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August 31, 2006

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VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Ex parte presentations in MM Docket Nos. 06-121, 02-277, 01-235, 01-317 and 00-244

Dear Ms. Dortch:

Attached hereto for the records of the above-referenced proceeding are the following:

1. Attachment A: Copies of (i) a letter to Chairman Martin from Congressman Fred Upton dated February 9, 2006, (ii) a letter to Chairman Martin from 23 Members of Congress dated June 30, 2006 (both letters relating to media ownership) and (iii) an email message dated August 30, 2006, from Jessica Marventano of Clear Channel Communications to Chris Robbins, Acting Legal Advisor to Commissioner Tate, transmitting the letters.
2. Attachment B: Copies of (i) a study by JP Morgan regarding HD radio and (ii) an email message dated August 30, 2006, from Ms. Marventano to Cristina Chou Pauze, Acting Legal Advisor to Commissioner McDowell, transmitting the study.

Kindly direct any questions concerning this matter to the undersigned.

Sincerely,

John E. Fiorini III

cc (via e-mail): Cristina Chou Pauze
Chris Robbins

ATTACHMENT A

From: Marventano, Jessica
Sent: Wednesday, August 30, 2006 3:08 PM
To: 'chris.robins@fcc.gov'
Cc: Marventano, Jessica
Subject: re: letters to the FCC re: media ownership

Dear Chris - thank you for meeting with us yesterday. As promised, here are two letters sent by the hill to the FCC on media ownership. We look forward to working with you - please let me know if you have any questions. Thank you. -Jessica Marventano

FRED UPTON

8TH DISTRICT, MICHIGAN

**ENERGY AND COMMERCE
COMMITTEE**CHAIRMAN, TELECOMMUNICATIONS
AND THE INTERNET SUBCOMMITTEECOMMERCE, TRADE AND CONSUMER
PROTECTION SUBCOMMITTEE

HEALTH SUBCOMMITTEE



**Congress of the United States
House of Representatives**

February 9, 2006

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The Honorable Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Dear Mr. Chairman:

I am writing to ask that the Federal Communications Commission ("FCC" or the "Commission") commence a rulemaking to increase the number of radio stations that a single entity may own or control in the largest media markets in the country. As set forth below, I believe that such an increase would benefit consumers in several important ways.

The largest markets in the country tend to have more diverse populations, and thus demand more diverse program formats. Yet the maximum number of formats any one owner can deliver is eight because of the cap on ownership maintained by the FCC. Increasing the number of stations any one entity could own would translate into an increase in the number of formats that can be broadcast in that market. The result would be to increase the quality of free terrestrial radio services to consumers and increase the availability of foreign language programming to them.

Moreover, the economies of scale that are obtained when commonly-owned stations are clustered in a market make it possible to take risks on new formats that would not otherwise be feasible. The result will be that owners will experiment with new and different formats, and consumers will be the beneficiaries.

The public will likewise benefit from a healthy radio industry. While the FCC's current regulations recognize that AM and FM stations compete against each other, they fail to recognize the other competitors in today's marketplace. Foremost among these is satellite radio. The two satellite radio licensees can each program approximately 150 channels in every market in the country, compared to the current limit of eight stations that restricts the terrestrial radio industry. Moreover, licensed radio stations must compete against new devices, such as iPods, as well as Internet radio which will soon be broadcast to cars using Wi-Max networks.

The upshot is that terrestrial radio is engaged in an extremely competitive marketplace - and one that is becoming more competitive every day. Against that type of competition, I believe that it is worthwhile to lighten the regulatory restrictions on ownership that limit the ability of free terrestrial radio to grow in the largest markets in the country.

I believe that in markets with 60 or more radio outlets, a modest increase in the number of stations that one entity can own or control will confer significant public interest benefits. Owners would be able to experiment with new formats that improve service to under-served segments of the population, or bring a new service to the marketplace for the first time.

A modest increase would not result in undue concentration. In markets with 60 or more radio stations, allowing a single entity to control ten stations would mean that no one entity would be able to control more than 17% of that market. If ownership levels change from 8 to 12 in the seven markets with 75 or more stations, no single entity will own more than 15% of the stations in that market. Even with such modest relaxation, radio will remain an industry with very diverse ownership that falls far short of a level of concentration that would be cause for concern.

For these reasons, I believe that it is time that the FCC begin the process of modifying its rules to permit a modest increase in the number of stations that an entity can own or control in the 17 largest markets in the country. It has been nearly ten years since Congress adopted the current limitations on radio ownership and during that time there has been a significant increase in the number of listening options that are available to consumers. If free terrestrial radio is to remain a healthy industry capable of fulfilling its public interest responsibilities while competing against an increasing number of competitors, it must be able to grow. I believe that the modest increases discussed in this letter will provide room for that growth, and I urge you to issue a Notice of Proposed Rulemaking to begin this process quickly. I believe this improvement will help ensure that free terrestrial radio is a choice for consumers who can afford other alternatives and a lifeline for those who cannot.

I look forward to hearing from you soon.

With all best wishes,



Fred Upton
Member of Congress

Congress of the United States

Washington, DC 20515

June 30, 2006

The Honorable Kevin J. Martin
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Dear Chairman Martin:

We understand that the Commission will undertake its quadrennial review of its media ownership rules this year, including those that govern the number of radio stations one owner may acquire in a local market. Rapidly changing competition in the radio and music listening marketplace necessitates frequent updates to the radio ownership rules. We therefore urge the Commission to immediately commence its review and revision of the local radio ownership rules so that free, over-the-air local broadcast radio remains an important part of the new world of audio communications.

Prior to the 1996 Telecommunications Act, the radio industry was struggling financially. While radio stations provided a vital public service as beacons of information and local news, they are also small businesses; and as businesses, many were having trouble keeping afloat in the mid 1990s. In some markets, a significant percentage of stations were losing money and as such, were in danger of becoming potentially less reliable sources of news and information. This process was occurring because radio time devoted to those areas is less lucrative, as it is less attractive to advertisers.

Congress responded to these financial struggles by authorizing an increase in the number of stations a single owner could acquire in a market – up to 8 in our nation's largest cities. Greater economies of scale led to a healthier radio industry, as far fewer stations are in the red today. In addition, this increase in consolidation paralleled an increase in diversity of programming in many instances – to the benefit of the listening public.

The number of formats has doubled since passage of the 1996 Act and listeners now enjoy a panoply of listening options from free, over-the-air radio. For example, some of the nation's largest chains will counter-program conservative talk radio with liberal talk radio in the same markets – diversifying the political debate in those cities. With respect to music, any major market today affords listeners more niche programming, like Spanish language programming and jazz radio, than ever existed previously.

In 2006, over-the-air radio is facing more competition than ever before, particularly competition from unregulated sources that threaten to erode the economic sustainability of free, over-the-air local broadcast radio. With the advent of iPods and other personal music devices (including cell phones) downloading digital audio content, digital music offerings from satellite television and cable operators, and the rapid ascent of satellite radio, today's listeners have more choices than anyone imagined at the time of the 1996 Act.

In response to new competition, free, over-the-air radio broadcast stations have cut costs, limited advertising, and increased programming – all to the benefit of consumers. These steps have impacted traditional radio's revenues to the point that the industry appears headed for years of stagnant growth which may reduce the benefits to consumers and localism. Given Americans' reliance on free radio for both local news and community-oriented programming, as well as essential "lifeline" information during emergencies, natural disasters, we urge the FCC to address this evolving market situation.

For example, New York City has 100 commercial and 149 total over-the-air broadcast radio stations. Including stations available from XM and Sirius Satellite Radio increases the number of stations available in New York to over 400. In that context, a regulatory limit of 8 stations appears overly restrictive. Accordingly, we urge the Commission review its rules in this context to provide a very limited increase in the radio ownership cap only in the largest markets. We see no risk to programming diversity or media competition from permitting common ownership of up to 10 stations (from 8) in markets with 60 or more stations, and up to 12 stations in markets with 75 or more stations.

These narrow regulatory changes would give free, local radio companies the financial and competitive flexibility necessary to survive and serve their local communities in a rapidly changing marketplace with new sources of competition. We should embrace pro-consumer policies that preserve free, local radio as one of many choices for consumers who can afford other subscription alternatives and as a lifeline for those who cannot.

Thank you for your consideration of our views, and look forward to hearing from you.

Sincerely,



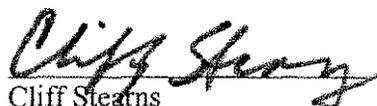
Paul E. Gillmor
Member of Congress



Gene Green
Member of Congress



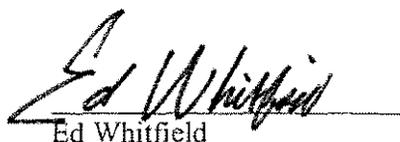
Edolphus Towns
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Cliff Stearns
Member of Congress



Eliot L. Engel
Member of Congress



Ed Whitfield
Member of Congress



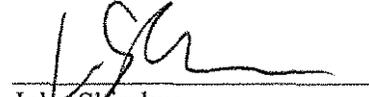
Charles A. Gonzalez
Member of Congress



Barbara Cubin
Member of Congress



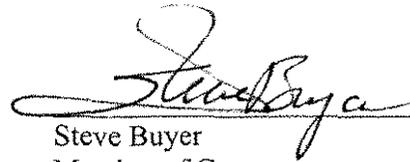
Mike Ross
Member of Congress



John Shimkus
Member of Congress



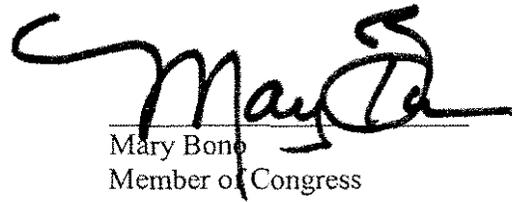
Vito Fossella
Member of Congress



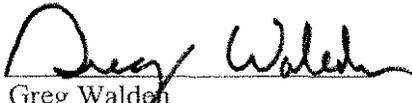
Steve Buyer
Member of Congress



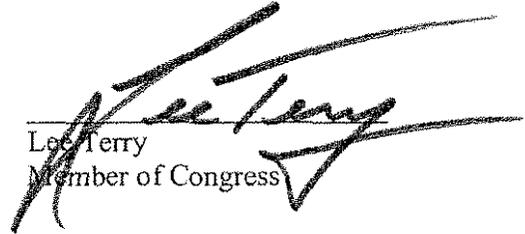
George Radanovich
Member of Congress



Mary Bono
Member of Congress



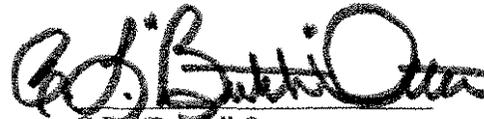
Greg Walden
Member of Congress



Lee Terry
Member of Congress



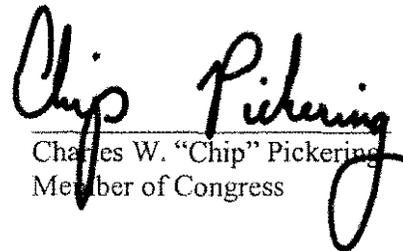
Mike Ferguson
Member of Congress



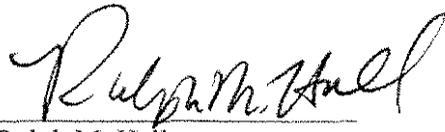
C.L. "Butch" Otter
Member of Congress



Sue W. Myrick
Member of Congress



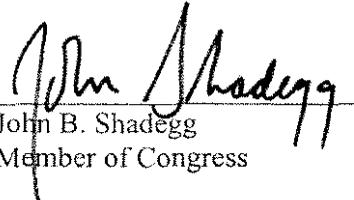
Charles W. "Chip" Pickering
Member of Congress



