. "Surfing the net" using Comcast's bandwidth allows faster navigation around the net as well as quicker download speeds that are significantly faster than the RBOC's DSL technology. The "always-on" feature saves the user time and does not interfere with normal telephone usage, again unlike the DSL solution.

As of the end of 4Q05, Comcast had a total of 8.5 million high speed internet customers, representing a 22% annual growth rate over the 2004 year end figure. Going forward we are projecting a CAGR of 16%, which is line with company guidance, again a figure we found to be accurate historically. These growth estimates are also in line with Wall Street estimates, which we often found to be close to managements guidance as well.

Our main concerns with the data business are aggressive DSL pricing, the advent of the new telecom technology which should be significantly faster than Comcast's offering, and the ominous signs of substitution with cell-phones, palm devices, and other handheld devices. With the exception of the entrance of new RBOC technology, the other two concerns are mitigated by several factors. Aggressive DSL pricing is a going concern, but alleviated by the fact that DSL customer satisfaction is much lower than that of a cable modem customer. The service is slower, less reliable, and by all accounts less convenient than the bundled offering Comcast puts out. The signs of substitution are nothing more than added convenience for internet users. Due to data line and size constraint, most people still go home and log onto their computer to surf the web. We don't envision this changing in the near future, and so this concern did little to affect our forecasts. The RBOC entrance does concern us, as an improvement on the DSL product will also improve the attraction of the telecom bundled offering as well.

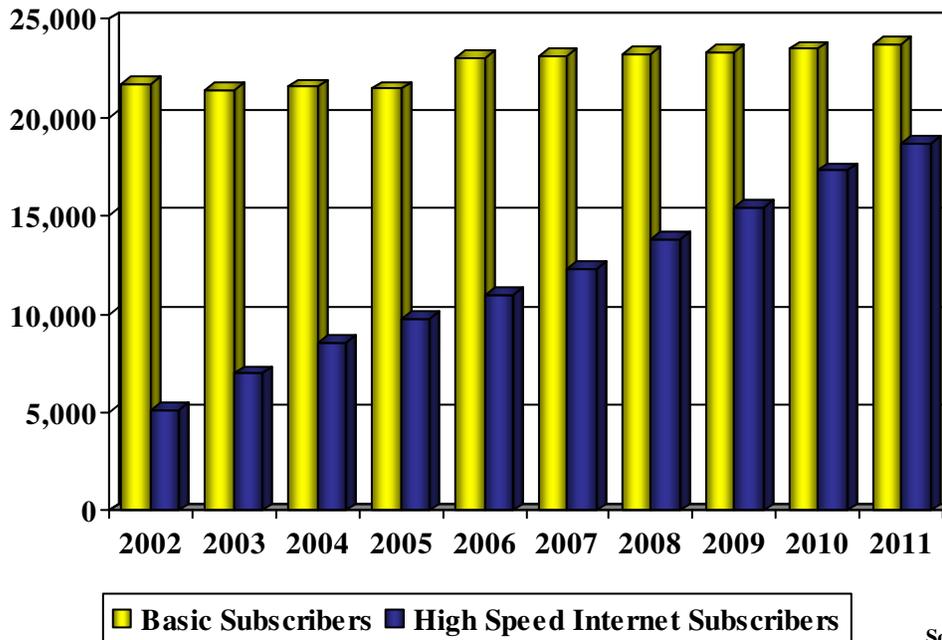
Going forward, Wall Street analysts and industry insiders believe that there will be two data pricing models that will potentially emerge. First of which is the "utility model", where consumers pay for bandwidth consumed. The second would be the "pay twice" model where Internet users would have to pay for enhancing performance of their website/services. Both of these models will enable operators such as Comcast to increase their data profitability.<sup>1</sup>

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<sup>1</sup> Wachovia Securities, Comcast Corporation



**Basic and High Speed Internet Subscribers 2002A – 2010E:**



Source: Company Reports

**Voice over Internet Protocol (VoIP):**

In the past two years, Comcast has begun to compete with the Regional Bell Operating Companies (RBOCs) with the third aspect of their triple play bundle. They are launching Voice over Internet Protocol (VoIP) service throughout their geographic footprint, attempting to educate the consumer on the value and convenience that VoIP has to offer.

