



Internet **Home** Alliance

Internet Home Alliance
Digital Entertainment Needs Assessment
Full Report

August 22, 2005

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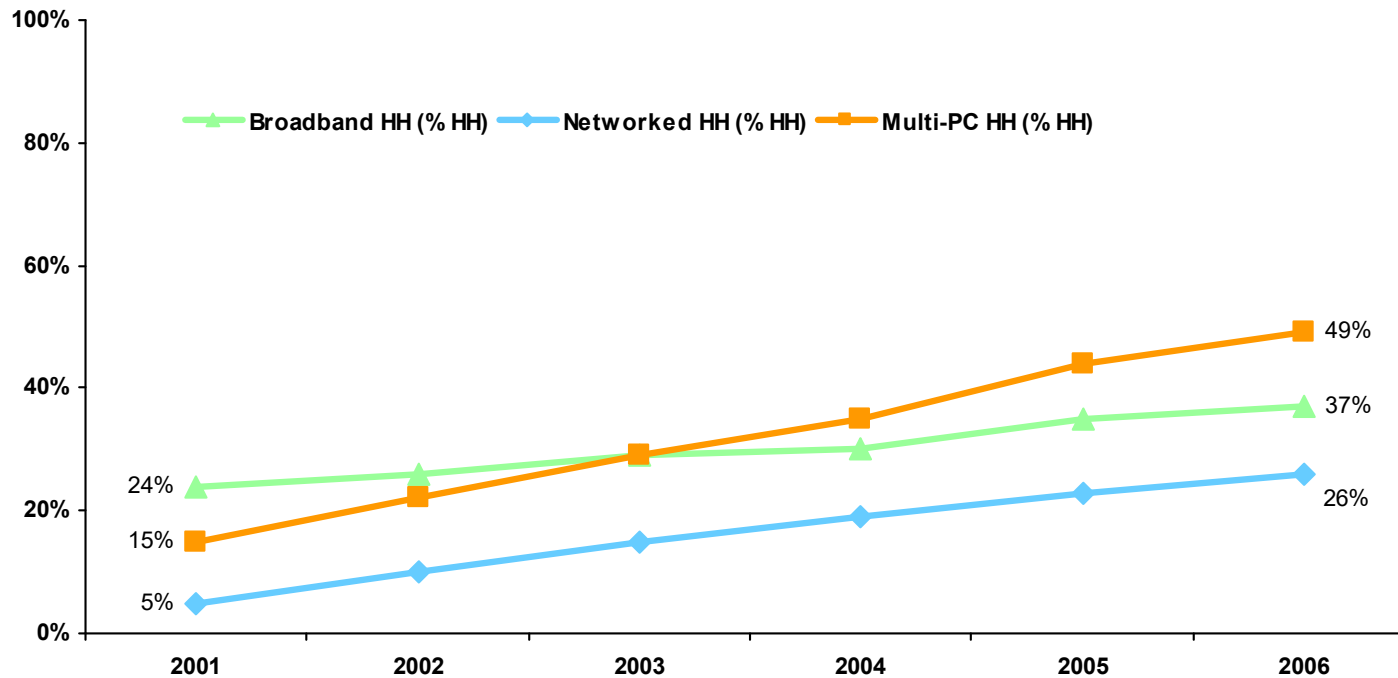
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Background & Methodology

This year marks the first time since the Alliance's inception that the connected home (or at least its foundational elements) has achieved mass market status. Many industry analysts define mass market products as those with a market penetration of 16%. As of the beginning of 2005, more than 16% of U.S. households had a broadband connection, multiple PCs and a home network (see chart below). To the extent that these three components comprise the 'heart' of the connected home, the concept has reached an important milestone. Now, it seems industry players should focus on how to best capitalize on this burgeoning digital infrastructure. This study was designed primarily to help companies do just that.



Source: The Diffusion Group (2004)

Background & Methodology

The entertainment ecosystem represents the area where the interests of primary and mass market consumers most often coincide. (The term 'primary market consumers' is the Internet Home Alliance equivalent of 'early adopters' of new home technology, while the term 'mass market consumers' refers to members of the 'early/late majority' or 'laggards.')

It is in this ecosystem where market entrants are likely to encounter the greatest short-term successes. According to the Alliance-sponsored State of the Connected Home Market research conducted in 2003, about one-in-three consumers has a strong interest in media entertainment. Interestingly, primary market consumers are significantly more likely than their mass market counterparts to have a strong interest in all forms of media entertainment, indicating that an interest in media entertainment is a prime driver, or at least, highly correlated with early adopter behavior.

The main purpose of this proposed project was to assess consumers' digital entertainment (DE) needs at home and in their automobiles, with particular attention paid to potential crossover between the two domains. More specifically, this study built on previous research on this topic to accomplish the following:

- Inventory consumers' current ownership of digital entertainment devices and level of engagement in a wide range of DE-related activities;
- Assess consumers' interest in digital audio and video in various forms;
- Identify desirable DE functionality;
- Evaluate the appeal and likely market penetration of select new DE products in order to determine likely migration paths;
- Gauge the appeal of and total addressable market for potential DE scenarios that could constitute the basis of a future project or pilot; and
- Profile specific DE consumer segments on the basis of current product ownership, wants/needs and other discriminating characteristics.

Background & Methodology

To best address the objectives of this study, we conducted a broad-based Web survey among target consumers (defined later). The survey consisted of two distinct tracks: 1) a home track and 2) an automotive track. The two tracks involved largely the same consumer segments and there were some questions aimed at understanding the crossover potential—whether consumers who responded positively to concepts introduced in one track would likely respond similarly to those in the other.

Due to the range of topics the project sponsors desired to address and their interest in distinct consumer segments, the target sample size for this project was a sizeable 1,000 split evenly between the two concept tracks. In fielding the survey, we collected 1,016 surveys. Even with this sample size, the sheer number and variety of DE device functionality and use cases meant that not all respondents were exposed to all concepts. The table below shows the actual number of surveys fielded for each segment (or sub-segment). Please note that the definitions for audio and video enthusiasts were created *post hoc* using standard segmentation techniques and are not mutually exclusive.

Concept Track	Main/Sub-segment	Total Weighted Base Size	Margin of Error (at 95% CL)
Home	Main: Primary Mass Market Consumers	274	+/- 6.0%
	Main: Mass Market Consumers	267	+/- 6.0%
	Main: Teens (aged 13-18)	140	+/- 8.3%
	Sub: Digital Audio Enthusiasts	19	n/a
	Sub: Digital Video Enthusiasts	6	n/a
Automotive	Main: Primary Mass Market Consumers	235	+/- 6.4%
	Main: Mass Market Consumers	240	+/- 6.3%
	Main: Teens (aged 13-18)	102	+/- 9.7%
	Sub: New Car Intenders	210	+/- 6.8%
	Sub: Digital Audio Enthusiasts	57	+/- 13.0%
	Sub: Digital Video Enthusiasts	22	n/a

Background & Methodology

The inclusion of primary and mass market consumers allowed us to compare the results from this project to those from other, previous projects. These segments stem from the Alliance's consumer segmentation scheme, developed by Zanthus in 2000. This segmentation scheme is based primarily on consumers' interest in the concept of the connected home. In the classical view of consumer technology adoption, the market for any given product can be expressed as a normal distribution or 'bell-shaped' curve, where the curve represents the frequency of consumers adopting the product over time. Everett Rogers, the first to popularize this theory, contends that the adoption curve is normally distributed because of a learning effect due to personal interaction within social systems. As the number of adopters within the system increases, so does the level of interpersonal influence on non-adopters.

In addition to primary and mass market consumers, we also surveyed a third main consumer segment of interest—teens aged 13 to 18-years-old. This recommendation is based on a host of recent studies that show teens have an increasing amount of influence on DE purchases for the household. For instance, according to a December 2004 study sponsored by the Consumer Electronics Association (CEA), teens have considerable influence when it comes to household DE purchases. More than 60% of the 1,000 teens in the survey strongly encouraged the purchase of a TV for their household and 47% strongly encouraged the purchase of a DVD player. This and other research indicates teens are a critically important market for DE product manufacturers and retailers.

The final sub-segment included in this study is new car intenders. We included this group in order to gauge (albeit at a fairly rudimentary level) the extent to which consumers in the market for a new vehicle find the automobile options under test more or less appealing than others. While the relatively small sample size precludes reaching definitive conclusions about this segment's interests, it does constitute a large enough sample to allow for statistical testing against other segments of interest.

A sample size of 1,016 generates results with a margin of error of +/- 3.1% at the 95% confidence level in the most conservative case. This means the results will come within plus or minus 3.1% of the results that would have been obtained given a census of all qualified individuals. At this sample size, the results for each concept track (n=500) have a margin of error of +/- 4.4% at the same level of confidence. The results regarding other sub-groups have lower associated margins of error and exceedingly small sample sizes have been noted in this report as appropriate.

Executive Summary

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Executive Summary

As established in previous Alliance research projects, it's clear from this study that concepts for the entertainment ecosystem offer the greatest immediate mass market success. While some concepts pertaining to the family and career ecosystems may generate substantial addressable markets, typically, the estimated rate of adoption is considerably slower for these concepts than for many entertainment ecosystem concepts. That's due largely to the fact that concepts in these ecosystems follow a standard pattern of adoption, starting with a clear and distinct base of innovators/early adopters and proceeding to members of the early majority and other consumer segments through a gradual diffusion process. This and other Alliance studies suggest that the proliferation of digital entertainment (DE) products over the last five years or so has fundamentally changed the conditions under which entertainment ecosystem concepts diffuse through the population. The diffusion of these products, as evinced by the rapid adoption of DVD players, has increased in both reach and speed, complicating the definition of an early adopter in this space.

Still, the Alliance's segmentation scheme has withstood the test of time—even in the entertainment ecosystem. Our results show that while there are individual cases where primary and mass market consumers are indistinguishable in terms of their level of interest in or demand for DE products, on the whole, primary market consumers exhibit a broader pattern of adoption. There's still no getting around the need for companies to first appeal to early adopters (or, primary market consumers in Alliance parlance) and then, mass market consumers, even in the case of DE products. The dynamics in this space just mean that successful products—those that generate a strong primary market following—are likely to diffuse much faster and reach far more consumers than products in the family and career ecosystems (owing, in part, to the relative immaturity of the former and the limited appeal of the latter, given that its base is largely confined to so-called 'knowledge workers'). The infrastructure largely exists for rapid and significant advances in DE technology and there's an apparently insatiable demand for new forms of media entertainment.

Executive Summary (cont'd)

As in previous entertainment-focused studies, video entertainment concepts tended to perform best in the home environment, while audio concepts performed strongly in the context of home and better than video everywhere else—namely, in the car and on-the-go. This pattern fits consumers' current routines. They tend to focus on video entertainment (and other 'lean back' leisure activities) at home and audio entertainment elsewhere. This phenomenon is due, in part, to the fact that audio entertainment is inherently more versatile than video entertainment. Compared to video entertainment, audio entertainment is more portable, can be enjoyed in more situations (if only as 'background music'), and better allows for multi-tasking. That said, consumer interest in audio at home shouldn't be understated. About 55% of online households have a strong interest in audio entertainment at home compared to 70% for video entertainment at home. That's a phenomenal number.

The following summarizes the key findings from this study, ranging from product ownership to online consumers' reactions to various DE concepts.

Technology Ownership

- **Many U.S. households have two or more computers—typically desktops—but no home network.** About 67% of U.S. households have at least one working home computer and 44% have two or more. And about 14% of U.S. households and 20% of online households have a home network.
- **As evidenced by the popularity of portable MP3 players, digital music has achieved 'mass market' status.** We estimate that about 16% of U.S. households have a portable MP3 player, with iPod the most popular model (running at about 30% of all models).
- **The importance U.S. consumers place on video entertainment is evident from the fact that most U.S. households have three or more TVs and about 74% have a DVD player.** Perhaps the most surprising finding concerns the estimated 16% penetration of DVRs among U.S. households. A July 2004 *Jack Meyers Report* estimated DVR penetration at about 11%--a figure in line with our estimate.

Executive Summary (cont'd)

Technology Ownership (cont'd)

- **The percentage of U.S. households with a digital TV and/or home theater system continues to grow.** About 13% of U.S. households generally and 18% of online households have a digital TV of some kind.
- **About two-in-five U.S. households and most online U.S. households have a current video game system** (40% and 59%, respectively), with Sony's Playstation 2 the clear leader in the home console market and Nintendo's GameBoy Advance SP the number one choice in the handheld market.
- **Most U.S. households with automobiles have outfitted one or more cars with non-traditional media technology—something more than a factory AM/FM radio.** The most popular recent or up-and-coming technologies consist of installed DVD players (5% penetration among U.S. households), installed GPS navigation systems (5%), and installed satellite radio (4%).

Media Entertainment Behavior & Interests

- **A substantial percentage of U.S. households routinely engage in digital audio-related activities on their home computers.** The most popular digital audio-related activity is playing digital music files. About one-in-two U.S. households have engaged in this activity. Among online households, this figure jumps to about three-in-four households.
- **Internet radio, 'free' digital music file-sharing and legitimate online music stores all qualify as mass market phenomena.**
- **Watching TV and surfing the Web at the same time, and using a desktop or laptop to play DVDs are popular enough to qualify as mass market activities.**

Executive Summary (cont'd)

Media Entertainment Behavior & Interests (cont'd)

- **Digital entertainment in the car is still a relatively infrequent activity, though playing MP3s on a car stereo is approaching mass market status.**
- **When asked about their relative interest in media entertainment across various environments, consumers expressed the highest interest in video entertainment at home, though audio entertainment has the edge when consumers are in the car or on-the-go.**
- **When asked about their relative interest in media entertainment at home, consumers expressed the greatest enthusiasm for Internet access, even rating it higher than TV programming.**
- **When asked about the appeal of various home audio features/functionalities, consumers expressed the greatest interest in downloading, playing and distributing digital audio files in convenient ways.** About one-in-three U.S. households said they would find playing digital audio files on a home stereo or playing digital audio files in rooms throughout the house 'very desirable' (32% and 29%, respectively).
- **Among the potential home video features/ functionalities tested, consumers expressed the strongest interest in time-shifting TV programming and accessing cable/satellite TV in multiple rooms in the house.** The strong desirability of time-shifting TV programming belies the relatively low penetration of DVRs, indicating current models don't offer the appropriate value for the money.
- **More consumers have a stronger interest in audio entertainment in the car than video entertainment, with broadcast radio and recorded music vying for the top spot.** A notable percentage of consumers—20%—expressed a strong interest in in-vehicle Internet access.