Ralph M. Hall
Member of Congress



Michael C. Burgess
Member of Congress



John B. Shadegg
Member of Congress

cc: Commissioner Jonathan S. Adelstein
Commissioner Michael J. Copps
Commissioner Deborah Taylor Tate
Commissioner Robert M. McDowell

ATTACHMENT B

From: Marventano, Jessica
Sent: Wednesday, August 30, 2006 3:17 PM
To: 'cristina.pauze@fcc.gov'
Subject: re: meeting follow-up

Dear Cristina:

Thank you for meeting with us yesterday. As promised in the meeting, here is the JP Morgan study on HD radio (concluding that HD radio will not increase radio revenues but only hopefully stem erosion of listeners). Please let me know if you have any questions. Have a great afternoon.

Sincerely,
Jessica Marventano

Radio Broadcasting

Is HD Radio Too Little, Too Late?

- **Necessity is the mother of invention.** With terrestrial radio struggling against multiple competitive threats, the industry has begun aggressively supporting HD radio.
- **Adoption likely to be slow.** Given limited HD programming, a lack of carmaker support, and high prices for receivers, we see only 15% best case penetration of homes by 2010 (assuming no overlap between the auto and retail channel).
- **Business model for broadcasters appears tenuous.** HD radio is unlikely to increase industry revenues, in our view. Coupled with incremental CAPEX, we estimate a 5.4% IRR on HD radio vs. the radio sector's 8% WACC.
- **Satellite radio is a superior offering.** Advantages in time to market, cost to consumers, content, addressable market size, and fewer commercials, make satellite radio a more attractive option, in our view.
- **HD radio is unlikely to solve radio's secular growth challenges,** and we maintain our cautious view of traditional radio broadcasters.

Radio Broadcasting

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Table 1: JPMorgan Radio Industry Coverage

Company	Ticker	Rating	15 June 05 Stock Price	Equity Market Cap	Stock Price Performance		
					2003	2004	2005 YTD
Clear Channel	CCU	OW	\$30.60	\$18,307.2	25.6%	(28.5)%	(8.6)%
Citadel (1)	CDL	N	12.00	1,720.5	8.3%	(27.7)%	(25.8)%
Cumulus	CMLS	UW	12.75	896.9	48.3%	(31.5)%	(15.5)%
Cox Radio	CXR	N	16.40	1,672.4	10.6%	(34.7)%	0.7%
Entercom	ETM	N	34.47	1,743.2	12.9%	(32.2)%	(4.0)%
Radio One	ROIA	OW	13.25	1,397.6	33.7%	(17.6)%	(17.7)%
Radio Average				\$25,737.9	23.2%	(28.7)%	(11.8)%
S&P 500	SPX		1206.58		26.4%	9.0%	(0.4)%

Source: Company reports and JPMorgan estimates.

Note: JPMorgan ratings: OW=Overweight; N= Neutral, UW= Underweight. (1)Citadel stock performance for 2003 is from its IPO on 8/1/03 to end of 2003.

J.P. Morgan Securities Inc.

See page 29 for analyst certification and important disclosures, including investment banking relationships. JPMorgan does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Customers of JPMorgan in the United States can receive independent, third-party research on the company or companies covered in this report, at no cost to them, where such research is available. Customers can access this independent research at www.morganmarkets.com or can call 1-800-477-0406 toll free to request a copy of this research.

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We wish to thank Diego Prada for his contribution to this report.

Investment Thesis

With terrestrial radio struggling against multiple competitive threats, the industry has begun to aggressively support HD radio. In this report, we analyze the opportunity of deploying HD radio for radio broadcasters.

Key Investment Points

Adoption Likely to Be Slow

We see low HD radio adoption over the intermediate term due to three factors: limited HD radio programming, no automaker support currently, and high hardware prices for receivers. Under a best case scenario which assumes no overlap between the auto and retail channel, we estimate 15.3% penetration of U.S. homes by 2010.

Multicasting Is Unlikely to Increase Listenership and Ad Revenues . . .

Broadcasters have two main choices for a HD radio business model: ad supported or subscription based. As with cable TV, we don't think adding more stations will increase total listenership and, therefore, is unlikely to generate incremental ad revenue. Rather, multicasting will likely fragment audiences, shift share, and benefit first mover operators.

. . . While a Subscription Model Faces a Catch 22

A subscription model for HD faces a dilemma. To effectively compete with satellite radio, HD radio would need to be priced low. However, a low subscription rate and high demand would cannibalize traditional radio advertising. Our analysis suggests that the cannibalization risk is too great for terrestrial radio to overcome.

HD Radio IRR Appears Low for Broadcasters

One possible defensive benefit of launching HD radio is that it may stem radio's audience erosion. However, assuming listenership is flat rather than down 1-2%, we calculate an IRR for HD radio of 5.4% vs. the industry's WACC of 8%.

Satellite Radio Has Sustainable Comparative Advantages

We think that satellite radio will trump HD radio. The former has advantages in time to market, automaker support, hardware price, content, and commercial loads. Terrestrial radio's lone advantage in localism may be blunted as satellite radio rolls out local weather and traffic.

HD Radio Is Unlikely to Solve Radio's Secular Growth Woes

Net-net, we conclude that HD radio is unlikely to be the savior for terrestrial radio's growth woes. Consequently, we maintain our cautious secular view on terrestrial radio and see no reason to alter our fundamental outlook on the group.

Risks to Our Thesis

We believe that the main risk to our investment thesis is that radio's long-run advertising forecast is more robust than we currently expect. This could be driven by either stronger growth in the U.S. economy and/or the overall advertising market or by radio successfully increasing its share of the total U.S. advertising pie.

Is HD Radio Too Little, Too Late?

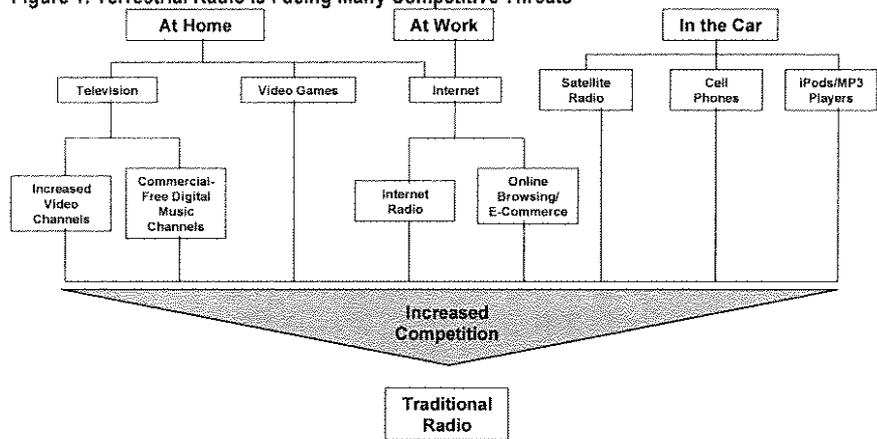
Necessity Is the Mother of Invention

Competitive threats are pushing broadcasters to HD radio.

Since the dawn of radio broadcasting in the 1920s, the basic technology underpinning the industry has remained essentially unchanged, with the exception of the advent of FM in the 1960s. Today, as most other forms of media have “gone digital,” radio has lagged noticeably behind.

However, with a very apparent slowdown in industry revenue growth¹ driven by fragmentation, competition from other media, and the emergence of satellite radio as a very legitimate competitive threat, radio broadcasters are now scrambling for answers. To this end, radio operators have begun to more aggressively support High Definition (HD) Radio.

Figure 1: Terrestrial Radio Is Facing Many Competitive Threats



Source: JPMorgan.

Purpose of This Report

We seek to answer five main questions.

In light of the industry’s more proactive posture toward HD Radio, in this report, we assess the opportunity of digital radio and seek to answer the following key investor questions:

1. What does HD radio offer?
2. How fast will adoption be?
3. What is the business model for broadcasters?
4. How does HD radio compare against satellite radio?
5. Will HD radio fix the secular growth issues for broadcasters?

¹ Please refer to our May 3, 2005, industry report, *Radio Broadcasting: State of the Union 2005* for more details.

What Does HD Radio Offer?

In this section of the report, we lay out the basic features and technology of HD radio (vs. terrestrial radio).

HD radio offers several benefits.

HD Radio vs. Analog Radio

Using technology pioneered by privately held iBiquity, HD Radio allows digital broadcasting of AM and FM radio programs over the current spectrum. This results in higher sound quality, while giving radio stations the ability to provide wireless data services (datacasting) and to broadcast in several channels under the same frequency (multicasting). Next generation HD radio technology is also expected to allow for commerce opportunities and on-demand content, although we note that consumer appetite for these types of services is highly unproven.

Table 2: Comparison of Features Between Terrestrial and HD Radio

Features	Terrestrial	HD Radio
Audio Quality	Same since 1961	FM sounds like CD; AM like FM
Multicasting	Not Capable	4+ channels on the same frequency
Datacasting	Not Capable	Song info, ads, traffic, sports, weather*
Commerce	Not Capable	Buy Button through in-car cell phone**
On-Demand	Not Capable	Record, pause**

Source: iBiquity, Crutchfield Advisor, JPMorgan.

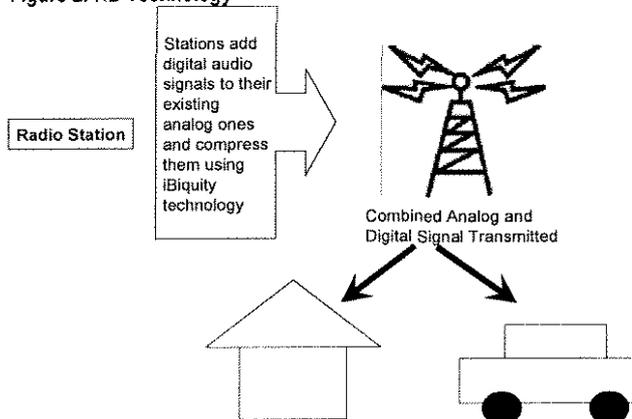
* Only capable in FM and up to 32kbps during hybrid operation and 82kbps in extended hybrid operation. Tests show quality is not sacrificed. ** Available only in second generation hardware.