As a quick primer on how the technology works: through the use of software, VoIP provides all of the functionality of the public switched telephone network (PSTN), while making possible new features not available through traditional circuit-switched telephony. Calls are placed over an IP-based data network and voice is transmitted with data "packets." The IP data packets used by services from some of the Internet telephony providers travels over the public Internet. Facilities-based cable offerings, in contrast, transport IP data packets over their private managed IP networks with end-to-end quality of service monitoring (while still interconnecting with the PSTN as necessary).

The roll-out is technically still in its nascent stage, as less than 1% of total Comcast basic subscribers are currently using the VoIP service. Compare this with 16% of total Cablevision subscribers who are using VoIP, and the fact that the two began to roll out service at the same



time, and you can see our optimism with regards to the upside of this business. In fairness it should be noted that Cablevision's subscriber base is considerably smaller and on average has much better socio-economic demographics, but the proof of consumer demand is still more than evident.

While there is a concern that the VoIP service is already commoditized, Comcast can steal away Verizon and AT&T subscribers by competing on price, which in turn eats away at the bread and butter of the RBOC subscriber base. Verizon needs these subscribers more than Comcast does, because quite simply they have not yet captured the video market and cannot offer a bundled service offering. Therefore, the sooner the bundled service becomes more popular, the more Comcast will benefit from its first-mover advantage.

It's our overall belief that while overall subscriber growth may stay stagnant, those who remain with Comcast will subscribe to the bundled service play, for convenience as well as pricing issues.

## ***Competitive Analysis:***

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### **Industry Competitors & Rivalry – High**

Essentially, the last mile to the home in terms of fiber will remain a duopoly, at least for the foreseeable future. Comcast now has the capacity to offer video content, broadband access and phone service. With each service they will compete against different competitors. Video content naturally pits Comcast vs. the satellite or DBS operator. In the past DBS operators have heavily penetrated rural areas that are not served by a traditional cable network. Now the two are converging and the rivalry and consequential price wars have begun. Since the DBS operator has little to offer in terms of bundled service convenience and discount, they must compete on content, hence the exclusive NFL package deal that Direct TV can offer. Furthermore, the telecom carriers will soon invade the video content space with their own offering, further crowding the landscape. Broadband service pits Comcast against the likes of the telecom carriers offering DSL, and VoIP pits them against both major telecom service providers as well as smaller service providers such as Vonage. Every major piece of Comcast's business is hotly contested.

### **Threat of New Entrants – Medium**

Because of the capital intensive nature of the actual development of a cable network, threat of new cable operators is relatively low. Most cable networks have a fiber to the node architecture. Most of these FTTN networks employ a hybrid fiber coaxial network, where optical fiber is used



for the backbone and coaxial cable is distributed between the backbone and the individual users. Quite simply, the build out of these networks is cost prohibitive, and the only way for a new entrant to enter the fray would be to compete on price for customers. This would prove to be suicidal for all but the deepest of lined pockets (which do not currently exist) given the fact that the upfront capital expenditures would be need to be paid down and competing on price would do little to do such a thing. Such strategies such as ones used by RCN in the Northeast have been employed in the past, but they have yet to be successful.

This is not to say that certain products of the Comcast offering will not see increasingly intense competition in the upcoming years. Video content and communication is fast becoming the next growth area for both wireline and wireless operators. Within the next three years many believe that the Regional Bell Operating Companies (Verizon, SBC) will be commercializing video offerings. UBS estimates that Verizon and SBC will spend \$11 billion in the next six years, including \$5 billion in the next three years, all earmarked to build out a video offering. The fiber to the home strategy employed by the RBOCs is an aggressive move with a defense mechanism built into it as well. If the RBOCs stand by and let Comcast gain the upper hand with a voice over internet protocol (VoIP) offering that is included in a triple play bundled product, they will inevitably lose considerable market share within their fixed line business. By offering a video product to bundle with wire-line and perhaps wireless service, the Verizons of the world put themselves back into the bundled services arena.