Executive Summary (cont'd)

Consumer Designed Products/Services

- **When asked to design their own home audio solutions, many consumers focused on different media formats and new, more convenient transfer methods.** Suggested media formats tended to be more durable and smaller than current physical media like CDs, while suggested transfer methods typically concerned wireless Internet downloads anytime, anywhere.
- **When asked for home video concepts, many consumers volunteered new delivery methods akin to video-on-demand (VOD).** Most of these ideas reflect a declining interest in watching movies in theaters and a consequent desire to see first-run movies at home with the option of digitally recording them for future viewing. Others suggested new media formats or expanded versions of current formats that would be smaller and more durable than existing options.
- **When asked for car audio concepts, many consumers suggested easier ways to transfer digital music to their cars or access it once in-vehicle.** One intriguing notion is a satellite radio-based peer-to-peer system that would allow consumers to search for and download songs from a network of in-vehicle hard drives.
- **When asked for car video concepts, many consumers suggested easier ways to access video entertainment and/or distribute video to different passengers.** Consumers with young children often commented on the difficulty of selecting and/or changing CDs in existing systems.

Demand for Current Home Products/Services

- **Demand for the representative home audio and video products we tested appears to be higher among online households than U.S. households generally,** though no significant differences emerged between primary and mass market consumers.

Executive Summary (cont'd)

Evaluation of New Home Concepts

- Among the home audio concepts tested, high-definition radio (HD radio) has the greatest immediate mass market potential, followed by digital audio recorders (DARs) and visual radio for mobile phones.
- The multimedia server proved to be the most popular home video concept, followed by a movie download service with a **substantial title library**. Over the years, the Alliance has evaluated a number of variations on the multimedia server concept. All of them have proven to be popular among online households.

Demand for Current Car Products/Services

- Demand for the representative car entertainment products we tested appears to be on the rise. Across the board, these products have broadened their likely reach over the last two years. In general, consumer demand is stronger for car audio products than video products. Even so, where comparable data are available from our 2003 State of the Connected Home Market study, consumer demand is up for both existing audio and video products

Evaluation of New Car Concepts

- Among the three car audio concepts we examined, the mobile music store, which would allow consumers to buy songs instantly via satellite radio, generated the greatest consumer interest.

Segment Responses to New Concepts

- Generally-speaking, online households with substantial home technology, teens, and new car intenders are more likely than online households generally to have a strong interest in the home and/or car concepts we examined as part of this study.

Conclusions & Recommendations

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Conclusions & Recommendations

The following recommendations are based on the conclusions reached in this and other, related Alliance-sponsored research. The recommendations focus on potential projects or pilots designed to further characterize the market opportunities identified in this study.

- **Consider launching exploratory qualitative research to better understand consumer interest in any of the four areas we addressed—home audio, home video, car audio and car video.** This study shows substantial opportunity in each of the four areas we examined, with home audio/video and car audio offering the greatest immediate promise. In order to gain a richer, qualitative understanding of the concepts we tested, we urge the Alliance to consider a project designed to yield high-level consumer reactions to the relevant concepts, including potential product configurations, prices and distribution schemes.
- **Consider launching a project or pilot around the home media server concept.** In this and previous Alliance-sponsored research, the home media server concept has generated substantial interest among online households. Now that the foundational elements of the connected home have entered the ‘mass market’ phase of their development, the time is right to explore this concept in greater depth.
- **Consider launching a project or pilot around additional satellite radio functionality (such as the mobile music store) and/or a portable—MP3 player-like—device that plays satellite radio.** It’s clear there’s significant demand for satellite radio—latent demand that XM could capitalize on if the service offered additional functionality such as the mobile music store (which provides ‘instant’ song purchasing) or were easier to receive in more situations. In addition, satellite radio would facilitate broadcast time-shifting and other capabilities in which online households showed considerable interest.

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PC Ownership

	Est. U.S. HH Total	Est. U.S. Online HH Total	Primary Market A	Mass Market B
PC & Hardware Ownership				
Number of Working Computers in HH				
1	23%	35%	16%	35% ^A
2	21%	31%	28%	32%
3 or more	23%	34%	55% ^B	34%
None	33%	n/a	n/a	n/a
Base	(n=691)	(n=1,016)	(n=427)	(n=589)
Types of Computers in HH				
Desktop computers	65%	95%	95%	94%
Media Center PCs	5%	7%	11%	8%
Laptop or notebook computers	29%	43%	67% ^B	38%
Base	(n=450)	(n=661)	(n=358)	(n=385)
Primary Home Computer				
Desktop computers	79%	83%	74%	83% ^A
Laptop or notebook computers	17%	13%	22% ^B	13%
Media Center PCs	4%	4%	4%	4%
Base	(n=686)	(n=1,009)	(n=427)	(n=584)
Options of Primary Computer				
CD-ROM burner	60%	88%	91% ^B	87%
DVD drive	50%	73%	81% ^B	70%
High-end graphics card for playing PC games	33%	49%	55%	50%
Surround sound speakers	28%	41%	47% ^B	39%
DVD burner	25%	36%	45% ^B	36%
1394 or Firewire port	16%	23%	34% ^B	24%
Wi-Fi connectivity built-in (802.11b or g)	9%	13%	29% ^B	12%
Radio frequency (RF) connectivity built-in	8%	12%	11%	13%
Integrated TV tuner card	7%	10%	15% ^B	10%
Infrared (IR) connectivity built-in	7%	10%	17% ^B	9%
Bluetooth connectivity built-in	5%	7%	12% ^B	5%
None of these	2%	3%	1%	5% ^A
Base	(n=686)	(n=1,009)	(n=427)	(n=584)
Home Network Ownership				
No home network	56%	80%	38%	63% ^A
Yes, home network	14%	20%	62% ^B	37%
Base	(n=686)	(n=1,009)	(n=427)	(n=584)

Many U.S. households have two or more computers—typically desktops—but no home network.

- About 67% of U.S. households have at least one working home computer and 44% have two or more.
- Desktop computers are generally more popular than laptop models and typically constitute the average U.S. household's 'primary' computer, defined as the system household members use most often.
- About 14% of U.S. households have a home network, indicating that home networking is on the verge of mass market acceptance. (Industry analysts generally consider a market penetration figure of 16% or above as the mass market threshold.) This figure translates to about 20% of online households—an estimate in line with a recent Harris Interactive study that predicted 24% of online households would have a home network by the end of 2005.
- Consistent with previous Alliance-sponsored research, primary market consumers (the Alliance equivalent of 'early adopters') are more likely than mass market consumers to have adopted the latest technology, including a home network (62% vs. 37%).

Q15-Q19; Letters denote statistically significant differences among segments

Home Audio Ownership

As evidenced by the popularity of portable MP3 players, digital music has achieved 'mass market' status.

- We estimate that about 16% of U.S. households have a portable MP3 player, with iPod the most popular model (running at about 30% of all models). This estimate is in line with a recent Jupiter Research forecast of 16% market penetration for portable MP3 players by the end of 2005. Among online households, the market penetration figure for MP3 players jumps to 24% or nearly one-in-four households. As an aside, it took about three years for DVD players to reach a comparable level of market penetration—15%. As of this year, they are in about 78% of households.
- Satellite radio appears to be making serious inroads in the market, with an estimated penetration of 5% of U.S. households for in-vehicle models. This figure is in keeping with a recent Forrester Research report that indicated satellite radio reached 4.5 million households (or 4% of all U.S. households) by the end of 2004, up more than 150% over 2003.

	Est. U.S. HH Total (n=691)	Est. U.S. Online HH Total (n=1,016)	Primary Market (n=427)	Mass Market (n=589)
Audio Devices in Household			A	B
Portable personal CD player	54%	80%	77%	84% ^A
Compact stereo system	42%	62%	62%	63%
Component stereo system	41%	60%	69% ^B	59%
Portable MP3 player	16%	24%	34% ^B	25%
Digital audio receiver	12%	18%	24% ^B	17%
Personal media player	7%	11%	17% ^B	11%
Satellite radio unit - portable, for use at home or in the car	5%	7%	11% ^B	6%
Satellite radio unit - stationary, for the home	4%	6%	9% ^B	6%
iPod base station for playing stored songs on a stereo	3%	4%	9% ^B	3%
None of these	3%	4%	3%	3%

Q21; Letters denote statistically significant differences among segments.

Home Video Ownership

	Est. U.S. HH Total	Est. U.S. Online HH Total	Primary Market A	Mass Market B
Video Devices in Household				
Number of Working TVs in the Household				
1	9%	9%	6%	9%
2	20%	20%	24%^B	15%
3 or more	71%	71%	70%	76%
None	0%	0%	0%	3%
Base	(n=691)	(n=1,016)	(n=427)	(n=589)
Number of Working DVD Players in the Household				
Stationary DVD Players				
1	34%	34%	30%	35%
2	24%	36%	36%	32%
3 or more	16%	24%	32%^B	25%
None	26%	6%	2%	9%^A
Subscription TV Services by Household				
Cable TV	42%	45%	50%^B	41%
Digital cable TV	21%	31%	36%^B	29%
Satellite TV	17%	25%	26%	26%
HDTV (High definition TV) for an extra monthly fee	5%	7%	13%^B	5%
None of these	11%	11%	5%	16%^A
Base	(n=690)	(n=903)	(n=427)	(n=587)
Number of DVRs in the Household				
1	12%	19%	23%^B	18%
2	3%	5%	8%^B	4%
3 or more	1%	1%	2%	1%
None	84%	74%	67%	77%^A
Base	(n=614)	(n=903)	(n=406)	(n=494)

The importance U.S. consumers place on video entertainment is evident from the fact that most U.S. households have three or more TVs and about 74% have a DVD player.

- Perhaps the most surprising finding concerns the estimated 16% penetration of DVRs among U.S. households. A July 2004 *Jack Meyers Report* estimated DVR penetration at about 11%--a figure in line with our estimate. About 33% of primary market consumers and 23% of mass market consumers report owning at least one DVR.
- On a related note, in July of this year, Jupiter Research forecast DVR penetration would reach nearly 50% of U.S. households over the next five years.

Q23, Q25-Q26, Q27A ; Letters denote statistically significant differences among segments.

Home Video Ownership (cont'd)

	Est. U.S. HH Total (n=690)	Est. U.S. Online HH Total (n=1,014)	Primary Market (n=427)	Mass Market (n=587)
			A	B
Video Devices in Household				
Types of TVs in the Household				
Standard TVs up to 29-inches				
1	23%	23%	26% ^B	21%
2	29%	29%	28%	27%
3 or more	34%	34%	29%	41% ^A
None	14%	14%	16% ^B	10%
Large standard TVs 30-inches or larger				
1	39%	39%	44% ^B	34%
2	13%	13%	17% ^B	12%
3 or more	6%	6%	6%	6%
None	42%	42%	33%	48% ^A
Non-digital projection TVs				
1	4%	4%	6%	4%
2	1%	1%	1%	0%
3 or more	1%	1%	1%	2%
None	94%	94%	93%	93%
a movie projector on a screen/ blank wall				
1	2%	2%	4% ^B	2%
2	0%	0%	0%	0%
3 or more	0%	0%	0%	0%
None	97%	97%	96%	97%
LCD (Liquid Crystal Display) TVs				
1	9%	9%	15% ^B	5%
2	1%	1%	1%	1%
3 or more	0%	0%	1%	0%
None	90%	90%	84%	94% ^A
Plasma TVs				
1	4%	4%	6% ^B	3%
2	1%	1%	1%	0%
3 or more	0%	0%	0%	0%
None	95%	95%	93%	96% ^A
DLP (Digital Light Processor) projection TVs				
1	3%	3%	6% ^B	1%
2	0%	0%	0%	0%
3 or more	0%	0%	0%	0%
None	97%	97%	94%	99% ^A
Home theater systems				
1	24%	24%	31% ^B	21%
2	2%	2%	2%	2%
3 or more	0%	0%	1%	0%
None	74%	74%	66%	77% ^A

The percentage of U.S. households with a digital TV and/or home theater system continues to grow.

- About 13% of U.S. households generally and 18% of online households have a digital TV of some kind. Primary market consumers are more likely than mass market consumers to have a digital TV (28% vs. 12%, respectively).
- The most popular digital TV technology appears to be LCD, with market penetration of about 10%, followed by plasma (5%) and DLP (3%).
- About 26% of U.S. households reported owning a home theater system, defined for the purposes of this study as a TV with a surround sound unit (as opposed to a simple TV-home stereo hook-up).

Q24: Letters denote statistically significant differences among segments.

Home Video Ownership (cont'd)

Video Devices in Household	Est. U.S. HH Total (n=614)	Est. U.S. Online HH Total (n=903)	Primary Market (n=406)	Mass Market (n=494)
			A	B
Number of TVs Receiving Services in Household				
Cable TV				
1	10%	10%	8%	11%
2	12%	12%	13%	9%
3 or more	29%	29%	31%	29%
Satellite TV				
1	5%	5%	5%	6%
2	10%	10%	10%	9%
3 or more	13%	13%	13%	16%
HDTV (High-definition TV; requires extra mo. fee)				
1	5%	7%	11%^B	4%
2	1%	1%	2%	1%
3 or more	0%	0%	1%	0%
None	94%	92%	87%	94%^A

Subscriptions to HDTV haven't kept pace with digital TV penetration. About only 6% of U.S. households subscribe to HDTV.

- As might be expected, primary market consumers are more likely than their mass market counterparts to subscribe to HDTV (23% vs. 6%, respectively).

Q27; Letters denote statistically significant differences among segments.

Video Game Ownership

About two-in-five U.S. households and most online U.S. households have a current video game system (40% and 59%, respectively), with Sony's Playstation 2 the clear leader in the home console market and Nintendo's GameBoy Advance SP the number one choice in the handheld market.

- About only 10% of U.S. households have played a video game over the Internet in the last three months that requires a monthly subscription.

	Est. U.S. HH Total (n=691)	Est. U.S. Online HH Total (n=1,016)	Primary Market (n=427)	Mass Market (n=589)
Video Game Ownership			A	B
Systems Owned by Household				
Home Video Game System				
Sony Playstation 2 (Original model)	23%	34%	37%	40%
Microsoft X-Box	15%	22%	25%	24%
Nintendo GameCube	12%	17%	17%	22%^A
Sony Playstation 2 (Slim model released in Nov. 2004)	9%	14%	12%	15%
Handheld Video Game System				
Nintendo GameBoy Advance SP	20%	29%	27%	36%^A
Sony PSP	3%	5%	6%	7%
Nintendo DS	3%	4%	6%	6%
Nokia N-gage QD	1%	1%	2%	1%
Leading-Edge Game Behavior				
Played a single or multi-player game over the Internet that requires a monthly subscription	10%	15%	24%^B	19%
Rented a videogame over the Internet using a service like Gamefly.com	3%	5%	9%^B	4%
None of these	88%	83%	73%	80%^A

Q29-Q30; Letters denote statistically significant differences among segments.