HD radio technology is relatively straight forward.

How Does HD Radio Work?

The basic technology of HD radio is relatively straight forward. To deploy HD radio, radio broadcasters must first upgrade their stations with iBiquity equipment. Based on conversations with industry contacts, this typically costs between \$75,000 and \$100,000 per radio station. Next, the digital signal is transmitted to towers that can broadcast HD programming to HD radio receivers in cars, homes, and offices (see Figure 2).

Figure 2: HD Technology



Source: iBiquity and JPMorgan.

How Fast Will HD Radio Adoption Be?

Here, we assess the drivers of HD radio adoption and quantify the slope of the adoption curve, which will be a function of several factors.

Drivers of Adoption: The Classic Chicken and Egg Problem

HD Radio adoption will be driven by three factors.

In our opinion, adoption of HD Radio will be driven by three primary factors:

1. **Radio Broadcasters:** A critical component is how quickly radio operators upgrade their existing stations to HD. Obviously, without HD programming, consumers will not be incentivized to buy HD radio receivers.
2. **Automakers:** We believe another important variable will be support from the major auto companies, as over one third of radio listening occurs in the car. In our view, including HD receivers in new car models would drive consumer adoption.
3. **Retail Price of HD Receivers:** Consumers will be able to purchase HD radio receivers through the traditional retail channel as well. Historically, adoption of new consumer media devices is highly correlated with price.

Similar to other new technologies, to date, HD radio has faced the classic “chicken and egg” problem. Said another way, automakers, hardware manufacturers, and retailers have been reticent to support HD radio due to a lack of critical mass of content, while radio broadcasters have been slow to embrace HD given non-existent penetration of the receivers.

What's Changed

Chicken and egg problem is being addressed.

However, as mentioned earlier, multiple threats to terrestrial radio have sparked a new sense of urgency among traditional broadcasters to adopt HD radio. This new posture should break the lag jam and accelerate the rollout schedule. Now that we have identified the critical variables that may affect HD radio adoption, we first turn our attention to analyzing HD content availability.

Factor No. 1: HD Content Availability

HD radio programming is limited today . . .

Terrestrial Radio Ramping Up HD Radio

According to iBiquity, as of June 2005, HD radio signals reach 16.6% of the U.S. population. iBiquity expects this figure to increase to 95% by 2008. However, we believe this overstates the availability of HD programming because this represents the percentage of the population that can receive HD content from at least *one* station.

In our view, a more appropriate measure of HD program availability is to calculate the percentage of total industry-wide radio stations currently transmitting HD radio. On this basis, according to iBiquity, 322 stations are currently capable of broadcasting in HD, which represents 2.3% of total radio stations in the country (see Table 3).

Table 3: Number of Radio Stations Upgraded to HD Radio, May 2005

	2005*	
	Licensed	On Air
Clear Channel	100	98
+ Cumulus	4	4
+ Infinity	22	22
+ Entercom	31	17
+ Cox Radio	22	13
+ ABC	17	2
+ Radio One	20	6
+ NPR	72	10
+ Other	444	150
= Total HD Radio Stations	732	322
/ Total Stations	14,107	14,107
= Total % HD ready	5.2%	2.3%

Source: iBiquity * As of June 10, 2005.

... but this is changing.

Going forward, we expect the number of HD-capable stations to increase materially as most public radio companies have announced support for the new format. For example, CCU and CXR have announced that most of their stations will be upgraded by 2008. iBiquity estimates that 2,500 stations will be HD-ready over the next several years. Three assumptions support our content availability forecast:

1. For most public radio broadcasters, we assume 80% of their stations will be upgraded to HD by 2008 and 100% by 2010, consistent with public comments.
2. NPR stations grow at a similar pace due to government subsidies, but adoption among other non-public operators is slower given less financial flexibility.
3. We assume that total stations grow 1% per year, in line with the long-term trend.

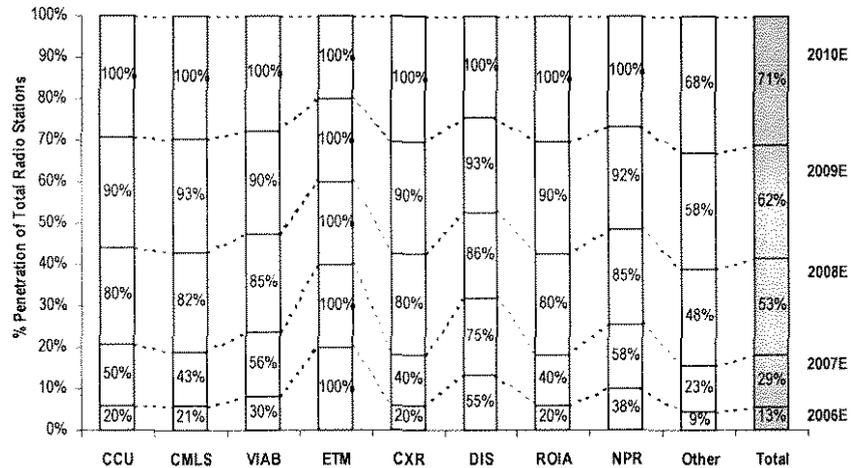
Based on these assumptions, we forecast that HD radio will be available to 12.7% of the stations in 2006 and to 53% by 2008 (see Table 4 and Figure 3).

Table 4: No. of HD Radio Stations, 2004-2010E

Total HD Radio Stations	2004	2005E	2006E	2007E	2008E	2009E	2010E
Clear Channel	65	119	238	595	951	1,070	1,189
+ Cumulus	1	10	60	125	240	270	291
+ Infinity	11	23	54	101	153	162	180
+ Entercom	7	50	93	93	93	93	93
+ Cox Radio	7	12	16	32	63	71	79
+ ABC	2	23	39	53	61	66	71
+ Radio One	6	10	14	28	55	62	69
+ NPR	1	115	207	383	639	708	780
+ Other	10	251	1,014	2,668	5,464	6,615	7,764
= Total HD Radio Stations	110	656	1,823	4,144	7,742	9,129	10,516
/ Total Stations	14,037	14,177	14,319	14,462	14,607	14,753	14,901
= % of Total Radio Stations	0.8%	4.6%	12.7%	28.7	53.0%	61.9%	70.6%
HD Radio Station Additions							
Clear Channel	---	54	119	357	357	119	119
+ Cumulus	---	9	50	65	115	30	21
+ Infinity	---	12	32	47	52	9	18
+ Entercom	---	43	43	0	0	0	0
+ Cox Radio	---	5	4	16	32	8	8
+ ABC	---	21	16	14	8	5	5
+ Radio One	---	4	3	14	28	7	7
+ NPR	---	114	92	176	256	69	72
+ Other	---	241	763	1,655	2,795	1,151	1,149
= Total HD Radio Stations	---	546	1,167	2,321	3,598	1,387	1,387

Source: Company reports and JPMorgan estimates.

Figure 3: % of Radio Stations Upgraded to HD by Operator, 2006E-2010E



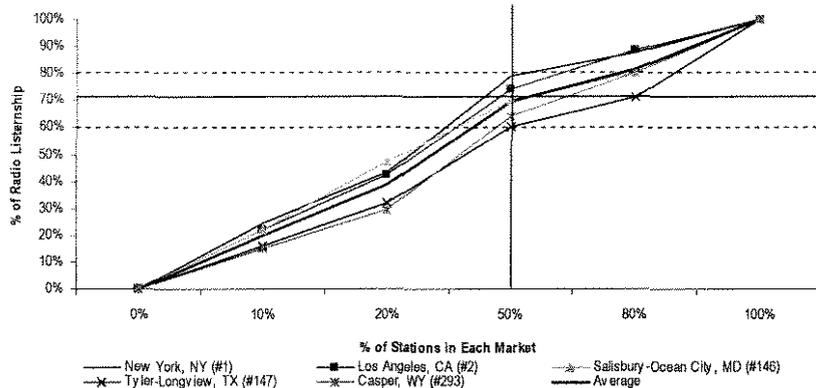
Source: Company reports and JPMorgan estimates.

Determining Critical Mass of Content

Assuming that 70% of stations will upgrade to HD radio by 2010, we analyze selected market ratings to determine the critical mass that will make HD radio a more viable alternative. For the purposes of our analysis, we calculate the percentage of listenership that comes from the top stations in a given market.

We have chosen to analyze large markets such as New York (#1) and Los Angeles (#2), mid sized markets such as Salisbury, MD (#146), and Tyler-Longview, TX (#147), as well as the smallest market, Casper, WY (#293) to get a representative sample. As shown in Figure 4, on average, about 50% of the stations in a market account for 70% of the listenership (ranging from 60%-80%).

Figure 4: 50% of Stations Account for 70% of Radio Listening on Average



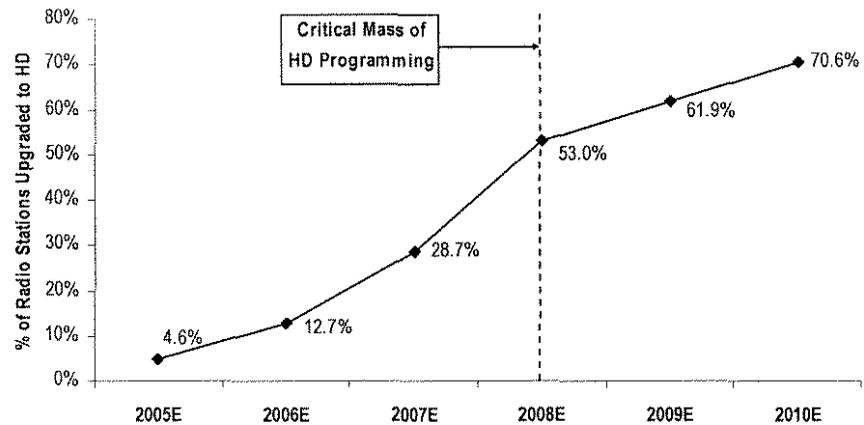
Source: Arbitron, Fall 2004 Ratings book.

Combining these results with our HD content availability projection, we determine that a critical mass of HD programming will be achieved by 2008² (see Figure 5).

² In this analysis we assume that top-rated stations are first to upgrade to HD.

Fifty percent of the stations, capturing 70% of the listeners, will be upgraded to HD by the end of that year.

Figure 5: Critical Mass of HD Radio Content Should Be Available by 2008



Source: Company reports and JPMorgan estimates.