With the threat of additional entrants such as Verizon and the ensuing pricing war that will likely occur, the obvious concern is the commoditization of the video offering, which will crush margins as well as increase cable and satellite operator customer churn. As mentioned previously, we feel these are viable concerns yet they are somewhat over-hyped. The fact remains that the RBOCs will possess a higher cost structure with massive capex debt, no exclusive content, and no real competitive technical advantage. All of these factors mitigate the concern considerably. To quantify the actual risk and the uncertainty surrounding the projected roll-out, Goldman Sachs predicts that in 2010 the RBOCs will have achieved a 4.2% penetration rate of U.S. TV households while JPMorgan believes that number will be 6.4%. In our opinion the telecom invasion will be stumble before it gains traction, and the discount already baked into low valuations in the cable sector is somewhat unfounded.

## **Barriers to Entry - High**

As mentioned previously, the cost prohibitive nature of building out a cable network creates a drastic barrier to entry. Switching costs are not prohibitive, but there is a considerable cost for the operator to absorb in terms of set-top boxes.

On the whole, residents have become accustomed to accepting the duopoly of a cable operator and a satellite operator as their choice for video. Calculated intrusions into the market such as an RCN overbuild strategy, or even a telecom video strategy need to offer a strong value proposition, such as a bundled offering, which is tremendously difficult to offer with an existing established network.



## **Availability of Substitutes – Medium**

Due to the recent development of network television content being allowed by network broadcasters to be downloaded to your iPod or iTunes account, substitution is a growing concern for operators such as Comcast. Video content transmitted through cell phones can also be considered an available substitute. As the cell phone technology allows for faster downstream transmissions in the next few years, content offering will grow and the user experience will get better and better. Is this a substitute for sitting in your living room at home and watching your favorite show? Our bet is that it won't. It does, however, create an alternative for viewers to watch their favorite show while they are on the road, on the train on their daily commute, or just away from home and looking to kill some time. Much like the DVD vs. movie experience, one is a little more of a ritual than the other (movies at the theater, watching TV at home), but one just that much more convenient (DVDs at home, watching TV on your iPod or laptop).

## **Supplier Power - Low**

Comcast has been experiencing a number of rate hikes in the past year from major content providers such as HBO and ESPN, but on the whole it behooves the content provider to push their product out to as many viewers as possible.

## **Buyer Power – Medium to High**

With each additional service offering, and with each discounted bundling, buyer power increases and the consumer gains more and more leverage. While many will have to get used to the fact that video content will not be controlled by duopoly any longer, both choices and substitutes will be heavily marketed by competitors desperate to increase market share and will make this transition easy. The traditional unexplained rate increases by our cable providers such as Comcast should cease to exist in the near future, as there will be an increased focus on the customer. Furthermore, bundled services should continue to be discounted heavily, and will only come down in price as telecom providers enter the landscape.

## ***Key Drivers of Demand***

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- **ARPU Growth:** Very basic concept. With basic subscriber numbers stagnating, average revenue per user must increase for Comcast to keep pace. Margins have to increase on all vertical services as key capital expenditures have already been built out, and now it is time for Comcast to perform.
- **On-Demand and Pay-Per-View Lineup:** Comcast will need to depend on an enhanced video on demand line-up going forward, and the utilization of consumer home theater set-



ups to bring the cinema home to the living room. These services are high-margin, and are vital to driving healthy ARPU numbers.

- **Adoption of Triple Play Offering:** Consumers will need to see the value and convenience of the bundled service play that Comcast offers. Given the entrance of the telecom carriers onto the video play scene, consumers will now more than ever be likely to choose one carrier for all their communications needs. Can Comcast compete against the Verizon holy grail of four services (wireless, VoIP, cable, and internet)?
- **Continued Rollout of VoIP:** Though the total number of VoIP subscribers is not yet substantial, and the upside to entering an already commoditized business is somewhat limited, the success of the triple play bundle is dependent on the consumer adoption of VoIP. Comcast must ramp up adoption considerably. This will drive both subscriber growth in other segments and total ARPU.
- **Consumer Adoption of HDTV:** Current subscriber penetration has been ramping up considerably. Increased penetration equals both an increased ARPU and a greater tendency to purchase from an on-demand selection that mimics the theater experience.