Car Audio/Video Ownership

Most U.S. households with automobiles have outfitted one or more cars with non-traditional media technology—something more than a factory AM/FM radio.

- The most popular recent or up-and-coming technologies consist of installed DVD players (5% penetration among U.S. households), installed GPS navigation systems (5%), and installed satellite radio (4%). As might be expected, portable or installed hard drive usage is relatively rare, with an estimated 1% penetration among U.S. households.

	Est. U.S. HH Total (n=683)	Est. U.S. Online HH Total (n=1,004)	Primary Market (n=425)	Mass Market (n=582)
Car Audio/Video Devices Owned			A	B
CD changer	28%	42%	57% ^B	33%
Non-factory audio deck	19%	28%	31%	29%
Amplifier	11%	17%	23% ^B	17%
Premium car audio system, such as Mark Levinson or ELS	10%	15%	24% ^B	13%
Digital audio tuner	8%	11%	14%	10%
Installed DVD player (NET)	6%	9%	13% ^B	7%
Installed DVD player and single monitor	5%	7%	10% ^B	5%
Installed DVD player and single monitor with TV tuner	2%	2%	4% ^B	2%
Installed DVD player with two or more monitors	1%	1%	3% ^B	0%
Installed DVD player with two or more monitors with TV tuner	1%	1%	2%	1%
Installed GPS (NET)	5%	8%	14% ^B	4%
GPS navigation system - Satellite-based	4%	5%	10% ^B	4%
GPS navigation system - CD-based	2%	3%	6% ^B	2%
Installed satellite radio receiver (XM or Sirius)	4%	6%	10% ^B	4%
Audio deck with an audio in-jack	4%	5%	8%	7%
Portable satellite radio receiver (XM or Sirius)	3%	5%	7%	5%
Portable hard drive for media use in the car	2%	3%	5% ^B	2%
Audio deck with a USB port	1%	2%	3% ^B	0%
Installed hard drive for media use in the car	1%	1%	2%	1%
Mobile satellite TV service	0%	1%	1%	1%
None of these	32%	32%	21%	37% ^A

Q31; Letters denote statistically significant differences among segments.

Key Findings

- Background & Methodology
- Executive Summary
- Conclusions & Recommendations
- **Key Findings**
 - Technology Ownership
 - **Media Entertainment Behavior and Interests**
 - Consumer Designed Products/Services
 - Demand for Current Home Products/Services
 - Evaluation of New Home Concepts
 - Demand for Current Car Products/Services
 - Evaluation of New Car Concepts
 - Segment Responses to Products & Concepts
 - New Car Intender Responses to Products & Concepts
 - Parent & Teen Responses to Products & Concepts
- Appendix

Leading-Edge PC Behavior

A substantial percentage of U.S. households routinely engage in digital audio-related activities on their home computers.

- The most popular digital audio-related activity is playing digital music files. About one-in-two U.S. households have engaged in this activity. Among online households, this figure jumps to about three-in-four households.
- Video-oriented PC activities are distinctly less popular than those involving audio. For instance, despite the prevalence of ‘free’ video via services like BitTorrent, only about 10% of online households have downloaded video using one of these file sharing programs. Even using a home computer as a digital video recorder (DVR) is rare, with only about 4% of online households doing so.

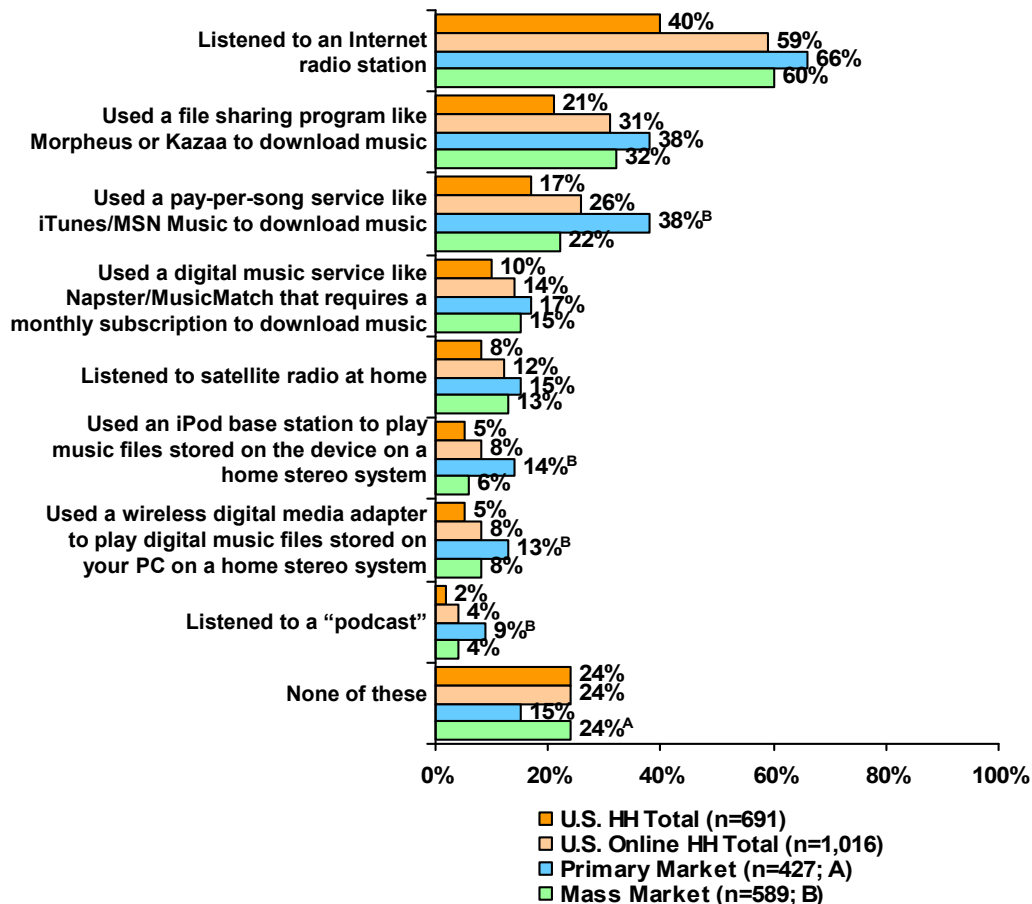
	Est. U.S. Online HH Total (n=1,009)	Primary Market (n=427)	Mass Market (n=584)
Home PC Leading-Edge Activities			
In the past three months, have you/your household used your PC to...			
Play digital music files	77%	83%^B	77%
Edit digital photos	65%	77%^B	59%
Play video games over the Internet	65%	66%	68%
Play CD-ROM video games	60%	64%	66%
Go to a Web site you saw on TV	60%	67%	61%
Burn music from the Internet to a CD	57%	65%^B	58%
Play DVDs	53%	63%^B	53%
Rip a CD, turning songs into digital files like MP3s	41%	54%^B	41%
Create digital photo slide shows	40%	50%^B	35%
Burn/create DVDs	26%	39%^B	25%
Edit videos	10%	17%^B	10%
Watch TV	10%	15%	11%
Download video using a file sharing program like BitTorrent	10%	18%^B	11%
Download video from a for-pay site like Movielink	6%	9%	7%
Record TV shows	4%	8%^B	4%
None of these	3%	1%	3%^A

Q20; Letters denote statistically significant differences among segments.

Leading-Edge Home Computer/Audio Behavior

Home Audio Leading-Edge Activities

In the Past Three Months, have you/your household...



Internet radio, 'free' digital music file-sharing and legitimate online music stores all qualify as mass market phenomena.

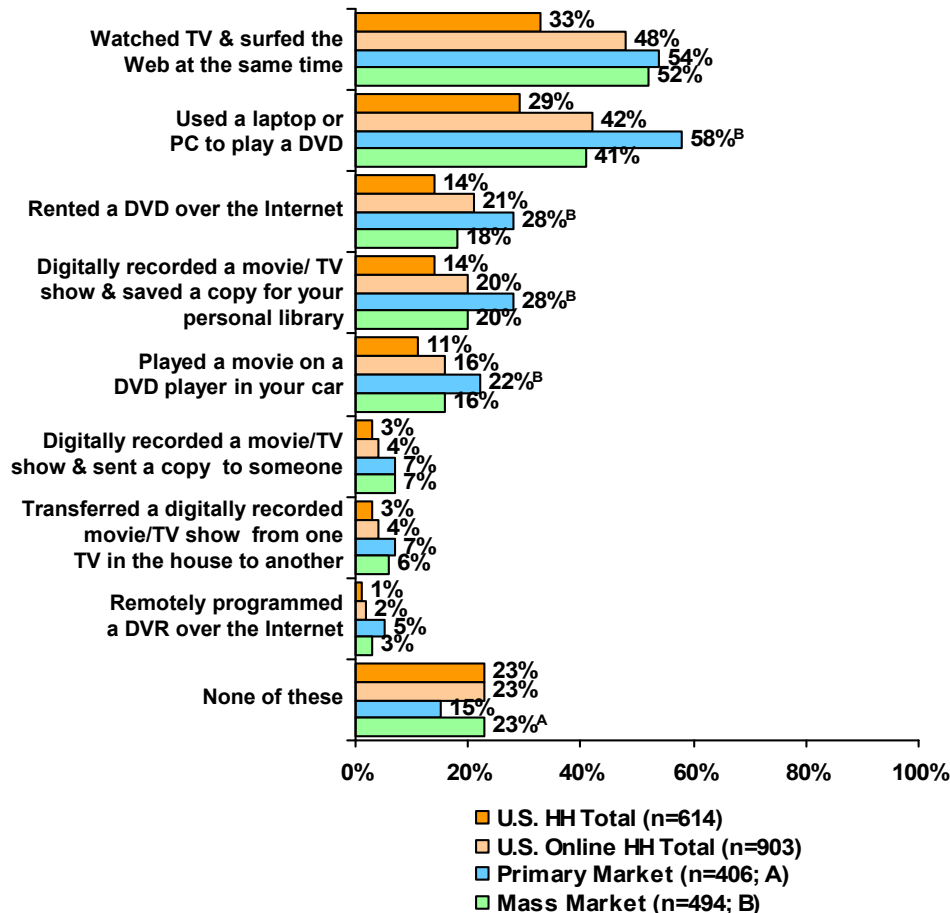
- About 40% of U.S. households have listened to an Internet radio station (or, alternately, a traditional broadcast radio station over the Internet). About three-in-five online households (59%) have engaged in this activity over the last three months. Only about 10%, however, claim to be 'regular listeners' of Internet radio.
- Usage of file-sharing programs like Kazaa appears to be more prevalent than that of legitimate online music stores. About 21% of U.S. households have used a free file-sharing service to download digital music compared to about 17% who reported using a pay-per-song service like iTunes.
- Despite the media hype, listening to 'podcasts' isn't especially popular, with only 2% of all U.S. households and 4% of online households reporting this activity. A recent Forrester Research study predicts podcasting will see significant growth by 2010—reaching 12.3 million households (or about 11%).

Q22; Letters denote statistically significant differences among segments.

Leading-Edge Home Computer/Video Behavior

Home Video Leading-Edge Activities

In the Past Three Months, have you/your household...



Watching TV and surfing the Web at the same time, and using a desktop or laptop to play DVDs are popular enough to qualify as mass market activities.

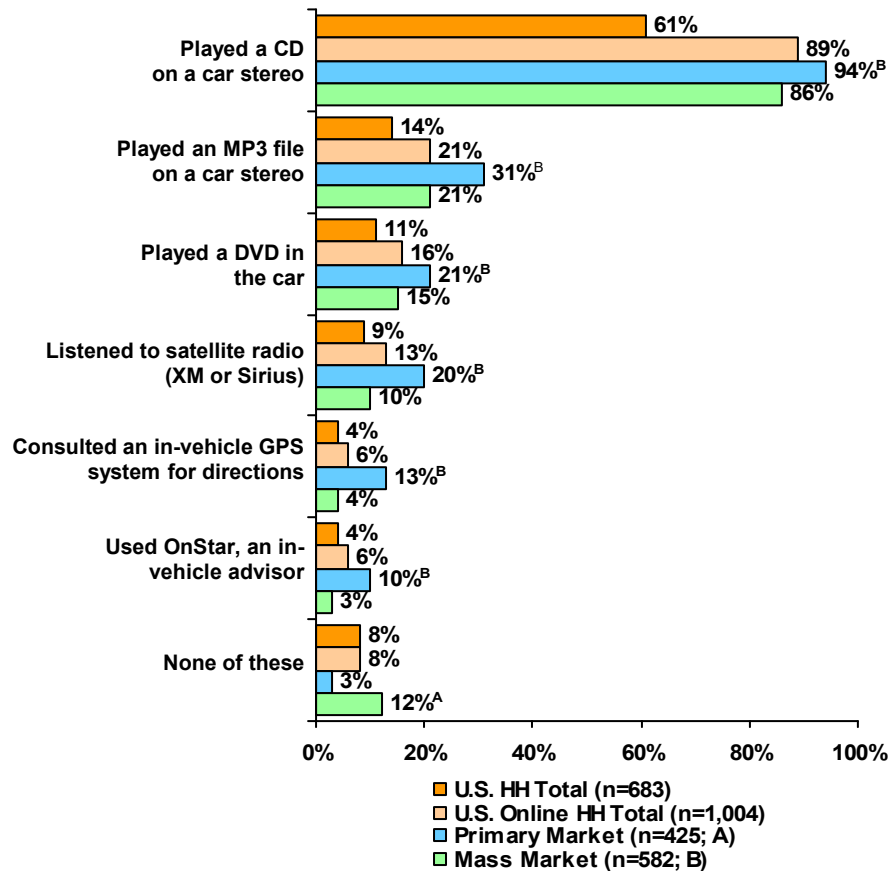
- About one-third of U.S. households (or nearly half of online households) reported watching TV and surfing the Web simultaneously within the past three months. This doesn't mean consumers were watching a TV show and following on-screen cues to particular Web sites, however. Consumers could just as easily been in a room with both a PC and a television.
- Playing DVDs on a desktop or laptop computer is nearly as common as simultaneous TV watching and Web surfing. In fact, among primary market consumers, it's the most popular video-centric activity among those examined. Overall, though, consumers appear to be less likely to engage in computer-oriented activities involving video than those involving audio.

Q28; Letters denote statistically significant differences among segments.

Leading-Edge Car Audio/Video Behavior

Car Audio/Video Leading-Edge Activities

In the Past Three Months, have you/your household...