Factor No. 2: Automaker Support

We believe that the automobile manufacturer channel is a critical variable given that over one third of listening takes place in the car. To date, however, auto maker support for HD radio has been tepid, with no car company yet announcing that it will deploy the technology. In our opinion, this is due to four main factors:

1. Lack of availability of HD programming
2. Auto companies' support of satellite radio
3. Limited engineering resources at the car companies
4. High cost of HD radio receivers

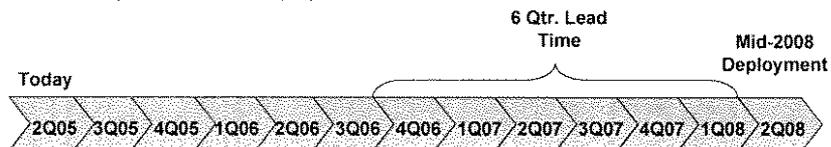
Timing Is Everything

As discussed earlier, as HD programming becomes more widely available in the coming years, we do think that some auto companies could begin deploying HD radio. The key is to determine the timing of when car companies may begin offering HD radio. While no commitments have been announced to date, we assume that once HD programming hits critical mass in 2008, auto makers will begin to support the technology³.

As a reality check, we back tested this assumption based on the experience of satellite radio. In that case, the average lead time between a car company announcing support for the technology and its actual deployment averaged six quarters. Assuming a similar lead time for HD radio, and if our 2007-2008 deployment of HD radio is correct, automakers should begin announcing support around mid 2006.

³ We note that iBiquity does not sell directly to automakers. Instead, it authorizes equipment manufacturers, such as Delphi, to produce the receivers and to negotiate with car makers.

Figure 6: Timing of Automaker Deployment of HD Radio



Source: Company reports and JPMorgan estimates.

The Addressable Auto Market

In order to size the automaker distribution channel, we start with new car sales⁴. Based on numbers from Autodata, annual new car sales currently hover around 17 million units annually, or roughly 7% of total cars in the U.S. (see Table 5).

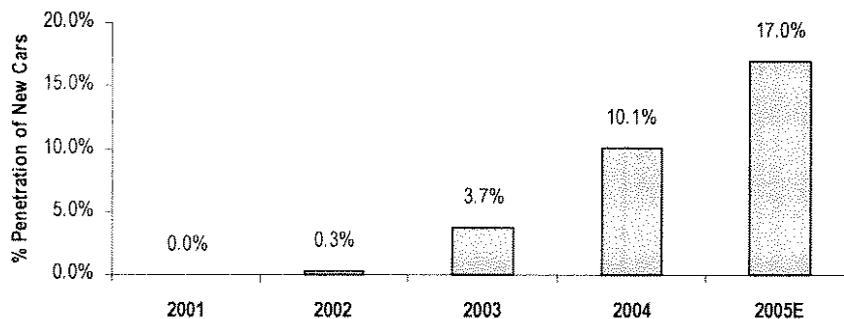
Table 5: New Car Sales as a Percent of Total Cars, 2003-2005E

Millions of Units	2003	2004	2005E
New Sales	16.6	16.9	17.0
/ Total Cars	231.0	232.6	234.2
= % of Total	7.2%	7.3%	7.3%

Source: Autodata and JPMorgan estimates.

We use satellite radio's experience as a proxy for adoption of HD radio in automobiles. For satellite radio, customers in the OEM channel accounted for 0.3% of new car sales in 2002, rising to 10.1% in 2004, and are projected to increase to 17% in 2005.

Figure 7: Satellite Penetration of New Cars (OEM Channel), 2001-2005E



Source: Company reports and JPMorgan estimates.

Based on satellite radio's adoption curve and assuming support by car makers in the 2007-2008 time frame, we forecast 2.3% penetration of total cars by 2010 (see Table 6).

⁴ The opportunity to sell in to the existing base of cars will be driven by consumer demand for HD radio at retail, which we examine in the next section of the report.

Table 6: Penetration of HD Radio in Automobiles, 2005E-2010E

	2005E	2006E	2007E	2008E	2009E	2010E
New Car Sales	17.0	17.3	17.5	17.8	18.0	18.3
x % Penetration of New Cars	0.0%	0.0%	0.3%	3.7%	10.1%	17.0%
= New HD Radio Cars	-	-	0.1	0.7	1.8	3.1
+ Installed Base	-	-	-	0.1	0.7	2.5
= Total HD Radio Cars	-	-	0.1	0.7	2.5	5.6
/ Total Cars in Use	234.2	235.9	237.5	239.2	240.9	242.6
= HD Radio Penetration of Cars	0.0%	0.0%	0.0%	0.3%	1.1%	2.3%

Source: Company reports and JPMorgan estimates.

Factor No. 3: Retail Price of HD Radio Receivers

Outside of the automotive distribution channel, consumers will also be able to purchase HD radio receivers at retail. Today, Crutchfield, a large consumer electronics retailer, carries the Kenwood tuner (which sells for \$400 and must be connected to a compatible receiver of the same brand) and the Panasonic receiver (which has the tuner embedded and sells for \$500). Best Buy carries several Kenwood receivers but not the tuner. Neither Radio Shack nor Circuit City carries HD radio related items. On a blended basis, we estimate that a typical HD radio hardware costs about \$500 today at retail versus around \$610 on average in 2004 (see Table 7).

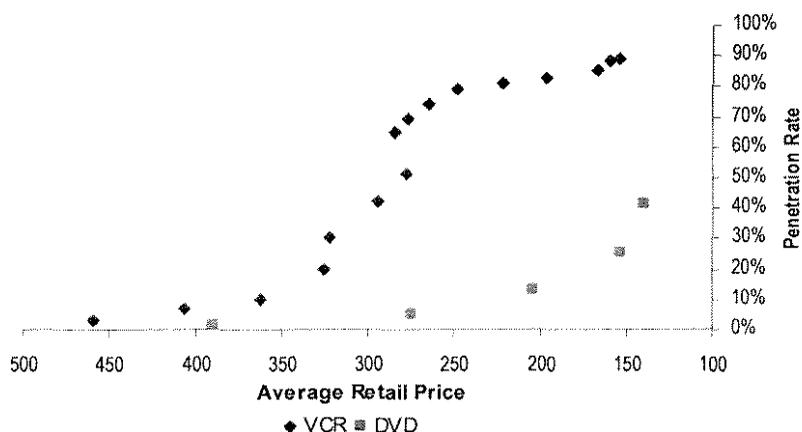
Table 7: Average Retail Price of HD Radio Hardware, 2004-2005E

	2004	2005E
Kenwood	\$850	\$650
Panasonic	\$1,000	\$500
JVC	\$850	\$631
Boston Acoustics	\$350	\$300
Sanyo	-	\$408
Average	\$610	\$498

Source: Crutchfield, Best Buy, company reports, and JPMorgan estimates. Kenwood includes price for HD radio receiver and tuner

We believe that current retail prices do not support high adoption. Historically, penetration of new consumer devices is negatively correlated with retail price, as illustrated in Figure 8.

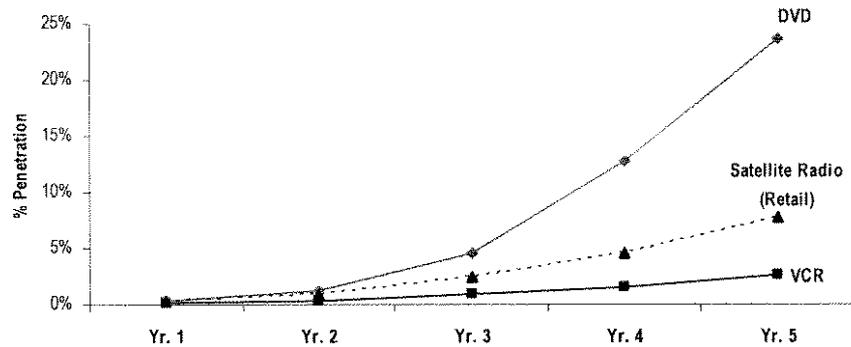
Figure 8: Correlation Between Price and Penetration for VCR and DVD Players



Source: Kagan World Media and JPMorgan estimates.

To forecast penetration of HD radio at retail, we also use the adoption curve for satellite radio. Relative to other devices, adoption of satellite radio in the retail channel is steeper than the VCR adoption curve, but not as strong as DVD uptake.

Figure 9: Adoption Curve for DVD, Satellite Radio, and VCR



Source: Kagan World Media and JPMorgan estimates.

Based on this methodology, we forecast 5.4 million HD radio homes in 2008 and close to 13 million homes by 2010 (see Table 8).

Table 8: HD Radio Penetration through Retail Distribution Channel, 2005E-2010E

	2005E	2006E	2007E	2008E	2009E	2010E
Penetration Rate	0.3%	0.9%	2.4%	4.6%	7.8%	10.6%
x U.S. Households	114.5	115.7	116.8	118.0	119.2	120.4
= HD Radio Homes	0.3	1.0	2.8	5.4	9.3	12.7

Source: Company reports and JPMorgan estimates.

Mobile HD radio is unlikely to be impactful over the intermediate term.

A Word on Mobile Phone Distribution for HD Radio

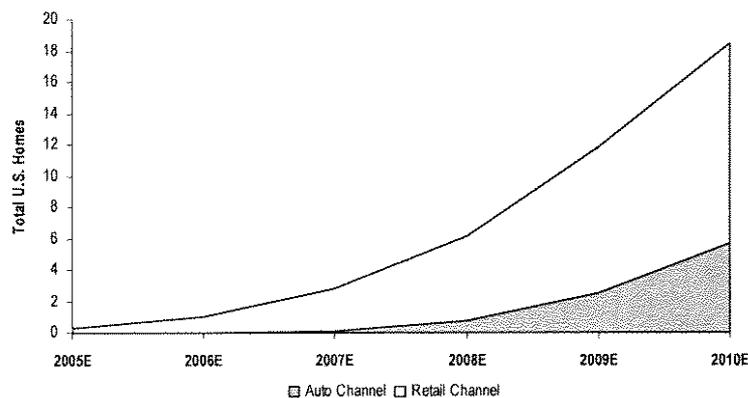
In addition to the automotive and retail distribution channels, there has also been some discussion about the possibility of wireless providers including HD radio in mobile phones. However, JPMorgan wireless analyst Tom Lee believes that no mobile phone providers, such as Verizon, T-mobile, and Cingular, have announced support. He also does not expect cell phones to emerge as a meaningful channel for HD radio given that service providers appear more interested in video, HD radio programming is still incipient, and carriers have historically been slow to adopt new technology.