### *Concerns Going Forward:*

- **Erosion of pricing power:** and/or market share on high speed data as DSL providers continue to wage pricing war and improve product offerings.
- **Loss of Video Pricing Power:** We are concerned that due to potential telecom competition and aggressive HDTV competition from DBS operators, video pricing will be commoditized.
- **The Elephant in the Room:** The telecom video threat is very real and very imminent. How Comcast is able to manage SG&A costs in competing areas, as well as hold on to their own customers will be a key test to the sustainability of the business itself.



## ***Valuation***

### **Income Statement Assumptions**

#### **Cable Revenue Growth**

We projected subscriber growth for each cable segment (basic/digital/high speed internet/voice) and average revenue per user to determine total cable revenues. Subscriber growth was based on company estimates and our analysis of industry trends. Historically, management has been relatively conservative when providing subscriber growth forecasts. (see exhibit 1) Therefore we were comfortable basing our estimates for subscriber growth primarily on company estimates when available.

- **Basic Subscribers:** In 2006 the dramatic basic subscriber growth reflects the closing of the Adelphi acquisition. Thereafter, basic subscribers grow at a modest 1% per annum, reflecting Comcast's heavy penetration of this segment.
- **Digital Subscribers:** Digital subscriber growth will continue to grow in the low double digits reflecting healthy demand for a higher quality viewing experience by consumers and robust marketing efforts by Comcast. Growth will taper off in 2010 and 2011 as Comcast reaches full penetration.
- **High Speed Internet Subscribers:** Management projects a total of 15 million HSI subscribers within the next 3-5 years. Based on management's historical track record of conservative guidance on this metric we were comfortable projecting subscriber growth of 15.5 million by year end 2009.
- **Comcast Digital Voice Subscribers:** Management projects a total of 8 million CDV subscribers by year end 2009. Given management's relatively accurate track record in projecting subscriber totals we were comfortable projecting 8 million subscribers by year end 2009.
- **Average Revenue per Total Subscriber/Month:** The availability of the triple play and increasing demand for additional services (VOD, HDTV, DVR) will drive ARPU/Month higher over the next two years. Thereafter, telecom carriers and satellite providers will provide a more viable threat and restrain price increases.

#### **Content Revenue Growth and Other:**

Content and other revenues represent approximately 5% of consolidated revenues for Comcast. Other and corporate revenues historically offset much of the growth in the content division. Therefore, we are projecting moderate content and other revenue growth through 2011.



## REVENUE MODEL

(000's)	2006	2007	2008	2009	2010	2011
Basic Cable Subs	23,000	23,230	23,346	23,463	23,580	23,698
<i>yoy growth</i>	7%	1.0%	0.5%	0.5%	0.5%	0.5%
Digital Cable Subs	11,000	12,320	13,798	15,178	16,392	16,720
<i>yoy growth</i>	12%	12.0%	12.0%	10.0%	8.0%	2.0%
HSI Subs	10,500	12,075	13,886	15,553	17,419	19,161
<i>yoy growth</i>	23%	15.0%	15.0%	12.0%	12.0%	10.0%
Telephony Subs	2,071	3,314	5,302	7,953	9,941	12,426
<i>yoy growth</i>	57%	60.0%	60.0%	50.0%	25.0%	25.0%
<b>Total RGUs</b>	<b>46,571</b>	<b>50,939</b>	<b>56,333</b>	<b>62,146</b>	<b>67,332</b>	<b>72,005</b>
<b>ARPU/Month</b>	<b>\$43.25</b>	<b>\$43.50</b>	<b>\$43.25</b>	<b>\$43.00</b>	<b>\$43.00</b>	<b>\$43.00</b>
<b>Cable Revenue</b>	<b>24,170</b>	<b>26,590</b>	<b>29,237</b>	<b>32,068</b>	<b>34,744</b>	<b>37,155</b>
<i>yoy growth</i>	14%	10.0%	10.0%	9.7%	8.3%	6.9%
<b>Content/Other Revenue</b>	<b>1,207</b>	<b>1,303</b>	<b>1,381</b>	<b>1,451</b>	<b>1,509</b>	<b>1,569</b>
<i>yoy growth</i>	10%	8.0%	6.0%	5.0%	4.0%	4.0%
<b>Total Revenue</b>	<b>25,377</b>	<b>27,893</b>	<b>30,618</b>	<b>33,518</b>	<b>36,252</b>	<b>38,724</b>
<i>yoy growth</i>	14%	10%	10%	9%	8%	7%