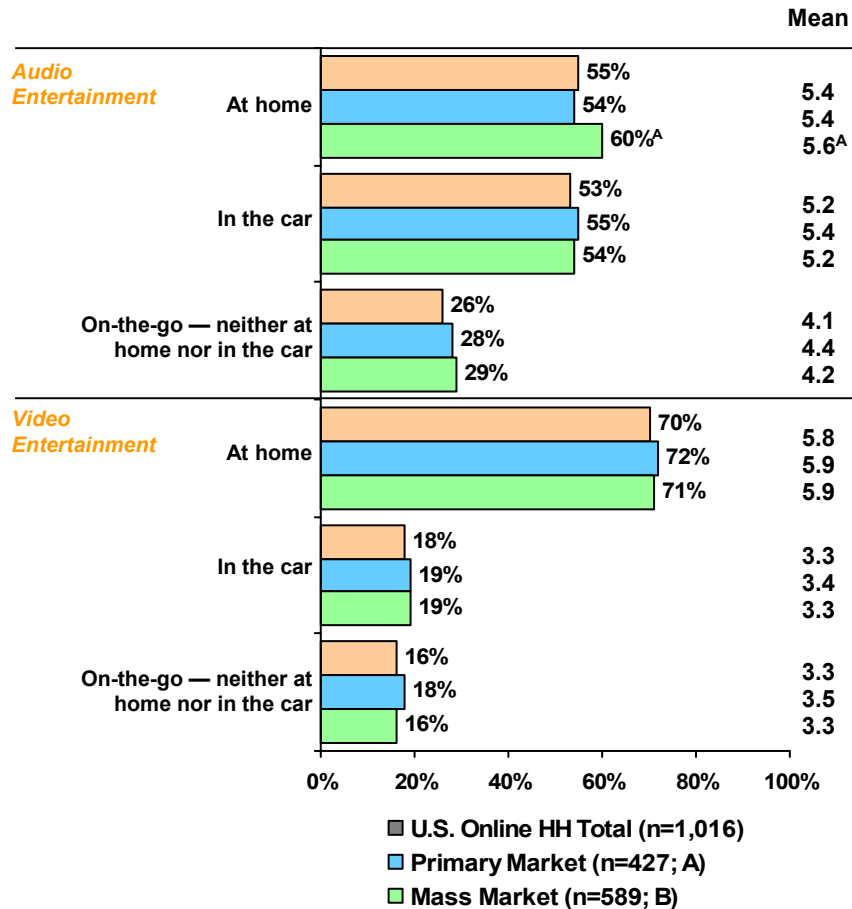
Digital entertainment in the car is still a relatively infrequent activity, though playing MP3s on a car stereo is approaching mass market status.

- About 14% of U.S. households (or 21% of online households) have played an MP3 file on a car stereo sometime in the last three months.
- The relatively high satellite figure is due, in part, to the fact that household members could report listening to the service in someone else's vehicle. Reported ownership of installed satellite radio is only 4% among U.S. households generally and 6% among online households.

Q32; Letters denote statistically significant differences among segments.

Interest in Media Entertainment in Three Environments

Interest in Audio and Video
% Very Interested, Top-2-Box



When asked about their relative interest in media entertainment across various environments, consumers expressed the highest interest in video entertainment at home, though audio entertainment has the edge when consumers are in the car or on-the-go.

- About one-in-two U.S. households (48% or 70% of online households) have a high interest in video entertainment at home.
- Consumers' interest in audio is about equally strong in regard to at-home and in-vehicle situations.
- The percentage of U.S. households with a high interest in video on-the-go indicates a strong market opportunity for the video equivalent of the iPod.

Q34-39; Letters denote statistically significant differences among segments.

Interest in Media at Home

	Est. U.S. Online HH Total (n=1,016)	Primary Market (n=427)	Mass Market (n=589)
Interest in Specific Types of Media at Home			
% Very Interested, Top-2-Box		A	B
Internet access	84%	87%^B	83%
TV programming	70%	74%	69%
Home video/movies	53%	53%	53%
Recorded music	51%	52%	53%
Personal photos	47%	50%	47%
Theatrical films	45%	53%^B	39%
Radio music programming	37%	36%	40%
DVD/cartridge-based video games	32%	32%	38%
Children's educational programs	29%	25%	30%
Online video games	25%	26%	33%^A
Radio talk programming	16%	19%	15%
Audio books	12%	15%^B	11%

When asked about their relative interest in media entertainment at home, consumers expressed the greatest enthusiasm for Internet access, rating it even higher than TV programming.

- As confirmation of the 'digital revolution,' about 84% of online households have a strong interest in Internet access as a means of entertainment compared to 70% with a high interest in TV programming.
- Primary market consumers are distinguished from their mass market counterparts by their relatively high interest in Internet access, theatrical films and audio books.
- Mass market consumers, on the other hand, are more likely than primary market consumers to have a high interest in video games.

Q40; Letters denote statistically significant differences among segments.

Media Usage at Home

	Est. U.S. Online HH Total (n=541)	Primary Market (n=215)	Mass Market (n=298)
Media Usage at Home		A	B
Average Weekly TV Viewing Hours (personal)			
Pay-Per-View programs			
0	73%	74%	72%
1-2	18%	16%	19%
3-5	6%	7%	5%
6-10	3%	2%	4%
More than 80	0%	0%	0%
<i>Median</i>	0.0	0.0	0.0
Video-on-Demand programs			
0	78%	74%	79%
1-2	11%	14%	10%
3-5	5%	5%	6%
6-10	5%	6%	4%
11-80	1%	1%	1%
More than 80	0%	0%	0%
<i>Median</i>	0.0	0.0	0.0
DVDs and videotapes			
0	7%	6%	6%
1-2	20%	19%	22%
3-5	27%	27%	28%
6-10	31%	34%	27%
11-80	14%	12%	16%
More than 80	1%	1%	1%
<i>Median</i>	5.0	5.0	5.0
Premium channel TV (HBO, Showtime, etc.)			
0	51%	55%	49%
1-2	8%	6%	9%
3-5	9%	11%	8%
6-10	19%	18%	18%
11-80	12%	9%	15% ^B
More than 80	1%	1%	1%
<i>Median</i>	0.0	0.0	1.0
Non-premium channel TV			
0	8%	5%	11% ^A
1-2	6%	8%	4%
3-5	12%	11%	12%
6-10	24%	26%	23%
11-80	46%	47%	44%
More than 80	4%	2%	6% ^A
<i>Median</i>	10.0	10.0	10.0

On average, consumers spend about twice as much time watching non-premium broadcast television than watching DVDs and/or videotapes.

- Few significant differences emerged between primary and mass market consumers when it comes to video consumption at home. In most respects, their video consumption habits are the same. This and other shared habits between primary and mass market consumers facilitates the relatively fast adoption of entertainment products that resonate with consumers.

Q71-Q75; Letters denote statistically significant differences among segments.

Media Usage at Home (cont'd)

	Est. U.S. Online HH Total (n=541)	Primary Market (n=215)	Mass Market (n=298)
Media Usage at Home	A		B
Average Weekly Audio Listening Hours (personal)			
Over-the-air radio broadcasts			
0	18%	19%	18%
1-2	26%	25%	29%
3-5	23%	25%	21%
6-10	15%	15%	13%
11-80	16%	14%	18%
More than 80	3%	3%	2%
Median	3.0	3.0	3.0
Satellite radio broadcasts			
0	87%	85%	86%
1-2	7%	7%	6%
3-5	3%	4%	3%
6-10	1%	2%	2%
11-80	2%	2%	3%
More than 80	0%	0%	0%
Median	0.0	0.0	0.0
Internet radio broadcasts			
0	64%	59%	62%
1-2	21%	26% ^B	18%
3-5	9%	7%	13% ^A
6-10	4%	4%	4%
11-80	2%	3%	3%
More than 80	0%	1%	0%
Median	0.0	0.0	1.0
CDs			
0	8%	9%	7%
1-2	20%	21%	19%
3-5	26%	27%	24%
6-10	23%	21%	24%
11-80	21%	19%	24%
More than 80	2%	2%	3%
Median	5.0	5.0	5.0
Digital music files on a home PC			
0	40%	29%	40% ^A
1-2	24%	25%	21%
3-5	16%	23% ^B	12%
6-10	9%	11%	12%
11-80	9%	10%	13%
More than 80	2%	2%	2%
Median	1.0	2.0	1.0
Digital music files on a portable music player			
0	65%	57%	63%
1-2	13%	14%	13%
3-5	9%	12%	9%
6-10	8%	10%	8%
11-80	4%	5%	6%
More than 80	1%	1%	2%
Median	0.0	0.0	0.0

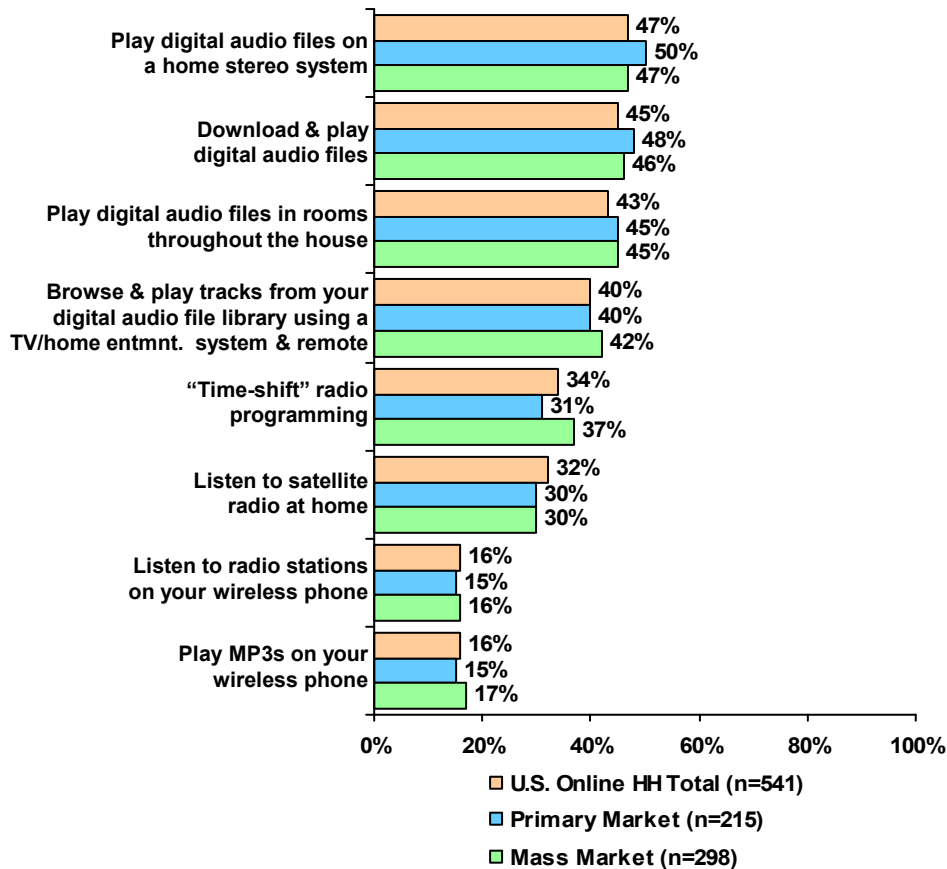
When it comes to digital audio at home, consumers tend to spend most of their time listening to CDs, followed by digital music files stored on a PC.

- Primary market consumers spend, on average, twice as much time as their mass market counterparts listening to digital music via their home computer (two hours vs. one hour, respectively).
- Most owners of portable MP3 players don't use them at home.

Q57-Q62; Letters denote statistically significant differences among segments.

Desired Home Audio Features

Desired Home Audio Features
% Very Desirable, Top-2-Box

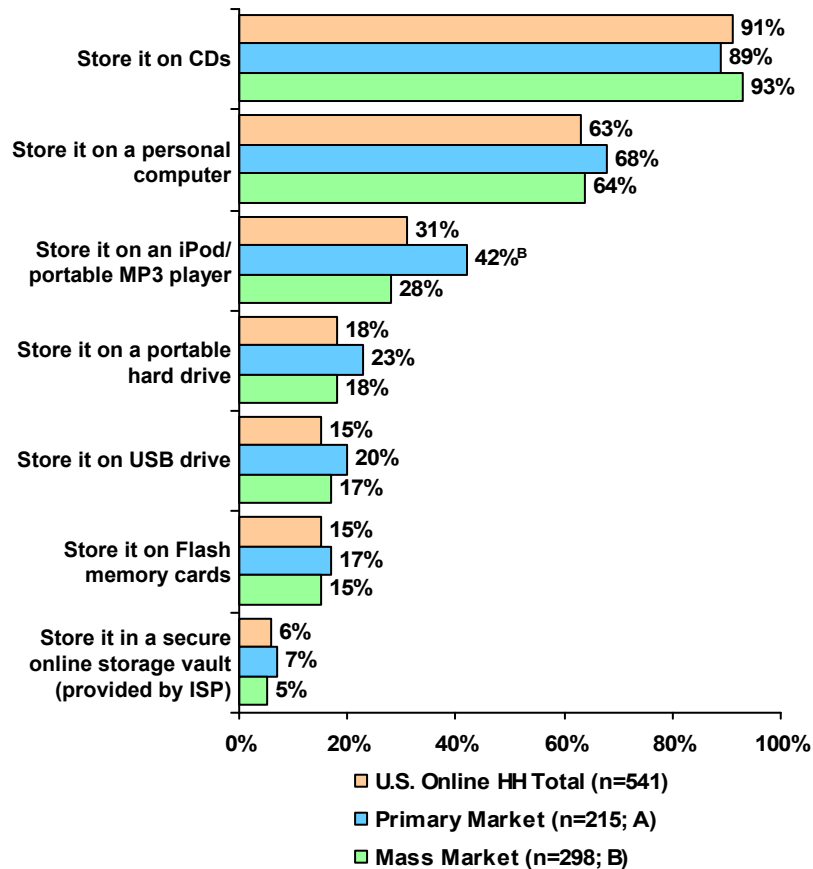


When asked about the appeal of various home audio features/functionality, consumers expressed the greatest interest in downloading, playing and distributing digital audio files in convenient ways.

- About one-in-three U.S. households said they would find playing digital audio files on a home stereo or playing digital audio files in rooms throughout the house 'very desirable' (32% and 29%, respectively).
- Among the new possibilities tested, about one-in-four households (23%) thought the notion of time-shifted radio programming was 'very desirable.'
- About half as many households reported a strong interest in either listening to radio stations or MP3s on a wireless phone.