The Adoption Curve: Putting All the Factors Together

Putting it all together, we estimate that by the end of 2005, about 300K homes will have purchased an HD radio capable receiver through either one of the automaker or retail channels. By 2008, when we expect automakers to officially start offering the technology, we project 2.8 million households will own a digital radio. This number is forecast to reach 13 million by 2010 as illustrated in Figure 10. **It is important to note that this is a best case scenario, as it assumes no overlap between the auto and retail channels for HD radio.**

Figure 10: HD Radio Homes Assuming No Overlap 2005-2012

Million Homes

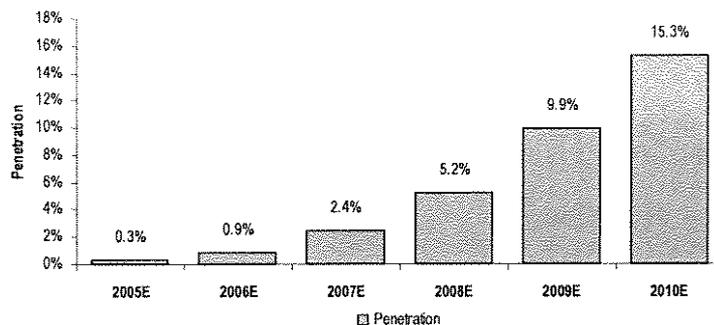


Source: JPMorgan estimates.

Our forecast implies that HD radio will penetrate 5.2% of U.S. homes by 2008 and reach close to 10% penetration around 2009 and 15.3% penetration by 2010 (see Figure 11).

Figure 11: Projected HD Radio Penetration of U.S. Homes Assuming no Overlap, 2005E-2010E

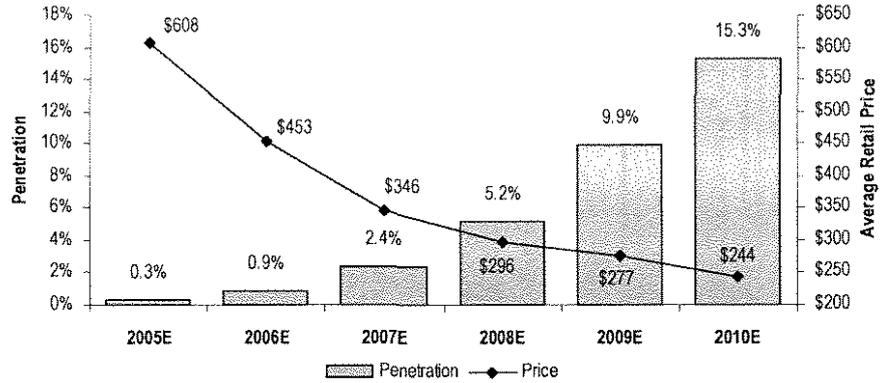
%



Source: JPMorgan estimates.

Assuming HD penetration in fact behaves this way relative to VCR and DVD adoption and given the evolution of the average hardware price for these two technologies, we can interpolate their prices to determine the pattern that HD Radio average receiver price will follow. On this basis, in order for HD receivers to achieve our penetration estimates, the price for HD Radio receivers will need to fall to under \$300 by 2008 and to around \$250 in 2012 (see Figure 12).

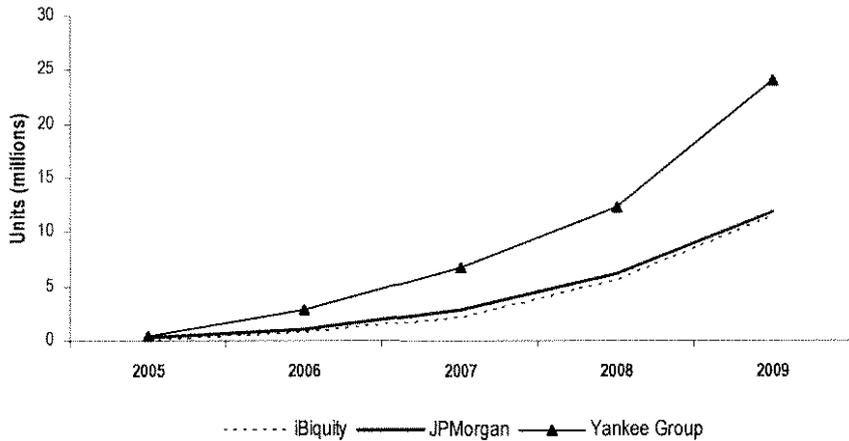
Figure 12: HD Radio Prices and Penetration



Source: JPMorgan estimates.

Relative to other market research, our penetration forecast for HD radio is in line with that of iBiquity, but well below the forecast put forth by the Yankee Group (see Figure 13). However, we note that relative to iBiquity's forecast, it is unclear whether its projection adjusts for overlap.

Figure 13: JPMorgan HD Radio Forecast vs. iBiquity and Yankee Group. 2005-2009



Source: iBiquity, Yankee Group, and JPMorgan estimates.

What's the Business Model for HD Radio?

We now turn our attention to the HD radio business model for terrestrial broadcasters to determine if HD radio is a wise investment for the industry.

The Business Model(s)

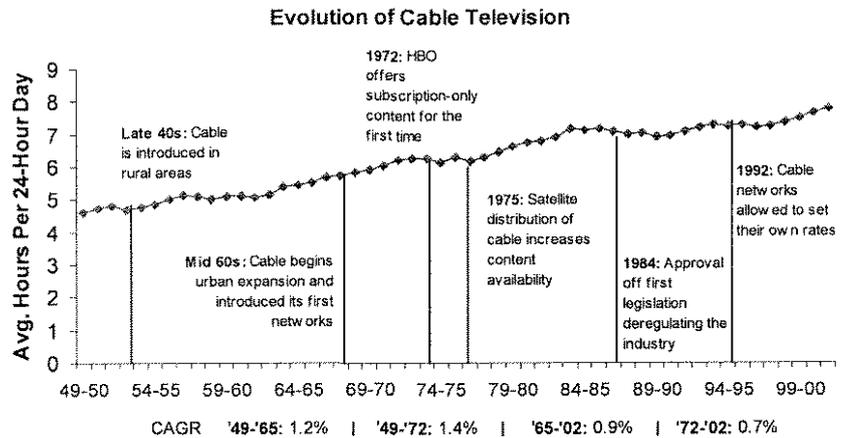
To date, the radio broadcasting industry has yet to determine a clear-cut business model for HD radio. However, most of the discussions on the business model have centered on two main strategies: ad-supported multi-casting and a commercial free subscription service.

Multi-Casting: Not Incremental But a Zero-Sum Game

More Stations Unlikely to Grow Listenership

In order to understand the potential advertising impact of launching more radio programming channels due to the advent of HD radio, we use the outgrowth of cable TV as a parallel. The 1980s witnessed the early stages of an explosion in TV channel capacity as cable technology combined with satellite uplink facilities to launch a host of new networks such as MTV, ESPN, and CNN (see Figure 14).

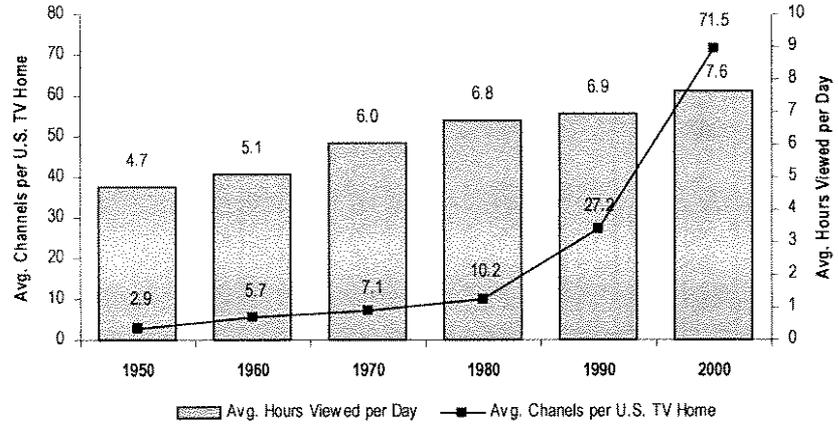
Figure 14: Evolution of Cable TV



Source: Company reports and JPMorgan estimates.

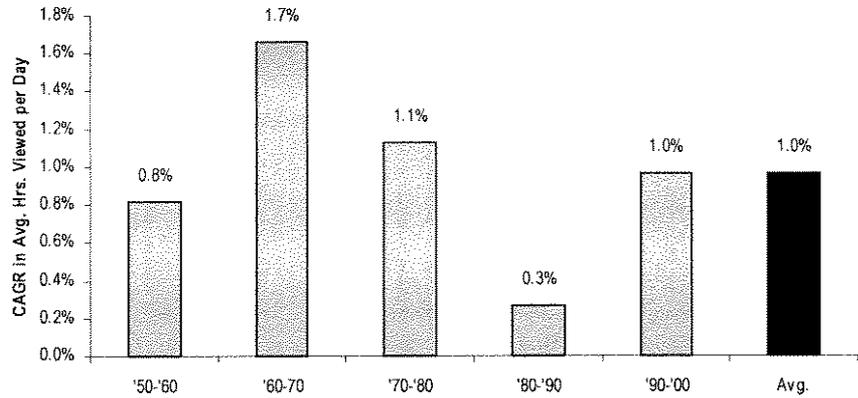
However, this growth in TV channels did not drive a commensurate or even material increase in TV usage. As detailed in Figures 15 and 16, as the average number of channels per home rose from about 3 in 1950 to over 70 by the year 2000, the average time spent per day with TV rose only modestly by about 1% per annum.

Figure 15: Avg. Channels per TV Home vs. Avg. Hours Viewed per Day, 1950-2000



Source: TV Dimensions.

Figure 16: CAGR in Avg. Hours of TV Viewed per Day, 1950-2000



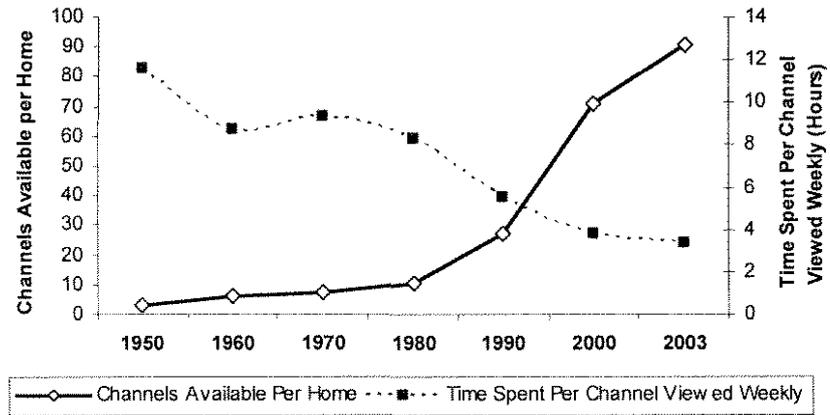
Source: TV Dimensions.

Consequently, we conclude that if time spent listening to radio behaves similarly, overall radio usage is unlikely to change. Therefore, we do not expect a material increase in total radio industry advertising revenues either.

Impact of Fragmentation: Fighting for Share

Instead, the outgrowth of channel capacity in television resulted in fragmentation of audiences. For instance, as shown in Figure 17, as the number of TV channels proliferated over the decades, the hours spent per channel viewed weekly has fallen from around 12 in 1950 to under 4 in 2003.