### Expense Growth:

We projected annual expenses as a constant percentage of sales in line with its 3 year average. We used the three year average of 62% through 2010. In 2011 we project a slight up tick in expenses to 63% of sales reflecting increased marketing/advertising costs.

### Depreciation:

We projected depreciation expense as a constant percentage of PP&E in line with its 3 year average. The three year average totaled 18%; we used this percentage through 2011.

## INCOME STATEMENT

	2006	2007	2008	2009	2010	2011
Revenues	25,377	27,893	30,618	33,518	36,252	38,724
<i>yoy growth</i>	14%	10%	10%	9%	8%	7%
Operating Expenses and SG&A	15,988	17,573	19,289	21,116	22,839	24,783
<i>% of sales</i>	63%	63%	63%	63%	63%	64%
OCF (as defined by CMCSA)	9,390	10,320	11,329	12,402	13,413	13,940
<i>yoy growth</i>	11%	10%	10%	9%	8%	4%
Depreciation	3,412	3,446	3,481	3,516	3,551	3,586
<i>% of PPE</i>	18%	18%	18%	18%	18%	18%
Amortization	1,269	1,395	1,531	1,676	1,813	1,936
<i>% of sales</i>	5%	5%	5%	5%	5%	5%
Total Operating Expenses	20,669	22,414	24,301	26,308	28,202	30,306
<i>yoy growth</i>	11%	8%	8%	8%	7%	7%
<b>EBIT</b>	<b>4,708</b>	<b>5,479</b>	<b>6,317</b>	<b>7,210</b>	<b>8,050</b>	<b>8,418</b>
<i>yoy growth</i>	28%	16%	15%	14%	12%	5%



## Balance Sheet Assumptions

### **Current Assets:**

All current asset accounts are projected to grow as a constant percentage of sales in line with historical averages. Historically, current asset levels have remained at a relatively constant percentage of sales; therefore we were comfortable using historical averages.

### **Plant, Property and Equipment:**

We projected 1% growth per annum in PP&E. This growth rate is in line with historical growth rates and is representative of the fact that the majority of Comcast's infrastructure is in place.

### **Other Noncurrent Assets:**

Other noncurrent assets consist primarily of franchise rights, goodwill, and other intangibles. None of these items have changed markedly in the recent past, therefore we felt comfortable leaving them unchanged.

### **Accounts Payable:**

We calculated accounts payable growth based on a constant percentage of sales. Accounts payable as a constant percentage of sales leveled off in 2004; therefore we used the constant percentage that occurred in 2004 and 2005 of 11%.

### **Noncurrent Liabilities:**

Noncurrent liabilities have been relatively constant over the last few years. Therefore, we projected no growth in noncurrent liabilities going forward.