Appealing Digital Audio Storage Options

Appealing Digital Audio Storage Options



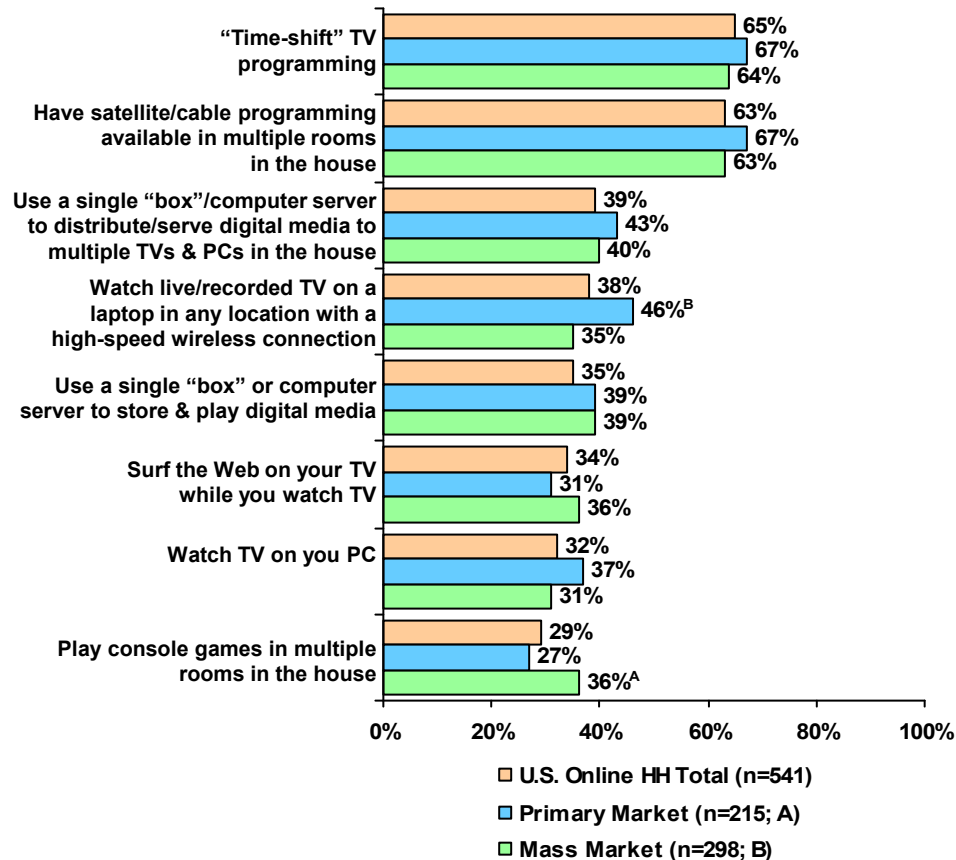
When asked to cite which existing digital audio storage options were appealing, most households checked CDs, followed by personal computers and portable MP3 players.

- The results here generally reflect the popularity of existing digital audio storage options. Interestingly, the most popular options consist of substantial physical media like CDs or devices like MP3 players rather than more portable media like USB drives or Flash memory cards. The least appealing option is the one without any physical presence—the online storage vault.

Q77A; Letters denote statistically significant differences among segments.

Desired Home Video Features

Desired Home Video Features
% Very Desirable, Top-2-Box



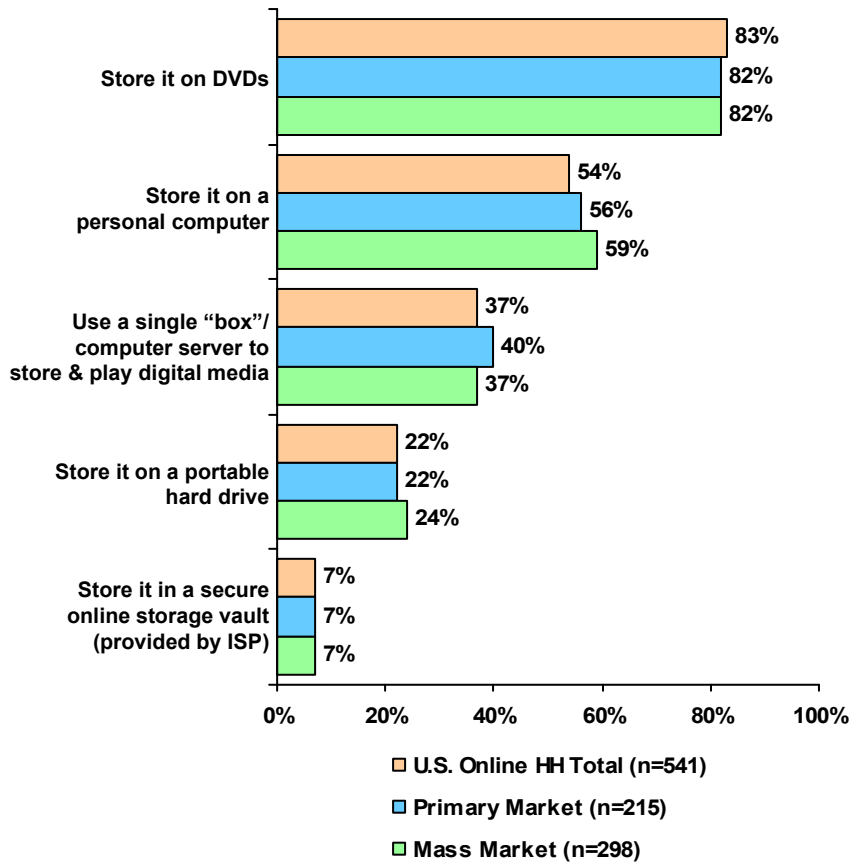
Among the potential home video features/functionalities tested, consumers expressed the strongest interest in time-shifting TV programming and accessing cable/satellite TV in multiple rooms in the house.

- The strong desirability of time-shifting TV programming belies the relatively low penetration of DVRs, indicating current models don't offer the appropriate value for the money.
- The concept of a multimedia server appeals strongly to about one-in-four households (either 27% or 24%, depending on the exact functionality).
- One new idea that garnered substantial interest is the notion of watching live or recorded TV on a laptop in any location with a high-speed Internet connection. About one-in-four households expressed a strong interest in this idea, among existing products, perhaps best captured by the Slingbox Personal Broadcaster. Although this device didn't fare well, consumer demand for its basic functionality argues for further exploration.

Q79; Letters denote statistically significant differences among segments.

Appealing Digital Video Storage Options

Appealing Digital Video Storage Options



When asked to cite which existing digital video storage options were appealing, most households checked DVDs, followed by personal computers and a multimedia server.

- The results here generally reflect the popularity of existing digital video storage options.
- In general, consumers appear to be more reluctant to store digital video than digital audio on a home computer. About 63% of households indicated that storing digital audio on a home computer is appealing, while only 54% gave comparable support to the notion of storing video on computer.

Storing Content at Home

Storing Audio

	Est. U.S. Online HH Total (n=541)	Primary Market (n=215)	Mass Market (n=298)
How Audio is Stored at Home		A	B
CDs			
Store CDs on designated rack, shelf or cabinet	79%	81%	77%
Store CDs in a CD carousel or jukebox player (which holds multiple CDs)	19%	22%	18%
Digital Audio Files			
CDs you've burned	68%	71%	71%
A home PC	65%	72%	68%
A portable MP3 player	16%	25%	18%
Flash memory cards	6%	10%	7%
A USB drive	6%	7%	9%
A portable hard drive	4%	7%	6%
A wireless phone	4%	4%	6%
Personal media player	3%	3%	6%
In a secure online storage vault (provided by ISP)	0%	0%	0%
None of these	12%	9%	11%

As might be expected, the most common storage method for audio entertainment is simply racking CDs. The ubiquity of home computers, however, has made home-made CDs and PC hard drives prominent alternatives that will, in the long run, likely make CDs obsolete.

- Interestingly, consumers are about as likely to store digital audio on self-authored CDs they are to store digital audio on a home computer, indicating that they still have an affinity for physical solutions.
- Primary market consumers are more likely than their mass market counterparts to store digital music on a portable MP3 player (25% vs. 18%).

Q44; Letters denote statistically significant differences among segments.

Storing Content at Home

Storing Audio

	Est. U.S. Online HH Total	Primary Market A	Mass Market B
Number of Files/CDs Stored			
CDs			
1-65	29%	22%	31% ^A
66-200	32%	29%	33%
201-500	20%	26%	21%
More than 500	19%	24% ^B	15%
Base	(n=453)	(n=185)	(n=243)
Digital Audio Files			
CDs you've burned			
1-20	33%	27%	34%
21-50	33%	32%	28%
51-200	17%	18%	18%
More than 200	17%	22%	20%
Base	(n=366)	(n=153)	(n=212)
A home PC			
1-25	31%	23%	34% ^A
26-100	28%	26%	24%
101-1000	19%	19%	21%
More than 1000	22%	32% ^B	22%
Base	(n=354)	(n=154)	(n=203)
Flash memory card			
1-5	33%	20%	53%
6-40	18%	23%	20%
41-100	37%	40% ^B	13%
More than 100	11%	17%	13%
Base	(n=35)	(n=22*)	(n=21*)
A USB drive			
1-5	24%	19%	37%
6-20	36%	14%	42% ^A
21-80	18%	38% ^B	5%
More than 80	22%	29%	16%
Base	(n=33)	(n=15*)	(n=26*)

Primary market consumers are heavier consumers of digital audio than their mass market counterparts.

- Primary market consumers tend to have more commercial and self-authored CDs and digital music files (regardless of storage medium) than mass market consumers. This finding supports earlier Alliance-sponsored research that media consumption is a sufficient, though not necessary, condition for being an early adopter.

Q45-54; Letters denote statistically significant differences among segments.

* Caution, small base sizes. Please view data as directional in nature.

Storing Content at Home (cont'd)

Storing Audio

	Est. U.S. Online HH Total	Primary Market A	Mass Market B
Number of Files/CDs Stored		A	B
Digital Audio Files (cont'd)			
A portable MP3 player			
1-30	28%	21%	34%
31-60	24%	23%	29%
61-500	32%	30%	26%
More than 500	16%	26%^B	11%
Base	(n=85)	(n=41)	(n=52)
A wireless phone			
1-3	25%	33%	29%
4-5	45%	17%	36%
6-10	14%	33%	7%
11-50	16%	17%	29%
Base	(n=23*)	(n=9*)	(n=19*)
A personal media player			
1-2	41%	0%	38%
3-40	26%	13%	31%
41-75	19%	38%	15%
More than 75	14%	50%	15%
Base	(n=17*)	(n=6*)	(n=18*)
A portable hard drive			
1-30	22%	15%	25%
31-600	38%	20%	42%
More than 600	41%	65%	33%
Base	(n=22*)	(n=15*)	(n=16*)
In a secure online storage vault			
1-10	14%	0%	33%
11-20	14%	0%	33%
More than 1000	72%	100%^B	33%
Base	(n=3*)	(n=1*)	(n=4*)

Primary market consumers tend to store more digital music tracks on their MP3 players than mass market consumers.

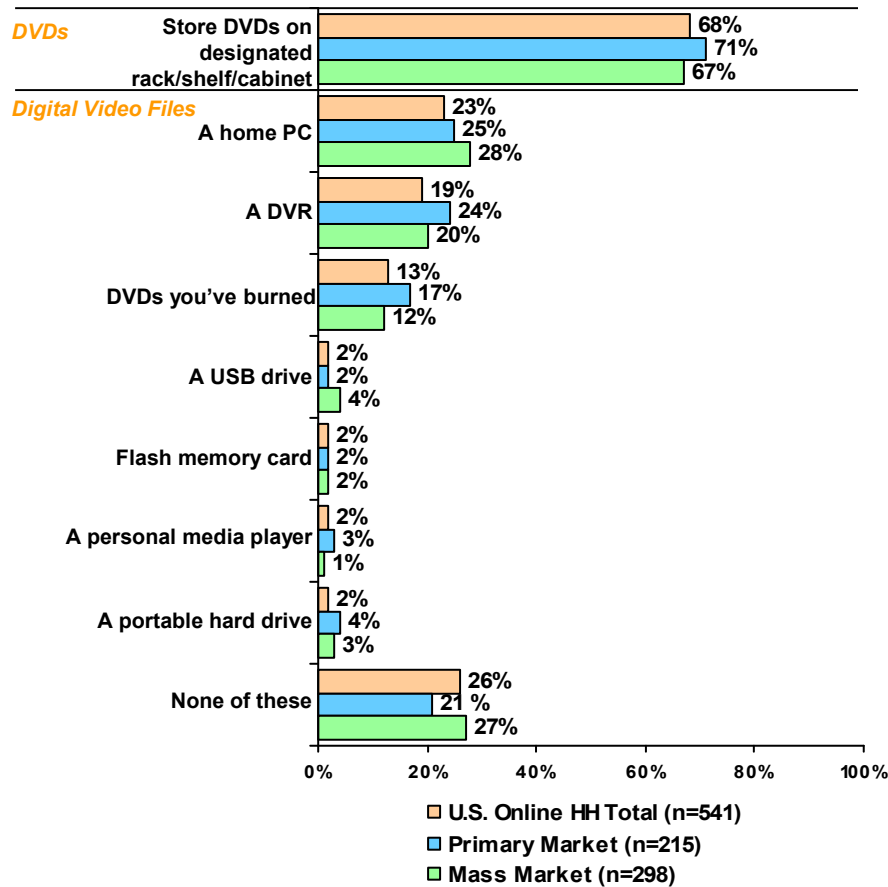
Q45-54; Letters denote statistically significant differences among segments.

* Caution, small base sizes. Please view data as directional in nature.

Storing Content at Home

Storing Video

How Video is Stored at Home



Few consumers store digital video content on anything but commercial DVDs, though home computers and DVRs appear to be increasingly popular choices.

Storing Content at Home

Storing Video

	Est. U.S. Online HH Total	Primary Market A	Mass Market B
Number of Files/DVDs Stored			
Pre-Recorded DVDs			
1-20	32%	27%	34%
21-50	36%	34%	35%
51-100	15%	16%	14%
101-200	5%	10% [Ⓐ]	3%
More than 200	12%	14%	14%
<i>Median</i>	40.0	45.0	35.0
<i>Base</i>	(n=370)	(n=153)	(n=199)
Burned DVDs			
1-5	43%	36%	37%
6-10	16%	14%	14%
11-50	32%	36%	30%
51-200	6%	9%	14%
More than 200	4%	6%	5%
<i>Median</i>	10.0	10.0	10.0
<i>Base</i>	(n=102)	(n=51)	(n=59)
Digitally Recorded TV Programs/Movies on a Home PC			
1	42%	33%	39%
2-4	15%	16%	13%
5-10	30%	25%	26%
11-200	11%	19%	16%
More than 200	3%	7%	5%
<i>Median</i>	2.0	4.0	2.5
<i>Base</i>	(n=122)	(n=55)	(n=84)
Digitally Recorded TV Programs/Movies on a DVR			
1-5	36%	26%	27%
6-15	31%	26%	38%
16-30	15%	26%	19%
31-100	15%	20%	15%
More than 200	2%	2%	0%
<i>Median</i>	10.0	15.0	12.5
<i>Base</i>	(n=70)	(n=36)	(n=36)

Online households have a substantial library of DVDs and those with a DVR have, on average, ten programs or movies saved at any one time.