Figure 17: Channels Available per Home vs. Time Spent per Channel, 1950-2003



Source: TV Dimensions.

In terms of the revenue impact, with radio ad revenues unlikely to grow due to an increase in HD radio availability, this implies that it will be a market share game for radio broadcasters. Said another way, station operators adopting HD radio first should be able to capture a larger share of industry revenues as their HD radio channels cannibalize audience from other broadcasters.

Subscription Service: A Catch 22

As an alternative to ad-supported multi-casting, HD Radio technology opens the door to a subscription-based service to attract listeners who are willing to pay for commercial-free programming, directly competing with satellite radio. However, we think a subscription model will be limited by an inherent Catch 22.

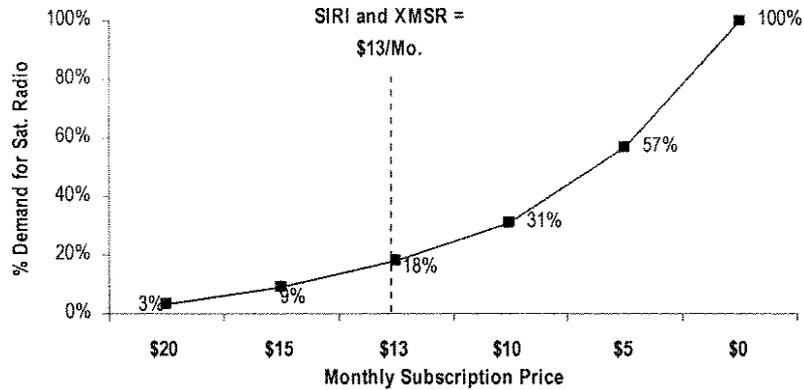
In order for radio broadcasters to successfully stave off competition from satellite radio operators and to take subscriber share, it will be necessary to offer a subscription service at a more attractive price point. However, radio operators also face the dilemma of cannibalizing its core free over the air audiences and ad revenues if its subscription service generates too much demand.

In order to analyze if this dilemma can be overcome, we analyze a scenario with four key assumptions:

1. Price elasticity for HD Radio is similar to that of satellite radio, which we derive from our proprietary survey of over 1,500 consumers⁵. To no surprise, our survey finds that demand for a subscription radio increases at lower prices (see Figure 18).

⁵ For more details on this survey, please refer to *Satellite Radio Survey 2005: Implications for Terrestrial Radio*, February 7, 2005.

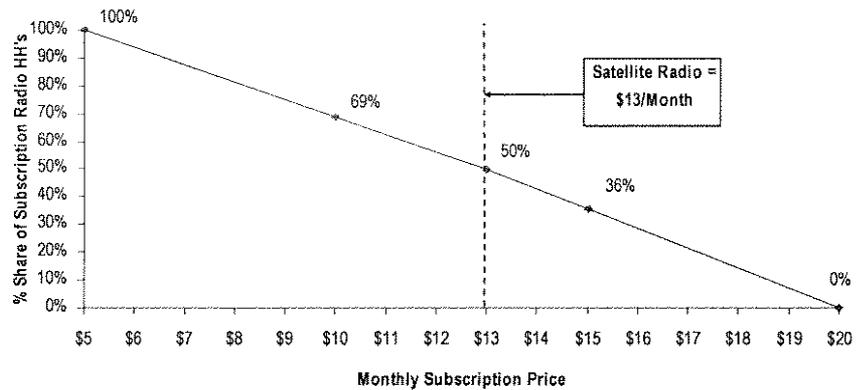
Figure 18: Price Elasticity for Satellite Radio



Source: JPMorgan Satellite Radio Survey, December 2004.

- The HD radio subscription product is comparable to satellite radio's offering. Therefore, listeners are indifferent between the two services at similar prices.
- At different price points, we assume that HD radio will capture no market share of the subscription radio market at \$20 per month and 100% share at \$5 per month. We estimate that at a comparable price HD radio and satellite radio split the market. For all other price points, we interpolate between these three data points.

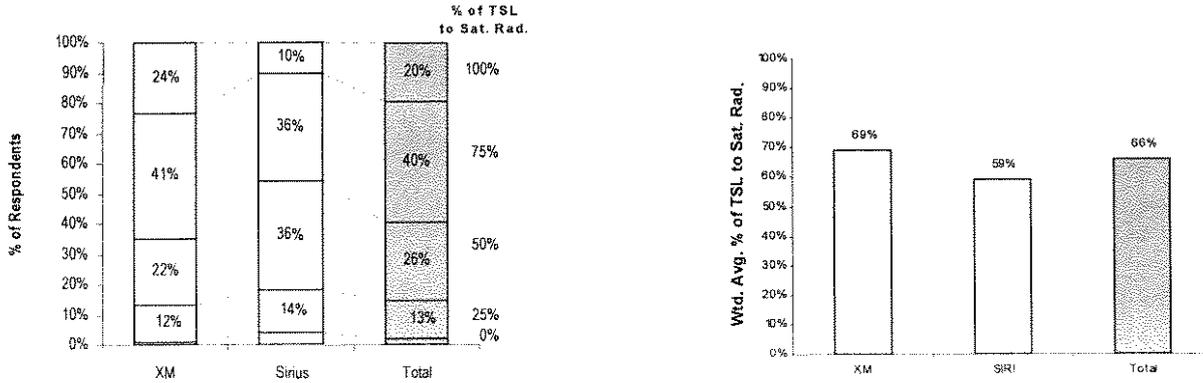
Figure 19: HD Radio Share of Subscription Radio Market at Varying Monthly Price Points



Source: JPMorgan Satellite Radio Survey, December 2004.

- To determine the cannibalization of free over the air radio, we assume subscribers spend two thirds of their time tuning into subscription radio and one third on free radio (for local content). These figures are also based on our satellite radio survey (see Figure 20).

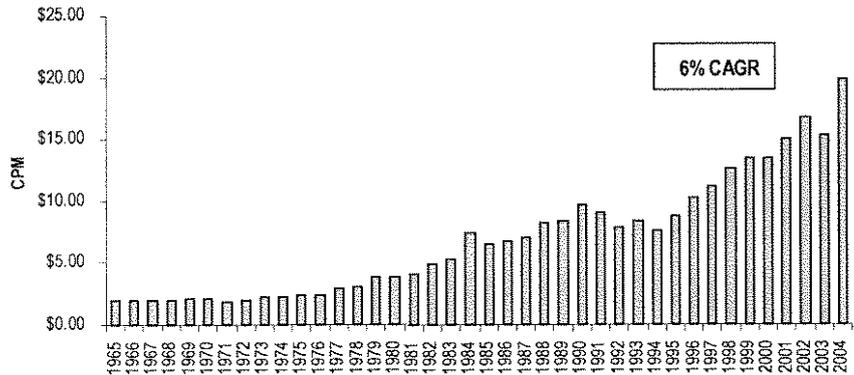
Figure 20: Percent of Time Spent Listening to Satellite Radio



Source: JPMorgan Satellite Radio Survey, December 2004.

- In addition, we assume that radio broadcasters continue to have CPM pricing power that allows them to increase their CPM by 5% even as audiences decline, as there is no perfect substitute for radio inventory. This is similar to the rate of increase for broadcast TV CPMs which have similar supply demand characteristics (see Figure 21).

Figure 21: Broadcast Network CPMs (Primetime, Mon.-Sun.), 1960-2004



Source: TVB.

Using these assumptions, we can forecast the subscription revenue generated from HD radio, as well as the cannibalized advertising revenues. We have also layered in incremental Capex and HD radio operating costs, which include customer care and billing and customer retention costs. We have also added back the variable costs such as bad debt and sales commissions that would be saved if radio advertising dollars decrease.

Across all of these variables and scenarios, we find that the radio industry would experience a net negative cash flow impact from rolling out a subscription HD radio service. As shown in Table 9, the net cash flow impact is most severe at the lower subscription prices because a greater amount of radio advertising would be cannibalized, which would not be offset enough by subscription revenue.

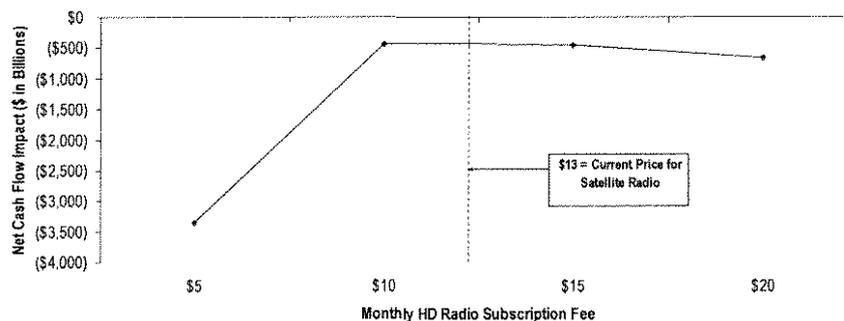
Table 9: Price and Cash Flow Sensitivity Analysis

	Monthly Subscription Fee for HD Radio			
	\$5	\$10	\$15	\$20
Households (HH's)	115	115	115	115
x % Penetration of Subscription Radio	57.0%	31.0%	9.0%	3.0%
= Total Subscription HH's	65.6	35.7	10.4	3.5
x HD Radio Share (%)	100%	68.8%	35.7%	0.0%
= HD Radio Subscribers	65.6	24.5	3.7	0.0
x Monthly Subscription Price	\$5	\$10	\$15	\$20
x 12 Months	12	12	12	12
= Subscription Revenue	\$3,933	\$2,941	\$665	\$-
Radio Advertising / HH	\$20,714 / 115	\$20,714 / 115	\$20,714 / 115	\$20,714 / 115
= Radio Advertising/HH	\$180	\$180	\$180	\$180
x HD Radio Subs	65.6	24.5	3.7	0.0
= Lost Radio Advertising (1-1)	\$11,807	\$4,415	\$666	\$-
x % of Time Listening to Subscr. Radio	67%	67%	67%	67%
x (1-5% CPM Growth)	95%	95%	95%	95%
= Net Lost Radio Advertising	\$7,515	\$2,810	\$424	\$-
Subscription Revenue	\$3,933	\$2,941	\$665	\$-
- Net Lost Radio Advertising	\$7,515	\$2,810	\$424	\$-
= Net Top Line Impact	\$(3,582)	\$131	\$242	\$-
- HD Cash Costs	\$721	\$512	\$121	\$7
memo: Customer Care & Billing	\$131	\$71	\$21	\$7
memo: Customer Retention & Support	\$590	\$441	\$100	\$-
+ Radio Broadcasting Variable Costs	\$1,616	\$604	\$91	\$-
= EBITDA Impact	\$(2,687)	\$223	\$212	\$(7)
CAPEX per Station	\$0.085	\$0.085	\$0.085	\$0.085
x 50% of Stations Converted	7,742	7,742	7,742	7,742
= Total HD CAPEX	\$658	\$658	\$658	\$658
EBITDA Impact	\$(2,687)	\$223	\$212	\$(7)
- Total HD CAPEX	\$658	\$658	\$658	\$658
= Net Cash Flow Impact	\$(3,345)	\$(435)	\$(446)	\$(665)

Source: JPMorgan estimates.