## Balance Sheet

	2006	2007	2008	2009	2010	2011
<b>Assets</b>						
Cash and cash equivalents	1,015	1,116	1,225	1,341	1,450	1,549
<i>% of sales</i>	4%	4%	4%	4%	4%	4%
Investments	508	558	612	670	725	774
<i>% of sales</i>	2%	2%	2%	2%	2%	2%
Accounts Receivable, net	1,523	1,674	1,837	2,011	2,175	2,323
<i>% of sales</i>	6%	6%	6%	6%	6%	6%
Other current assets	1,015	1,116	1,225	1,341	1,450	1,549
<i>% of sales</i>	4%	4%	4%	4%	4%	4%
<b>Total current assets</b>	<b>4,060</b>	<b>4,463</b>	<b>4,899</b>	<b>5,363</b>	<b>5,800</b>	<b>6,196</b>
<i>yoy growth</i>	57%	10%	10%	9%	8%	7%
Property and Equipment, net	18,957	19,146	19,338	19,531	19,726	19,924
<i>yoy growth</i>	1%	1%	1%	1%	1%	1%
Other Noncurrent Assets, net	81,783	81,783	81,783	81,783	81,783	81,783
<i>yoy growth</i>	0%	0%	0%	0%	0%	0%
<b>Total Assets</b>	<b>104,800</b>	<b>105,392</b>	<b>106,020</b>	<b>106,677</b>	<b>107,310</b>	<b>107,902</b>
<b>Liabilities and Stockholders Equity</b>						
Accounts payable and accrued expenses related to cre	2,791	3,068	3,368	3,687	3,988	4,260
<i>% of sales</i>	11%	11%	11%	11%	11%	11%
Accrued expenses and other current liabilities	5,075	5,021	4,899	5,028	5,438	5,809
<i>% of sales</i>	20%	18%	16%	15%	15%	15%
<b>Total current liabilities</b>	<b>7,867</b>	<b>8,089</b>	<b>8,267</b>	<b>8,715</b>	<b>9,426</b>	<b>10,068</b>
<i>yoy growth</i>	25%	3%	2%	5%	8%	7%
Noncurrent Liabilities	34,000	34,000	34,000	34,000	34,000	34,000
Minority Interest	1,015	1,116	1,225	1,341	1,450	1,549
<i>% of sales</i>	4%	4%	4%	4%	4%	4%
<b>Total Liabilities</b>	<b>42,882</b>	<b>43,205</b>	<b>43,492</b>	<b>44,055</b>	<b>44,876</b>	<b>45,617</b>
<b>Debt + Equity</b>	<b>61,918</b>	<b>62,187</b>	<b>62,528</b>	<b>62,622</b>	<b>62,434</b>	<b>62,285</b>
<b>Total liabilities and stockholders equity</b>	<b>104,800</b>	<b>105,392</b>	<b>106,020</b>	<b>106,677</b>	<b>107,310</b>	<b>107,902</b>

## Adjusted Present Value Analysis

We opted to use APV to value Comcast given that we expect Comcast to lower its leverage as debt matures and capital expenditures slow. Since this will result in a declining debt to equity ratio throughout the valuation period using the weighted average cost of capital and discounted cash flow analysis is inappropriate. To determine the value of Comcast using APV, we added the value of the unlevered firm to the value of the financing side effects, and then subtracted out net debt to determine the equity value.

### Unlevered Beta:

To determine the cost of equity used as the discount rate in our valuation of the unlevered firm we had to determine the asset beta. First, we regressed the last 60 months of Comcast returns versus a value weighted market index to determine the equity beta. This yielded an equity beta of .66. Next we unlevered the equity beta with the following formula:  $Equity\ Beta / (1 + (1 - T) * D/E)$ . This gave us our unlevered beta of .53.



Unlevered beta calculation	
Equity Beta	0.66
D/E	42%
Tax rate	39%
<b>Unlevered Beta</b>	<b>0.53</b>

**Cost of Equity:**

We determined the cost of equity using CAPM. ( $R_{free} + Unlevered\ Beta * Risk\ Premium$ ) We used a risk premium of 7% reflecting the markets historical excess return versus the risk free rate. For our risk free rate we adjusted the current yield on the 10 year treasury of 4.85% by 1%. Our analysis yielded a cost of equity of 7.5%.

Cost of Equity	
Beta	0.53
Risk Premium	7.00%
10 Yr Treasury Rate	4.85%
Adj Risk Free Rate	3.85%
<b>Cost of Equity</b>	<b>7.53%</b>

**Terminal Growth Rate:**

We assumed a terminal growth rate of 3%. The terminal growth rate reflects the anticipated intense competitive environment near the end of the decade as telecoms begin to offer a bundled product on a larger scale.