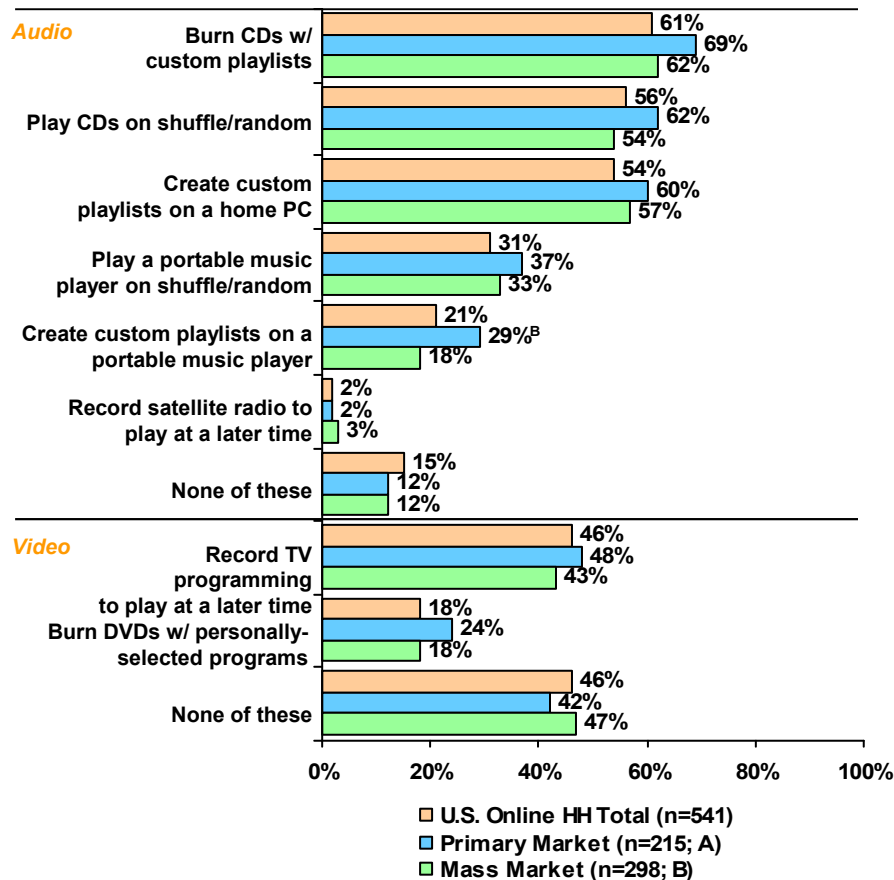
- Primary market consumers tend to have more video content stored than mass market consumers, regardless of the media in question. For instance, primary market consumers have, on average, 45 pre-recorded (or commercial) DVDs compared to an average of 35 among mass market consumers.

Q65-68; Letters denote statistically significant differences among segments.

Storing Content at Home

Personalizing Audio/Video

How Audio/Video is Personalized



Online consumers tend to prefer personalizing their music via self-authored CDs, commercial CDs played on a shuffle/random setting, and creating custom playlists on a home computer. Fewer consumers opt to personalize video than audio, though the most prominent method is simply recording broadcast programming to play at a later time.

- Personalization behavior appears to be heavily influenced by the available infrastructure. More consumers personalize audio than video, in part, because the necessary hardware and software is more prevalent. It's likely this dynamic will obtain even when personal media players become more prominent because consumers generally consider music more versatile—more appropriate in more situations—than video.

Q55/Q69; Letters denote statistically significant differences among segments.

Interest in Media While Traveling by Car

More consumers have a stronger interest in audio entertainment in the car than video entertainment, with broadcast radio and recorded music vying for the top spot.

- A notable percentage of consumers—20%—expressed a strong interest in in-vehicle Internet access.
- Among the video options examined, consumers showed the greatest interest in watching home videos/movies while in the car, presumably, while on family trips. Consumers expressed about the same level of interest in all forms of video, however, with the exception of personal photos and online video games, which scored at the bottom of the video options.

	U.S. Online HH Total (n=541)	Primary Market (n=427)	Mass Market (n=589)
Interest in Specific Types of Media in the Car			
% Very Interested, Top-2-Box		A	B
Radio music programming	55%	56%	55%
Recorded music	53%	56%	54%
Radio talk programming	27%	32%^B	24%
Internet access	20%	26%	21%
Audio books	19%	22%	17%
DVD/cartridge-based videogames	16%	16%	18%
Home videos/movies	15%	15%	17%
TV programming	15%	17%	16%
Theatrical films	14%	17%^B	11%
Children's educational programming	13%	13%	13%
Personal photos	10%	11%	11%
Online videogames	10%	9%	13%^A

Q41; Letters denote statistically significant differences among segments.

Interest in Media While Traveling by Car

	Est. U.S. Online HH Total	Primary Market A	Mass Market B
Vehicle Entertainment Habits			
Occasions Recorded Audio is Typically Listened To			
During leisure trips or vacations by car	80%	83%	78%
Running errands or driving to appointments	74%	75%	70%
Commuting to & from work or school	69%	78%^B	63%
None of these	5%	3%	6%
Base	(n=475)	(n=212)	(n=291)
Occasions When DVDs are Typically Played in the Car			
Among those who have a DVD player in their home & who own a portable DVD player			
During leisure trips or vacations by car	56%	64%^B	47%
Commuting to & from work or school	14%	19%	15%
Running errands or driving to appointments	13%	19%	14%
None of these	39%	30%	47%^A
Base	(n=171)	(n=92)	(n=102)
Those Who Typically Watching DVDs in the Car			
Among those who have a DVD player in their home & who own a portable DVD player			
Children	39%	46%	35%
Self	23%	28%	20%
Spouse or partner	18%	23%	16%
Other adults	16%	21%	22%
None of these	38%	30%	49%^A
Base	(n=171)	(n=92)	(n=102)

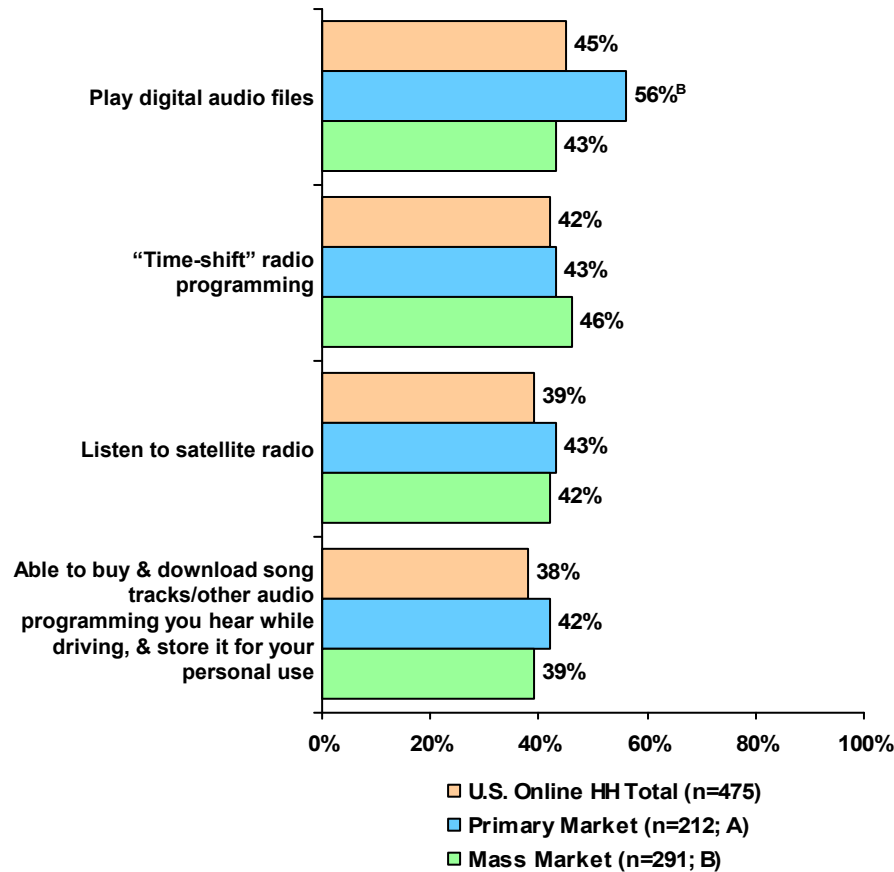
Consumers most often listen to recorded music or play DVDs in their cars during leisure trips or vacations.

- As might be expected, more consumers listen to broadcast or pre-recorded music and on more occasions than those who watch videos.
- The primary audience for in-vehicle DVDs is children, followed by heads-of-household and other adults.

Q106/Q108/Q109; Letters denote statistically significant differences among segments.

Desired Car Audio Features

Desired Car Audio Features
% Very Desirable, Top-2-Box



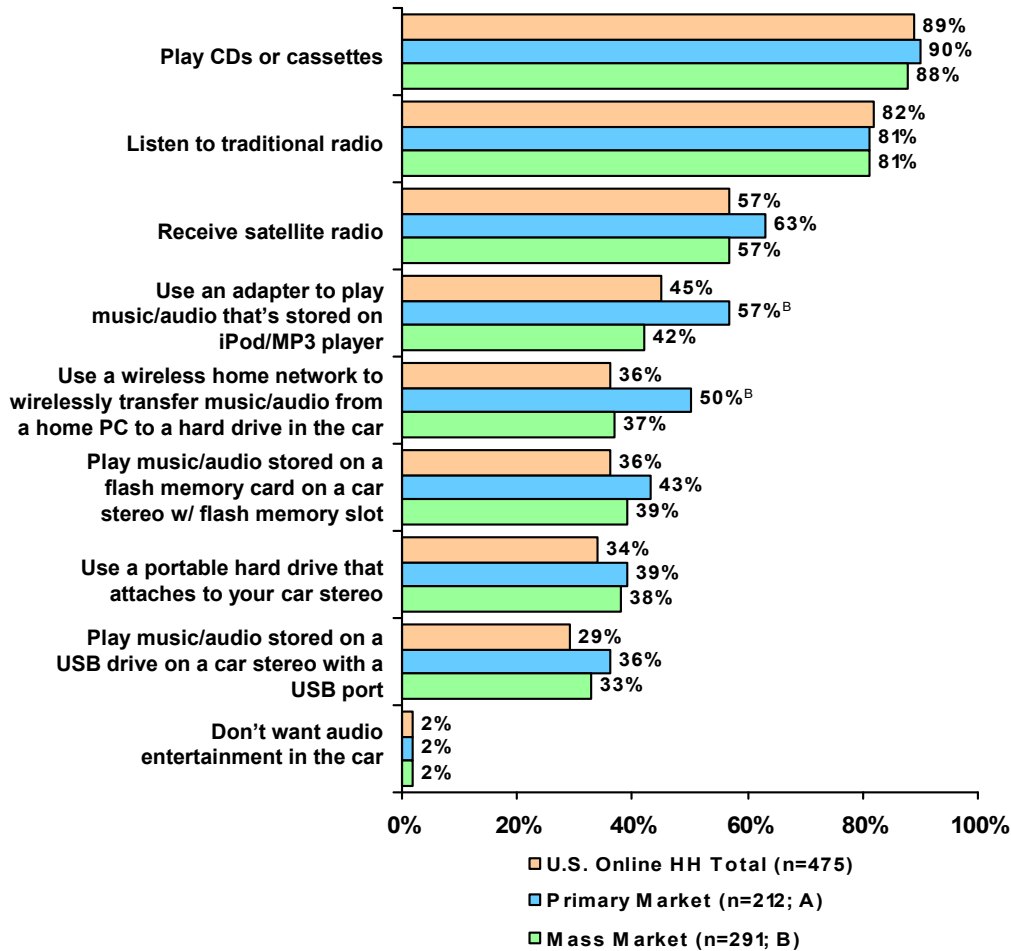
At a minimum, about one-in-four consumers considered all of the audio options we tested 'very desirable,' indicating this area represents a strong market opportunity.

- Given the recent surge in portable MP3 players and the consequent growth in online music stores, it's no surprise a plurality of consumers (45% of online households) would like to play digital audio files in their cars. Primary market consumers are especially keen on this idea.
- The equivalent of TiVo for the car also appeals to a substantial percentage of online consumers, confirming analyst expectations that personalization will become increasingly important as consumers grow accustomed to time-shifting a variety of activities.
- The concept of satellite radio, stripped of the associated costs, proved desirable to about two-in-five households, indicating that the low penetration of the service is due primarily to price.
- About the same percentage of online consumers found the notion of buying and downloading digital music on-the-fly 'very desirable'—another sign of the increasing consumer acceptance of music without any accompanying physical media.

Q112; Letters denote statistically significant differences among segments.

Desired Car Audio Features

Preferences for Getting Audio in the Car



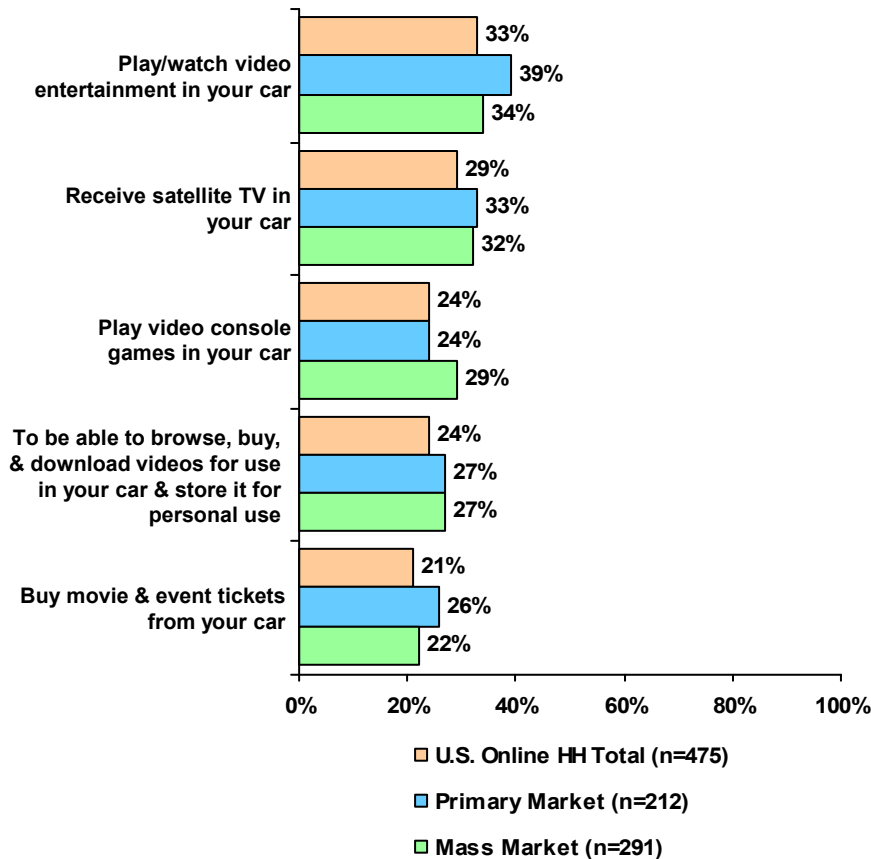
When asked about their preferences for transferring music from home or another location to their car, consumers privileged existing solutions like CDs, broadcast radio and satellite radio; however, more than two-in-five indicated an interest in using an MP3 player adapter and about one-in-three found a variety of more advanced transfer protocols, such as a wireless transfer from a home network, of serious interest.