Cannibalization, coupled with high capital expenditure needs and steep customer care costs, prevents HD radio from generating positive cash flow regardless of the monthly subscription fee charged (see Figure 22). This means that a subscription based HD radio business model is unlikely to create incremental value for the radio broadcasting industry.

Figure 22: Radio Net Cash Flow Impact at Different Monthly Subscription Fees



Source: JPMorgan estimates.

“Show Me the Money”: IRR Analysis

As illustrated by the above analyses, it does not appear that HD radio will generate incremental revenue and cash flow for the radio industry. This would imply that the CAPEX related to HD radio will not generate a positive return.

However, some may argue that there are defensive benefits from rolling out HD radio. In other words, improving the audio quality and channel offering of radio may help to stem the industry audience declines which currently stand around 1% per year on an AQH persons basis. As shown in Table 10, we currently estimate about 3.5% sustainable revenue growth for the sector assuming about 1.5% annual audience erosion, 5% CPM growth and no change in commercial loads.

Table 10: JPM Base Case Radio Revenue Growth, 2005E-2010E

Base Case Growth	2005E	2006E	2007E	2008E	2009E	2010E
AQH	(1.4)%	(1.4)%	(1.6)%	(1.5)%	(1.6)%	(1.5)%
x CPM	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
x No. of Spots	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
= Base Case Revenue Growth	3.5%	3.5%	3.3%	3.5%	3.4%	3.4%

Source: Company reports and JPMorgan estimates.

To quantify the “defensive benefit,” we assume that radio audiences remain flat over time rather than decline. Adjusting for the rate of HD radio station upgrades and assuming that the top stations are upgraded first would imply that radio industry advertising revenues would rise at a 4.4% compound annual rate through 2010 rather than at a 3.4% rate.

Assuming a 40% margin on this new revenue stream and also HD radio CAPEX, we estimate that the HD radio initiative would be net cash flow negative until 2009. On an IRR basis, we calculate a 5.4% rate of return vs. the industry’s 8% weighted average cost of capital (see Table 11).

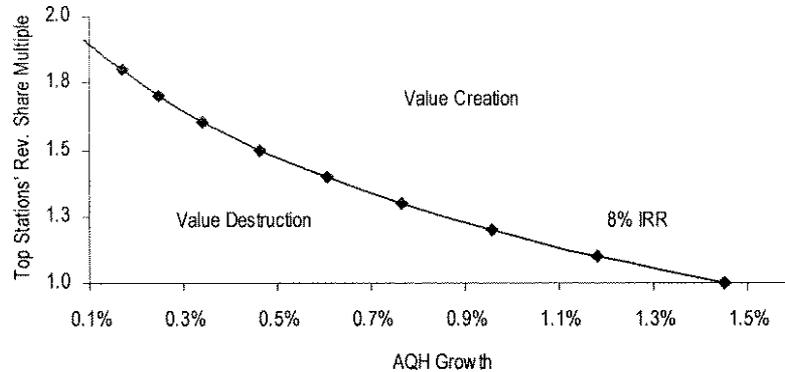
Table 11: HD Radio IRR Analysis, 2005E-2010E

	2005E	2006E	2007E	2008E	2009E	2010E	CAGR
Radio Ad Revenue with HD Radio	\$20,713.6	\$21,467.5	\$22,307.2	\$23,262.5	\$24,425.6	\$25,646.9	4.4%
memo: <i>YY % Change</i>	---	3.6%	3.9%	4.3%	5.0%	5.0%	
- Radio Ad Revenue without HD Radio	\$20,713.6	\$21,446.7	\$22,158.7	\$22,924.5	\$23,696.0	\$24,501.7	3.4%
memo: <i>YY % Change</i>	---	3.5%	3.3%	3.5%	3.4%	3.4%	
= Incremental Revenue	\$0.0	\$20.8	\$148.5	\$338.0	\$729.6	\$1,145.2	NM
x EBITDA Margin	40%	40%	40%	40%	40%	40%	
= Incremental EBITDA	\$0.0	\$8.3	\$59.4	\$135.2	\$291.8	\$458.1	NM
- HD Radio CAPEX	\$46.4	\$99.2	\$197.3	\$305.8	\$117.9	\$117.9	
= Net Incremental Cash Flow	(\$46.4)	(\$90.9)	(\$137.9)	(\$170.6)	\$173.9	\$340.2	NM
I.R.R.	5.4%						

Source: Company reports and JPMorgan estimates.

We note that this analysis is highly sensitive to our assumption on how much of the industry's revenues the upgraded stations account for. In the above analysis, we assume that the revenue share of the stations converted to HD represent twice the percentage of total stations. The higher this multiple is, the lower the AQH growth required to achieve an IRR equivalent to the sector’s WACC. Figure 23 illustrates the different combinations of this revenue share multiple and AQH growth rates that would lead to an 8% IRR, at which point value would be neither destroyed nor created.

Figure 23: Top Stations' Revenue Share Multiple vs. AQH Growth Rate at 8% I.R.R.



Source: JPMorgan estimates.

HD Radio vs. Satellite Radio

In this portion of the report, we compare satellite radio with HD radio to determine which product will be more compelling to consumers.

To compare satellite radio and HD radio, we look at eight key variables, including (1) Time to Market, (2) Automaker Support, (3) Hardware Price, (4) Addressable Market, (5) Localism, (6) Content, (7) Commercial Loads, and (8) Audio Quality.

Time to Market

Satellite radio has been commercially available in the U.S. since 2001. On the other hand, HD radio is just now being deployed domestically. As a result, there is limited HD radio content with only about 2.3% of radio stations currently broadcasting HD radio programming. Consequently, satellite radio has a clear cut lead in the important time to market criteria.

Automaker Support

To date, no major car company has announced support for HD radio. However, XM and Sirius have inked exclusive deals at the factory level with most major automakers, providing satellite radio with a key advantage in rolling out its technology.

Figure 24: Automaker Support, 2005

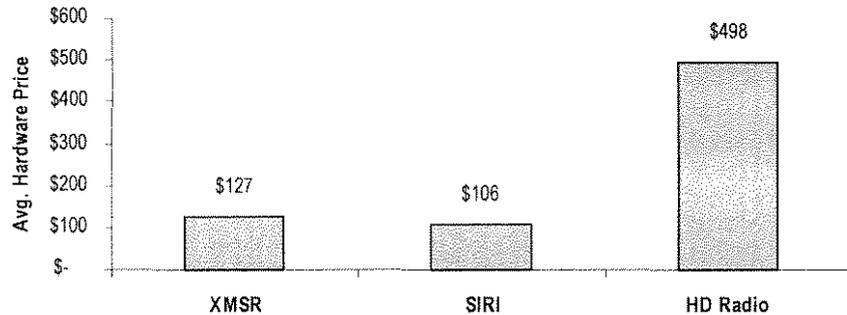
Automaker	XMSR	SIRI
GM	X	
Toyota	X	
Honda	X	
Nissan	X	
Hyundai	X	
Ford		X
Chrysler		X
BMW		X

Source: Company reports.

Hardware Price

As discussed earlier, consumer adoption of new technology devices is highly correlated with hardware price. Because of its earlier time to market, satellite radio receivers sell at retail for between \$100 and \$130. This is well below the current \$500 retail price of HD radio receivers, implying that uptake for satellite radio should be faster until HD radio hardware costs come down.

Figure 25: Average Hardware Price, 2005E

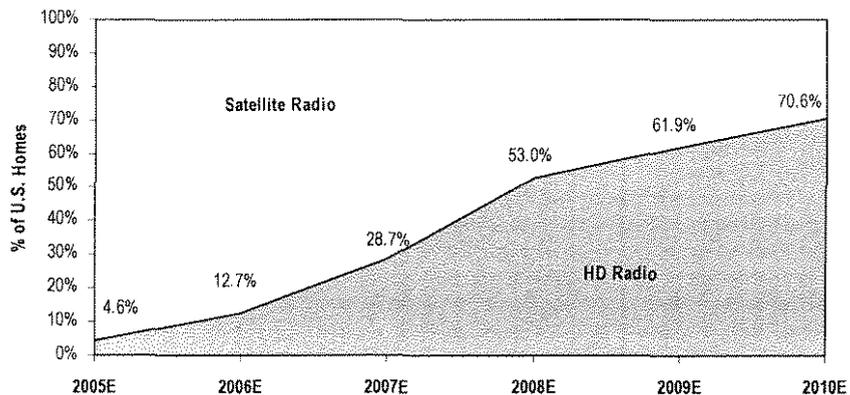


Source: Company reports, Crutchfield, and JPMorgan estimates.

Addressable Market

Satellite radio is a national platform and is available to all households in the U.S. In theory, HD radio has the same addressable market as nearly 100% of the country also has access to terrestrial radio. However, over the intermediate term, HD radio will be limited by how quickly stations are upgraded. Even by 2010, we see about 70% of radio stations converted to HD, which is still below satellite radio's coverage today.

Figure 26: Addressable Market, 2005E-2010E



Source: Company reports and JPMorgan estimates.

Localism

In our view, the one inherent advantage HD radio will have over satellite radio is localism. With stations in local market, terrestrial radio broadcasters have clear ties to local communities and are uniquely positioned to differentiate its product with local content such as traffic, weather, and news. However, we note that satellite radio

is addressing this deficiency by rolling out new channels with local weather and traffic in the top 20 markets.

Content

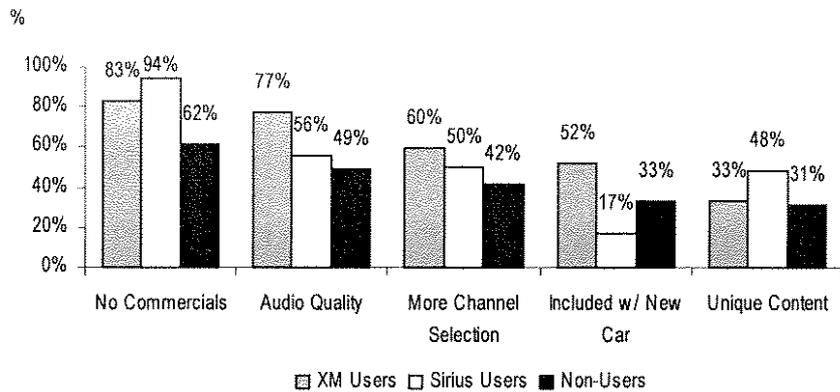
Outside of local content, satellite radio has spent large sums of money recently for unique programming such as Howard Stern and Opie and Anthony, and national rights for sports such as MLB, NFL, and NASCAR. Although the jury is still out on the rate of return satellite radio will generate on this spending⁶, satellite radio will have content such as Howard Stern unavailable to local radio. We view sports as a net neutral between satellite radio and HD radio, assuming that terrestrial radio continues to pay for local rights to the games.