**Capital Expenditures:**

Our capital expenditure estimates for 2006 were calculated by adding a slight cushion to company estimates. Historically, the one target management consistently misses on the downside is capital expenditures. (see exhibit 1) Therefore, we increased company guidance from \$3.5 billion to \$4 billion. After 2006 we assumed capital expenditures would decline steadily reflecting infrastructure build out completion.



## Unlevered Firm Value

Cost of Equity	7.5%					
Terminal Growth	3.0%					
		<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
EBIT		4,708	5,479	6,317	7,210	8,050
Tax Rate		39%	39%	39%	39%	39%
NOPAT		2,872	3,342	3,853	4,398	4,910
- Change in CA		1,144	302	327	348	328
+ Change in CL		1,598	222	178	448	711
Capital Expenditures		-4,000	-4,500	-4,000	-3,500	-3,000
Depreciation		3,412	3,446	3,481	3,516	3,551
FCF		2,738	2,209	3,185	4,514	5,844
						6,567
SUM of PVs		18,709				
PV of Terminal		60,716				
<b>Unlevered Firm Value</b>		<b>79,425</b>				

### Interest Expense and Terminal Growth Rate of Debt Tax Shield:

Comcast's interest expense will gradually decline as debt matures and capital expenditures wane. Therefore, we project interest expense to peak in 2006 at \$2 billion. Thereafter, it will decline steadily to \$1.5 billion in 2011. Additionally, we project the terminal growth rate of the debt tax shield to be -5%, as Comcast continues to lower its leverage after 2011.

### Cost of Debt:

We determined the cost of debt by adding a 75 basis point premium to the risk free rate to reflect Comcast's investment grade debt rating. This methodology yielded a cost of debt of 5.6%.

## Financing Side Effects

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Interest Expense	2,000	1,900	1,800	1,700	1,600	1,500
Debt Tax Shield	780	741	702	663	624	585
Discount Factor	0.95	0.90	0.85	0.80	0.76	0.72
PV(Debt Tax Shield)	739	664	596	533	475	422
PV of Terminal Value						3,781
<b>Financing Side Effects</b>	<b>7,210</b>					