- In the case of MP3 player adapters and home network transfers, primary market consumers are more likely than their mass market counterparts to show an interest.

Q112A; Letters denote statistically significant differences among segments.

Desired Car Video Features

Desired Car Features
% Very Desirable, Top-2-Box

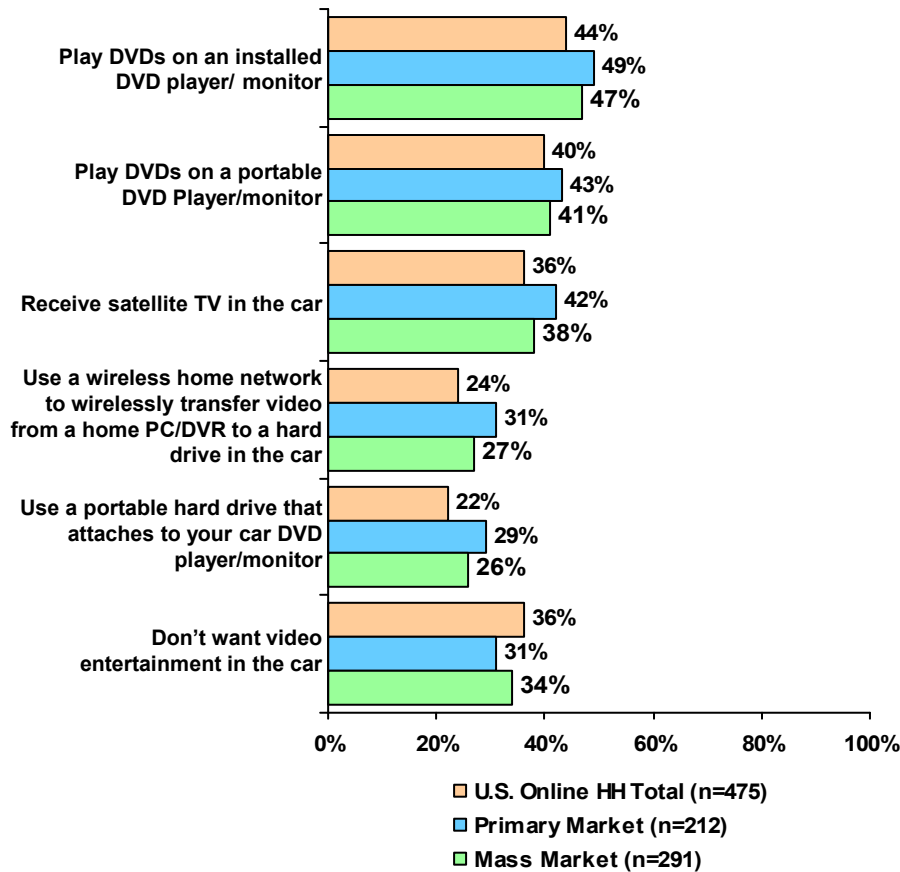


Generally, consumers are less enamored of video entertainment options for the car than audio options. That said, about one-third have a strong interest in playing videos in the car and about nearly as many find the notion of receiving satellite TV in the car 'very desirable.'

- The market for in-vehicle video products is necessarily constrained by family composition, vehicle type and lifestyle considerations, among other things. The desirability scores for the in-vehicle video features tested reflect these market realities.
- As revealed on the next slide, about 36% of online households have no interest in video entertainment for the car compared to only 2% in relation to audio entertainment.

Desired Car Video Features

Preferences for Getting Video the Car



Consumers are more comfortable with non-physical media when it comes to music than video. At this point, they still have a strong preference for DVDs and/or mobile satellite broadcasts rather than purely digital solutions.

Interest in Media While Traveling by Car

	Est. U.S. Online HH Total (n=475)	Primary Market (n=212)	Mass Market (n=291)
Vehicle Entertainment Habits		A	B
Number of Hours Personally Spent in a Car in a Typical Week			
0-7	22%	22%	27%
8-10	27%	28%	25%
11-20	34%	37%	29%
21-60	13%	11%	14%
More than 60	4%	1%	5%^A
<i>Median</i>	10.0	10.0	10.0
Percentage of Time Spent Driving Alone			
0%-25%	26%	17%	31%^A
26%-50%	22%	23%	22%
51%-75%	20%	23%	18%
76%-100%	31%	37%	29%
<i>Median</i>	60%	70%	50%
Percentage of Time Spent Driving With Others in the Vehicle			
0%-25%	40%	48%^B	36%
26%-50%	26%	26%	25%
51%-75%	12%	11%	12%
76%-100%	23%	15%	26%^A
<i>Median</i>	40%	30%	50%

On average, online consumers spend about ten hours in a car in a typical week—and over half that time driving alone.

- Primary market consumers tend to spend more time driving alone, on average, than their mass market counterparts.

Q102-103; Letters denote statistically significant differences among segments.

Interest in Media While Traveling by Car

	Est. U.S. Online HH Total (n=475)	Primary Market (n=212)	Mass Market (n=291)
Vehicle Entertainment Habits		A	B
Percentage of Time Spent ...			
Listening to over-the-air broadcast radio			
0%-25%	33%	38%	31%
26%-50%	29%	31%	30%
51%-75%	16%	15%	16%
76%-100%	21%	16%	23%
Median	50%	45%	50%
Listening to satellite radio			
0%-25%	93%	91%	93%
26%-50%	3%	5%	3%
51%-75%	3%	2%	3%
76%-100%	2%	2%	1%
Median	0%	0%	0%
Listening to CDs & Cassettes			
0%-25%	54%	55%	56%
26%-50%	31%	30%	31%
51%-75%	5%	5%	5%
76%-100%	10%	10%	8%
Median	25%	25%	25%
Listening to MP3s or other digital audio files			
0%-25%	91%	88%	94% ^A
26%-50%	7%	9%	5%
51%-75%	1%	1%	1%
76%-100%	1%	2%	0%
Median	0%	0%	0%
Not listening to the radio or any recorded audio			
0%-25%	90%	91%	89%
26%-50%	5%	4%	8%
51%-75%	3%	4% ^B	0%
76%-100%	2%	1%	3%
Median	0%	0%	0%

On average, online consumers spend about half their time in the car listening to over-the-air broadcast radio and the remaining time listening to pre-recorded audio on CD, cassette or in digital form.

- About 90% of online consumers spend more than 75% of their time in the car listening to the radio or some form of pre-recorded audio.
- As might be expected, primary market consumers are about twice as likely as mass market consumers to listen to MP3s or other digital audio files in the car (12% vs. 6%).

Q104; Letters denote statistically significant differences among segments.

Interest in Media While on the Go

Outside of home, office and car, some consumers have a strong interest in audio entertainment and Internet access. About 10% of online households have a strong interest in other types of media entertainment while on-the-go.

- Based, in part, on the fact that music has been portable longer than other media and allows for multi-tasking to a greater degree than video, more consumers have a strong interest in recorded and broadcast music than video while go-the-go.
- Note that primary market consumers are more likely than their mass market counterparts to have a strong interest in Internet access while on-the-go (27% vs. 19%).

	U.S. Online HH Total (n=1,016)	Primary Market (n=427)	Mass Market (n=589)
Interest in Specific Types of Media While on-the Go % Very Interested, Top-2-Box		A	B
Recorded music	25%	29%	28%
Radio music programming	21%	23%	25%
Internet access	20%	27%^B	19%
TV programming	14%	18%	14%
DVD/cartridge-based videogames	13%	14%	13%
Radio talk programming	12%	14%	12%
Home videos/movies	11%	13%	12%
Personal photos	11%	13%	11%
Theatrical films	10%	15%^B	9%
Audio books	10%	13%	9%
Online videogames	9%	10%	9%
Children's educational programming	7%	8%	8%

Q42; Letters denote statistically significant differences among segments.

Key Findings

- Background & Methodology
- Executive Summary
- Conclusions & Recommendations
- **Key Findings**
 - Technology Ownership
 - Media Entertainment Behavior and Interests
 - **Consumer Designed Products/Services**
 - Demand for Current Home Products/Services
 - Evaluation of New Home Concepts
 - Demand for Current Car Products/Services
 - Evaluation of New Car Concepts
 - Segment Responses to Products & Concepts
 - New Car Intender Responses to Products & Concepts
 - Parent & Teen Responses to Products & Concepts
- Appendix

Consumer Designated Products/Services

What Would you Design: Home Audio

When asked to design their own home audio solutions, many consumers focused on different media formats and new, more convenient transfer methods. Suggested media formats tended to be more durable and smaller than current physical media like CDs, while suggested transfer methods typically concerned wireless Internet downloads anytime, anywhere.

The following are several representative comments:

- *"I would store all playlists and play back as desired on a premium sound system."* - Male, 45-54 yrs.
- *"New CDs would be released in whole online. You could download the whole album to your PC or MP3 player."* - Female, 35-44 yrs.
- *"Ordering songs directly from an MP3 player and having them sent to the player the way ring tones are sent to cell phones."* - Female 18-24 yrs.
- *"Voice activated, digitally integrated, Internet system that would access an online database and play high quality music throughout the house."* - Female, under 18 yrs.
- *"One central, wireless audio center that does not interfere with cordless phones or microwaves. It can stream to any stereo in the house and control multiple stereos."* - Female, 35-44 yrs.
- *"I would like CDs that hold way more music. If you could fit ten or twenty CDs worth of music on one disc that was still versatile enough to be played on a common CD player, that would be quite convenient."* - Male, 35-44 yrs.
- *"Memory sticks to replace CDs. CDs are too easily damaged."* - Male, 45-54 yrs.
- *"It would be wonderful if the music I have on my computer could also be stored on the audio entertainment unit without having to do a lot of transferring of files."* - Male, 45-54 yrs.
- *"One single, powerful, minimal memory-using program that enables one to purchase/download music, download P2P files, purchase/download video, play all types of files, edit audio and video as well as images. Basically a universal entertainment program. It would be extremely stable and efficient. Maybe a onetime fee to download unlimited music. It would be universal and compatible with all file types and media player types."* - Female, 35-44 yrs.
- *"First of all, I would make CDs about the size of a quarter. That would solve storage space problems. They could be stored in a plastic 'roll' and you could carry far more CDs with you than you can now. The players could be about the size of a pocket calculator. It's not as bulky and is far less hassle to carry with you on say, an airplane or walking five miles."* - Female, 25-34 yrs.
- *"I've always wished there was a service in which I could enter my favorite songs, artists, whatever, of any type of music from any time period and the service would provide a personal music choice profile with suggestions of what to buy and/or add to my music library. Just as an example - I would type in 'My Funny Valentine' and I would get back which artists (top 10 or something) recorded that song, other songs of that time or type that I would enjoy, new artists that record that type of music that I would want to check out, etc. Also music that I don't know anything about, but I might like one song on the radio. I don't have time to listen and learn via radio; and I don't have time to go to record stores and hope an employee will know enough to help me choose."* - Female, 55-64 yrs.

Consumer Designated Products/Services

What Would you Design: Home Audio (cont'd)

In addition, a number of consumers suggested home audio concepts that facilitated the distribution of music throughout the house and/or ways to access digital music beyond the home computer.

The following are several representative comments:

- *"I want a wireless speaker system for my PC. It would allow me to send my audio player output to other areas of the house without stringing wires to the speakers. I could put some in my bedroom, on the patio, etc."* - Male, 45-54 yrs.
- *"I would be able to have separate zones for each room of the house, and one or two zones outside. Each could play from a different source, and be controlled independently."* - Female, 45-54 yrs.
- *"I would like something that could tie all electronic elements of daily living into one system that could be accessed all over the house. Something that will work even when the power goes out so that you are not left without. A secure system that could not be hacked into." - Female, 35-44 yrs.*
- *"The audio entertainment system one would design would revolve around the TV. One could digitally record television programming, listen to the radio, download music files, burn CDs and DVD's, etc., all by simply using a highly advanced television set. This would solve the clutter of using various technological devices for specific tasks." - Male, 18-24 yrs.*
- *"A device specifically for ripping music/video off of CDs/DVDs and storing it digitally without the use of a laptop or desktop unit." - Male, 25-34 yrs.*
- *"Have sensors around the house that would play your music in whatever room you are in and would shut down in the rooms no one is in." - Male, 55-64 yrs.*
- *"What I would design would be similar to an existing MP3 player, but in addition to loading files from the computer, this player could instantly link and download new or existing albums in stores for a lesser price." - Female, 25-34 yrs.*
- *"I would design a system that could sense which person is in the room and play that person's type of music. When more than one person is in the room, the first person's preferences would be played, but at a very low volume so they could carry on a conversation." - Female, 35-44 yrs.*
- *"A home entertainment system with no wires. Wireless home theater system. It makes things much easier and you don't have to worry about hiding the wires under furniture or carpet." - Male, 25-34 yrs.*
- *"Make a international music network in which a limitless number of artists and bands from around the world could share their work with others. This could be for "indies," amateurs, or professionals who wish to do so. There would be a fee for subscription per month or per song/record. This would allow people to stop running to the store all the time for the new album by their favorite artists. It would also be extremely convenient for those people with very unique tastes in music would can't always find what they need in a store so are forced to buy imports or pirate the CDs. Also foreign bands' CDs are often extremely difficult to come by, this network would allow people to listen to those artists without any problems." - Male, 45-54 yrs.*

Consumer Designated Products/Services

What Would you Design: Home Video

When asked for home video concepts, many consumers volunteered new delivery methods akin to video-on-demand (VOD). Most of these ideas reflect a declining interest in watching movies in theaters and a consequent desire to see first-run movies at home with the option of digitally recording them for future viewing. Others suggested new media formats or expanded versions of current formats that would be smaller and more durable than existing options.