Another key consideration on the content front is indecency and regulation by the FCC. Currently, terrestrial radio programming is regulated by the FCC, which does not allow “indecent” programming. However, satellite radio, as a pay service, is not subject to the same regulations and has more latitude in airing “indecent” content.

Commercial Loads

We think commercial loads are another key consideration. Our satellite radio survey has found that no commercials is the No. 1 reason why consumers either have or want satellite radio.

Figure 27: Drivers of Demand for Satellite Radio Adoption



Source: JPMorgan Satellite Radio Survey, Dec. 2004.

While satellite radio is beginning to air some commercials on its news and talk channels, its music channels remain commercial free. Even on its news and talk programs, we estimate that commercial time per hour is limited to only a few minutes versus around 15 minutes for terrestrial radio. We do not think that terrestrial radio can afford to make HD radio commercial free as this would likely cannibalize its existing advertising revenue base.

⁶ Our satellite radio survey indicates that unique programming is unlikely to grow the subscription radio market but will most likely just shift share among the players.

Audio Quality

With respect to audio quality, both HD radio and satellite radio offer digital quality audio. As a result, we do not believe either product offers a discernible advantage on this front.

Net-net, as summarized in Figure 28, we believe that satellite offering will offer a more compelling product than HD radio.

Figure 28: Comparison of Satellite Radio and HD Radio

Criteria	Satellite Radio	HD Radio
Time to Market	Available since 2001	Roll-out beginning in 2005
Automaker Support	Support from all major car companies	No deals announced with car companies yet
Hardware Price	Time to market lead results in lower cost	Higher cost due to later time to market
Addressable Market	National coverage	Regional and dependent on pace of HD upgrades
Content	Howard Stern, NFL, MLB, NASCAR, unregulated	Music, sports, talk, news, etc. but regulated by FCC
Commercials	No commercials on music channels	Likely to be advertising supported
Localism	Adding local weather and traffic	HD radio has an inherent advantage
Audio Quality	Digital quality	Digital Quality

Source: JPMorgan.

Will HD Radio Save the Day?

Implications for Terrestrial Radio

Based on our research, we conclude that HD radio is unlikely to be the savior for terrestrial radio's growth woes. Our conclusion is based on the following five reasons:

1. HD programming availability likely will not reach critical mass until 2008, as it will take time for stations to upgrade to HD
2. Therefore, car maker support is unlikely to begin before a critical mass of HD radio programming is available.
3. Similarly, consumer adoption of HD radio at retail will likely be limited in the near term due to high hardware costs.
4. The HD radio business model for broadcasters is unlikely to generate incremental revenues for the industry. Coupled with the related CAPEX to upgrade stations to HD, we see a low IRR.
5. Satellite radio will continue to have an advantage over HD radio in terms of time to market, automaker support, cost, addressable market size, content, and a lack of commercials.

Consequently, we maintain our cautious secular view on terrestrial radio and see no reason to alter our fundamental outlook on the group. As we have written in the past, with U.S. radio broadcasting equities still trading at 12x 2005E EV/EBITDA multiples, we see further multiple compression risk to 11x. In addition, with numerous stations potentially available for sale (Viacom, Susquehanna, and Disney are possible sellers), we see M&A risk for most mid cap radio operators. Our work suggests that M&A depresses ROIC and offers no margin benefits⁷.

Implications for Satellite Radio

We do not believe that terrestrial HD radio will have a meaningfully negative impact on satellite radio. Based on current momentum at retail and automakers, we believe that satellite radio will be used by some 9% of the adult population by 2008, moving towards an estimated 13% by 2010. So satellite radio should be well-entrenched before terrestrial HD radio is even a meaningful alternative for most consumers.

Furthermore, even if terrestrial HD radio becomes a viable alternative, we believe that it will be less compelling for consumers than satellite radio for several reasons including

1. A likely continued reliance on commercial supported music, even when using the HD format. We believe that will be less compelling than the commercial-free alternative at satellite radio

⁷ Please refer to our May 3, 2005, industry report, *Radio Broadcasting: State of the Union 2005* for more details.

2. More limited music format selection on terrestrial radio than on satellite radio
3. Full national signal coverage with satellite radio, versus less than full coverage for HD radio, especially outside of major metro areas
4. Satellite radio's time-to-market lead should allow it to retain an edge in cost and functionality for new digital radios, including integration of music downloading and cell phone handset support.

We remain optimistic on the satellite radio industry, given the 18% market penetration opportunity suggested by our proprietary JPMorgan survey. We prefer Overweight-rated XM Satellite over Neutral-rated Sirius due to XM's (1) subscriber lead (68% of the estimated 2005 market versus 32% at Sirius), (2) stronger automaker relationships, with exclusives covering, we estimate, 56% of U.S. car production versus 36% at Sirius, (3) greater earnings leverage from incremental subscribers due, in part, to lower subscriber acquisition costs, and (4) valuation.

Table 12: Radio EV/EBITDA Trading Multiples, 2005E-2006E

\$ in millions

	CCU		CDL		CMLS		CXR		ETM		ROIA	
	2005E	2006E	2005E	2006E	2005E	2006E	2005E	2006E	2005E	2006E	2005E	2006E
Stock Price	\$30.52	\$30.52	\$12.09	\$12.09	\$12.62	\$12.62	\$16.57	\$16.57	\$34.38	\$34.38	\$13.59	\$13.59
x Shares Outstanding	552.1	522.6	136.9	127.1	70.3	69.4	100.9	101.5	46.9	44.8	106.5	108.7
= Equity Market Cap	\$16,851	\$15,948	\$1,656	\$1,537	\$887	\$876	\$1,673	\$1,681	\$1,612	\$1,539	\$1,448	\$1,477
+ Net Debt	\$8,164	\$8,306	\$603	\$601	\$499	\$441	\$371	\$260	\$528	\$399	\$858	\$749
+ Preferred Stock	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
= Adj. Enterprise Value	\$25,015	\$24,255	\$2,258	\$2,138	\$1,387	\$1,317	\$2,044	\$1,941	\$2,140	\$1,938	\$2,305	\$2,226
- Off Balance Sheet Assets	\$(456)	\$(478)	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$(74)	\$(74)
= Enterprise Value	\$24,559	\$23,776	\$2,258	\$2,138	\$1,387	\$1,317	\$2,044	\$1,941	\$2,140	\$1,938	\$2,231	\$2,152
/ Calendar Year EBITDA	\$2,235	\$2,347	\$175	\$181	\$107	\$114	\$168	\$176	\$171	\$178	\$175	\$189
= EV/EBITDA Multiple	11.0x	10.1x	12.9x	11.8x	12.9x	11.6x	12.2x	11.0x	12.5x	10.9x	12.8x	11.4x

Source: Company reports, JPMorgan estimates, and Reuters. Note: Stock prices as of 6/12/05.

Table 13: Radio FCF Yields, 2005E-2006E

\$ in millions

	CCU		CDL		CMLS		CXR		ETM		ROIA	
	2005E	2006E										
Net Income	\$718	\$751	\$80	\$83	\$38	\$42	\$73	\$90	\$78	\$83	\$59	\$69
+ D&A	\$680	\$710	\$21	\$25	\$21	\$22	\$12	\$13	\$17	\$18	\$18	\$17
+ Deferred Income Taxes	\$280	\$280	\$0	\$0	\$24	\$26	\$20	\$20	\$0	\$0	\$41	\$47
+ Other Non-Cash Charges	(16.27)	(17.60)	\$58	\$57	\$4	\$4	\$0	-	\$42	\$43	\$8	\$8
+ Changes in Working Cap	(\$5)	(\$44)	\$0	\$0	(\$2)	(\$2)	\$0	\$0	\$0	\$0	(\$3)	(\$1)
= Cash Flow from Operating Activities	\$1,657	\$1,679	\$159	\$165	\$85	\$92	\$106	\$123	\$137	\$144	\$123	\$140
- CAPEX	\$417	\$430	\$10	\$11	\$8	\$8	\$12	\$12	\$12	\$13	\$14	\$14
- Preferred Dividend	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3	\$0
= Levered Free Cash Flow (LFCF)	\$1,240	\$1,248	\$149	\$154	\$77	\$84	\$94	\$111	\$125	\$131	\$106	\$125
/ EBITDA	\$2,235	\$2,347	\$175	\$181	\$105	\$111	\$168	\$176	\$171	\$178	\$198	\$213
= LFCF/EBITDA Conversion (%)	55.5%	53.2%	85.2%	85.1%	73.6%	75.7%	56.0%	62.8%	73.5%	73.9%	53.7%	58.9%
Levered Free Cash Flow (LFCF)	\$1,240	\$1,248	\$149	\$154	\$77	\$84	\$94	\$111	\$125	\$131	\$106	\$125
/ Shares Outstanding	552	523	137	127	69	68	101	101	47	45	107	109
= Free Cash Flow per Share	\$2.25	\$2.39	\$1.09	\$1.21	\$1.11	\$1.23	\$0.93	\$1.09	\$2.67	\$2.93	\$1.00	\$1.15
/ Stock Price	\$30.52	\$30.52	\$12.09	\$12.09	\$12.62	\$12.62	\$16.57	\$16.57	\$34.38	\$34.38	\$13.59	\$13.59
= FCF Yield	7.4%	7.8%	9.0%	10.0%	8.8%	9.7%	5.6%	6.6%	7.8%	8.5%	7.3%	8.5%
Stock Price	\$30.52	\$30.52	\$12.09	\$12.09	\$12.62	\$12.62	\$16.57	\$16.57	\$34.38	\$34.38	\$13.59	\$13.59
/ Free Cash Flow per Share	\$2.25	\$2.39	\$1.09	\$1.21	\$1.11	\$1.23	\$0.93	\$1.09	\$2.67	\$2.93	\$1.00	\$1.15
= P/FCF Multiple	13.6x	12.8x	11.1x	10.0x	11.3x	10.3x	17.8x	15.2x	12.9x	11.7x	13.6x	11.8x

Source: Company reports, JPMorgan estimates, and Reuters. Note: Stock prices as of 6/12/05.

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North America Equity Research
16 June 2005



Companies Recommended in This Report

Citadel Broadcasting Company (CDL/\$12.00/Neutral), Clear Channel Communications (CCU/\$30.60/Overweight), Cox Radio Inc. (CXR/\$16.60/Neutral), Cumulus Media Inc (CMLS/\$12.75/Underweight), Entercom Communications (ETM/\$34.47/Neutral), Radio One Inc (ROIA/\$13.25/Overweight), Sirius Satellite Radio (SIRI/\$5.91/Neutral), XM Satellite Holdings Inc (XMSR/\$32.98/Overweight)

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