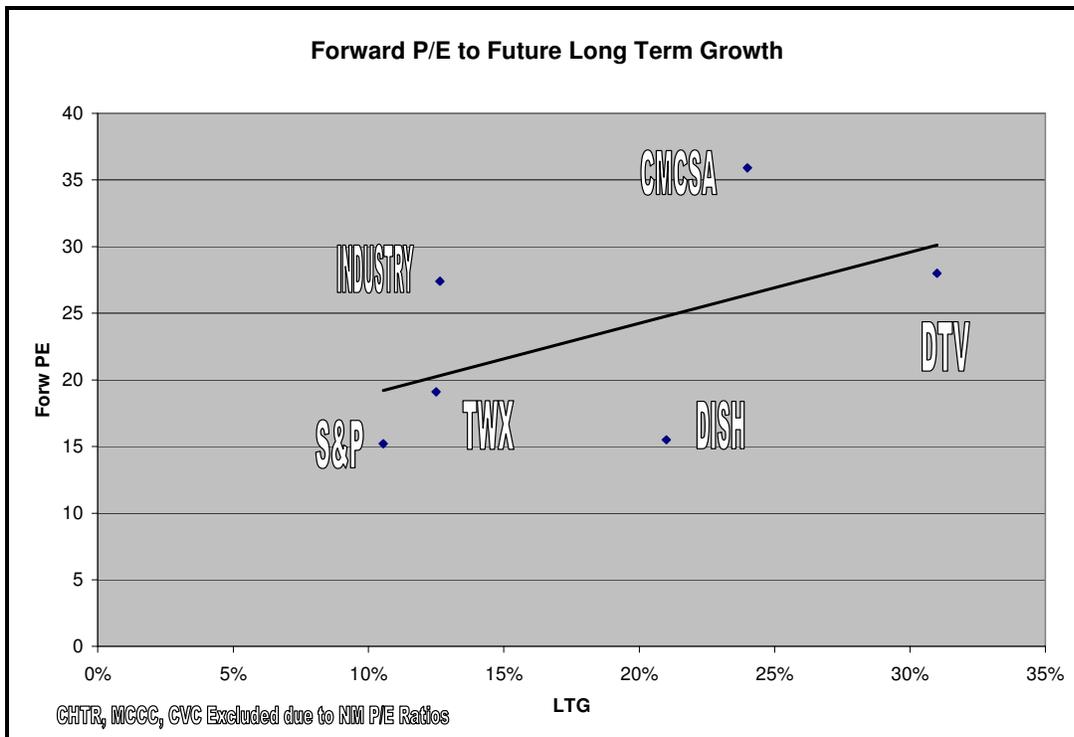
### Comcast Value

Our APV analysis produced an equity value for Comcast of \$63.957 billion. This represents 14% upside from current prices.

Unlevered Firm Value	79,425
Financing Side Effects	7,210
Less Debt	23,371
Plus Cash	693
<b>Comcast Equity Value</b>	<b>63,957</b>

### Forward P/E to Future Long Term Growth Rate

Comcast appears overvalued versus its closest competitors on a forward P/E to future long term growth basis. However, the illustration is more a reflection on the difficulty of using multiple and peer analysis to value Comcast. Three of Comcast’s closest competitors (Medicomm, Charter Communications, and Cablevision) are not displayed due to the fact that their earnings are negative and the resulting P/Es are not meaningful. The remaining competitors are not as closely aligned in business mix and therefore distort the presentation.





Appendix

Exhibit 1: Historical Guidance versus Results

<b>2002</b>	<b>GUIDANCE</b>	<b>ACTUAL</b>	<b>DIFFERENCE</b>
Cable Revenues	10-12%	12.20%	0%
Cable EBITDA	12-14%	12.90%	0%
Digital Cable Subs	700-800K	819K	2%
HS Interent Subs	400-500K	578K	16%
Cable Capex	\$1.3B	\$1.3B	0%
<b>2003</b>	<b>GUIDANCE</b>	<b>ACTUAL</b>	<b>DIFFERENCE</b>
Cable Revenues	7-9%	9.10%	0%
Cable EBITDA	6.2-6.3B	6.35B	1%
Digital Cable Subs	950K-1.0M	1.0M	0%
HS Interent Subs	1.3-1.4M	1.7M	21%
Cable Capex	\$4B	\$4.10	-2%
Content Revenues	7-9%	12.70%	3%
Content EBITDA	16-18%	26%	7%
Cable Phone	"-150K	"-171K	-12%
<b>2004</b>	<b>GUIDANCE</b>	<b>ACTUAL</b>	<b>DIFFERENCE</b>
Cable Revenues	10%	10.40%	0%
Cable EBITDA	15-17%	17.60%	1%
Digital Cable Subs	700K-1M	990K	0%
HS Interent Subs	1.5-1.6M	1.7M	6%
Cable Capex	\$3.3-\$3.4B	\$3.6B	-6%
Content Revenues	20%	20.80%	0%
Content EBITDA	30%	29%	-1%
<b>2005</b>	<b>GUIDANCE</b>	<b>ACTUAL</b>	<b>DIFFERENCE</b>
Consolidated Rev	10%	9.60%	0%
Consolidated OCF	12%	12.80%	1%
Consolidated FCF	35-45%	32.50%	-2%
Total RGU growth	2.5M	2.6M	4%
Cable Capex	\$3B	\$3.6B	-17%



Exhibit 2: Ratio Analysis and Growth Rates

<b>RATIO ANALYSIS</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Return on Invested Capital	5%	5%	6%	7%	8%	8%
Asset Turnover	24%	26%	29%	31%	34%	36%
Receivables Turnover	6%	6%	6%	6%	6%	6%
EBIT Margin	19%	20%	21%	22%	22%	22%
OCF Margin	37%	37%	37%	37%	37%	36%
Revenue Growth	14%	10%	10%	9%	8%	7%
EBIT Growth	28%	16%	15%	14%	12%	5%



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