The following are several representative comments:

- *"Request any movie or show at any time of day. It would store "progress" of watching and be able to resume. It would also be able to quickly search through shows for a desired location."* - Male, 55-64 yrs.
- *"Video on demand that takes into account the types of movies, or the actors I like and makes recommendations or maybe offers me discounts."* - Female, 25-34 yrs.
- *"Releasing new movies to a pay-per-view system and being able to use a DVR to record it. I think a lot of people are staying away from movie theatres. If they were able to watch new movies from their home, a lot more business would be generated. I'd pay \$8 to \$10 for a new movie to be able to watch it from my couch and record it to watch again later."* - Male, 25-34 yrs.
- *"Saving video files on memory sticks that can be directly plugged into the television or DVD player and not require burning a DVD."* - Female, 18-24 yrs.
- *"Video service that would allow you to play and store movies. It can stream wirelessly to anywhere in your house automatically."* - Female, 25-34yrs.
- *"It would be cool to have voice prompts for your TV, DVD, and DVR products. I don't think it would not be worth the hassle and cost to create such a product, but it would be nice to not have to look for the remote when somebody else set it somewhere, or stand at the TV if the batteries died."* - Male, 25-34 yrs.
- *"Audio and video should be put on memory sticks. The sticks should have a cover on the connection end to protect the pins. CD/DVDs are too easily damaged."* - Male, 45-54 yrs.
- *"A one-touch system that would record any program onto a DVD, without having to transfer files or change settings every time. An easier/no-worry DVD player/recorder. Power outages, cable outages, etc. wouldn't interrupt the recording. The DVR I use only transfers files to a tape, not a disc. Who uses that?"* - Male, 45-54 yrs.
- *"Coming up with a system that would work on all systems without having to do transfers to different mediums."* - Female, 45-54 yrs
- *"A device which plugs into your television and the internet and enables you to download videos and play them directly on your TV."* - Male, 18-24 yrs.
- *"The ability to download or burn new releases or any movie to a DVD to watch whenever you like, paying more than the cost of a rental, but less than the cost of buying one. It would save late fees or being charged the entire cost of the DVD. It would save time, gas and mileage, and my family would probably watch more movies."* - Male, 55-64 yrs.

Consumer Designated Products/Services

What Would you Design: Home Video (cont'd)

Other suggestions ranged from new broadcast channel selection options to a universal, Internet-based gaming network that would provide consumers with access to all games, regardless of platform via a broadband connection.

The following are several representative comments:

- *"I would offer "cafeteria" style channel selection. By that I mean a person would select only the channels they wanted from their cable or satellite TV service, unlike the way it is now where you have to take their packages that usually include dozens of channels you don't watch. Maybe there could still be packages, but they would be smaller, to allow a more granular selection. My personal example is my satellite provider. I took a package of 120 channels, but there are probably 40 channels I never watch." - Male, 45-54 yrs.*
- *"DVR that knows when a program goes over its scheduled time slot, and keeps recording" - Female, 45-54 yrs.*
- *"I would design a device that would allow parents to control all programming on all TVs in the house at all times. I don't just mean parent controls like the v-chip. I mean being able to monitor the channels that are being watched, what is on, and change them as necessary without having to leave the office." - Female, 35-44 yrs.*
- *"A disc that would not ever wear out and not be sensitive to heat or cold. A strong durable material that won't scratch and can take abuse(like kids using them). Something that would not cost alot and easy to make." - Male, 35-44 yrs.*
- *"One would create what seems like a virtual Blockbuster, where one could simply pick new releases and have them streamed to the home by way of your own television (i.e. the remote) and have a major credit card charged. This would solve the hassle of driving to a 'movie place' or Blockbuster." - Male, 18-24 yrs.*
- *"USB drive plugs directly into video recording units, allowing the user to record directly to the USB jump drive instead of to a DVD or tape. Media is much smaller and would be much more convenient." - Male, 25-34 yrs.*
- *"I would design a DVD player that could send whatever it was playing on one "main unit" to any other TV in the house, regardless of equipment on that TV. In addition, the TV the "main unit" was hooked up to would not necessarily need to be viewing the DVD - it could be viewing other TV or stored media. A remote would still work on any TV viewing the DVD. This would solve the problem of only having one DVD player for multiple TVs." - Female, 25-34 yrs.*
- *"Portable satellite television. A portable TV you can take with you on your travels that gets the same digital quality and local channels you get at home." - Male, 25-34 yrs.*
- *"I would design a global gaming network. Anyone who paid a subscription could download popular game titles for the Playstation 2, XBOX and Gamecube consoles. All they would need is a network adapter to fit on their console and an Internet connection to plug into. People who live out in the country would no longer have to drive 30-40 miles to the nearest retail store in order to pick up the latest gaming titles. Anyone could pay for a game and start playing it in a matter of minutes, without ever leaving their seats. It would be useful for those game lovers who have limited mobility, as they wouldn't need to be carted around or leave their homes in order to play a new game." - Male, 45-54 yrs.*

Consumer Designated Products/Services

What Would you Design: Car Audio

When asked for car audio concepts, many consumers suggested easier ways to transfer digital music to their cars or access it once in-vehicle. One intriguing notion is a satellite radio-based peer-to-peer system that would allow consumers to search for and download songs from a network of in-vehicle hard drives.

The following are several representative comments:

- *"I would design a system that had a an iPod dock to play music, has DVD-ROM capability, and also has wireless Internet to put music on."* - Male, 25-34 yrs.
- *"Being able to make a playlist is very important to me, especially when driving cross country. I don't want to be listening to commercials for twelve hours a day. I would want a way to transfer large amounts of selected media to my car."* - Female, 18-24 yrs.
- *"A way of listening to my favorite local radio stations without the use of an antenna, and still get clear reception. Not generic satellite radio but my favorite local station!"* - Female, 55-64 yrs.
- *"I would design a radio deck able to display song information from the radio (I.e. song title, artist, etc). This would enable people to identify songs that they enjoy hearing on the radio."* -Female, 18-24 yrs.
- *"I would create a disk that can hold more files, like a larger DVD, so all of your favorite songs could be transported, without the fear of losing an expensive piece of equipment."* - Male, 18-24 yrs.
- *"Audio wise, I think that if there was a way to use small ear pieces so that everyone could watch or listen to different things at one time without being distracted."* -Female, 25-34 yrs.
- *"I would re-design CDs to make them much more affordable. The whole reason people illegally burn CDs is because they're so expensive! Also, legally paying \$1.00 per song on Napster is just as costly. If there was some median between paying \$20.00 and illegally burning for free, I'm sure that people would practice legal ways of purchasing music that also benefited the artists."* - Female, 18-24 yrs.
- *"I'd design a type of satellite radio and peer-to-peer sharing hybrid, where you could store music on a hard drive in your car and download more music from others via satellite."* - Male, 18-24 yrs.
- *"First, all new stereo systems would come with an in-line jack so any portable audio player can send a digital single to the stereo. Then devise some sort of wireless device that (by voice prompt) would download via satellite, or other means, exactly the kind of music (author, genre, etc.) that you feel like at any moment. This would then be stored on a hard drive and could be synced to the home, once parked in the garage, or played while on the road. Subscription to satellite downlink could be a small monthly charge or by song."* - Male, 18-24 yrs.
- *"A system that would remember all of your favorite audio selections, just by pressing a button that you were able to program for your personal tastes. Each passenger would have their own stored set of selections which were able to be chosen from an endless list of songs."* - Female, 35-44 yrs.
- *"Design a unit that would play CDs, DVDs, TVs, recorders for both TV/radio/DVD, and satellite radio all in the same unit, and include it as a standard feature in cars and homes."* - Female, 55-64 yrs.

Consumer Designated Products/Services

What Would you Design: Car Audio

Other suggestions include new media formats and voice recognition controls designed to minimize distractions.

The following are several representative comments:

- *"It would store and recall music from satellite radio in MP3 form, as well as encoding from CDs and storing them on a high -capacity hard drive in the car. The drive would be a Seagate Barracuda since they have the highest impact resistance of any HDD currently in production." - Male, 18-24 yrs.*
- *"Some sort of universal music library (like Kazaa) through which I could find and listen to any song at any time. There would have to be a hard drive of some sort to keep the songs I really like. A USB port would be great to upload songs through would be nice, too." - Male, 18-24 yrs.*
- *"I would love an audio player that would have video ability, so that when a song is playing, it would automatically find the video to that song. I would love to be able to watch the artist's video while listening to the song. This might already be a current product but not one I've ever heard of." - Male, 25-34 yrs.*
- *"I would design a system that remotely accessed a music library that was stored at home, negating the necessity for bulky CD and tape collections." - Female, 45-54yrs.*
- *"Wireless integration allowing users to transfer or play from a portable device, preloaded from home. The system must allow for multiple users to listen to different music choices simultaneously without disturbing others." - Male, 55-64 yrs.*
- *"I would design a device that would allow me to download audio from my PC without any wires. It would allow me to purchase music online and access pre-recorded music anytime ,anywhere." - Female, 18-24 yrs.*
- *"A computer with a voice activated sound system so that it could be a hands -free device. The computer would also need to be able to download songs and have a CD burner so that on long car drives you can get some burning done." - Male, under 18 yrs.*
- *"I would design a device that would turn up the volume, change channels, change tracks on CDs, turn on and off, etc. when told to so I don't have to fuss with buttons and my parents don't get distracted on the road." - Female, under 18 yrs.*

Consumer Designated Products/Services

What Would you Design: Car Video

When asked for car video concepts, many consumers suggested easier ways to access video entertainment and/or distribute video to different passengers. Consumers with young children often commented on the difficulty of selecting and/or changing CDs in existing systems.

The following are several representative comments:

- *"A DVD player with a screen attached to the stereo system and is detachable by others for wireless viewing." - Male, 25-34 yrs.*
- *"Having an on demand type of service, with one fee for the month or year. A selection of movies that changes every month. Parents can choose what type or rating of movies they want their children to see. This way, there would be no changing of discs or tapes in the car. The parents wouldn't have to pull over to change the movie. Maybe there could even be an Internet site where the parents could sign in and choose which movies would be available." - Female, 18-24 yrs.*
- *"A video system that has viewing screens for both the driver (while sitting in the car waiting for others), the front seat passenger, and those sitting in the back seats, with screens located behind each of the front seats. It would have a programmable filing system which could be stored on a computer type system, located in the car's trunk, and accessed in a manner similar to a home network so that each person could be watching something different. For safety, the driver's screen would automatically go to "sleep" mode when the car is in a driving gear or any gear other than park. All units would have separate headphones so as not to compete with other units, or to distract the driver." - Female, 55-64 yrs.*
- *"If there were a way to inexpensively install separate TVs and DVD players with earphones, so that everyone could watch different things at the same time, that would be great. I have children in my household ranging from one year to 17 years-old and we always cater to the one year-old's video preferences." - Female, 25-34 yrs.*
- *"I would design a system that darkened or tinted windows while a movie was being watched in the car. This would enhance the effect of the movie experience." - Female, 18-24 yrs.*
- *"I'd design a subscription-based satellite service that provides access to movies and television. Also, you could watch these things anytime without having to record them first." - Male, 18-24 yrs.*
- *"A system that would connect wirelessly to a database (by voice prompt) and choose a movie for the day. That movie would then be downloaded into the car (available for installed backseat video players with some sort of a sound shield to protect the driver's concentration). When I got home, my car would sync up with an installed home server and the new movie would be uploaded into the server's hard drive, so that it could be played at home." - Male, 18-24 yrs.*
- *"You would be able to watch satellite television from each video station per passenger. Toting along movies would be a thing of the past as you would be able to instantly choose a movie from a broad selection stored in a database." - Female, 35-44 yrs.*

Consumer Designated Products/Services

What Would you Design: Car Video

Other suggestions tended to revolve around a media server for the car—a device that would facilitate multiple media entertainment activities at the same time for different passengers.

The following are several representative comments:

- *"I would like to have to be able to have a video library of music videos that match my audio playlist and be able to watch the video of the song I want to hear in the car."* - Male, 25-34 yrs.
- *"I would design a way to mute the children while they watch video entertainment, as this way they might not distract the driver."* - Female, 45-54 yrs.
- *"I would design a system that would allow access to each household's MP3s, DVDs and photo files, as well as the Internet. There would be a master keypad in the center console that any passenger would be able to control. There would be a surround sound system and a DVD player mounted in the middle of the ceiling. The DVD player would have the ability to be oriented for the front passenger or the rear passengers. That way, people could get into the car and, with the push of a button, play their MP3, DVD, or even photo collection."* - Female, 18-24 yrs.
- *"I would have a screen that pulls down from the roof of the car so that my kids can watch movies, TV, or video games. There would also be a satellite service so that unlimited options were available for movie, games, TV, music videos or radio. This provides the option of watching the same program or different programs."* - Female, 35-44 yrs.
- *"I would design a system with Internet access (that is voice activated) that could be accessed anywhere, without the need to have your hands on a keyboard. This system would provide you with music, movies, games, news and directions."* - Female, 35-44 yrs.
- *"Any product would need to be interactive and also segregated allowing users to select between movies, games or music without disturbing other travelers."* - Male, 45-54 yrs.
- *"My friend and I like playing video games in the car. So, I guess you could have one screen or a couple of screens for the passengers in back."* - Female, 45-54 yrs.
- *"I would design a single entertainment device that could be controlled by several touch screens inside of the car. It would be a sort of "super PC" that could power any separate video game console, have wireless Internet access, be able to play satellite radio, DVDs, and download and play music and movies from the Internet."* - Female, 18-24 yrs.
- *"The car would have a computer that could automatically call up DVD files so that I could choose from any of my DVDs faster. It would also be nice if there was a DVD burner in the car."* - Male, under 18 yrs.

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Demand for Current Home Products/Services

	Est. U.S. HH Total (n=368)	Est. U.S. Online HH Total (n=541)	Primary Market (n=215)	Mass Market (n=298)
Adjusted Demand for Home Products/Services				
Video-on-Demand (VOD)	4%	6%	7%	7%
Xitel's HiFi-Link	4%	6%	6%	5%
iTunes Music Store	3%	4%	3%	6%
Apple iPod- All	2%	4%	3%	3%
DVR	2%	3%	3%	3%
JBL On Stage Docking Speaker System	2%	3%	3%	4%
XM Satellite Radio for car	2%	3%	4%	3%
Movielink	2%	3%	3%	4%
XM Satellite Radio for home	2%	2%	3%	2%
Sonos Digital Music System	2%	2%	3%	2%
TV Tuner Card/ Digital VCR	1%	2%	3%	2%
Yahoo Music Unlimited	1%	2%	2%	2%
Slingbox Personal Broadcaster	1%	2%	2%	2%
HP Media Center PC - All	1%	2%	2%	1%
HP Media Center PC - A black box CPU	1%	1%	2%	1%
Apple iPod -- 1GB iPOD Shuffle	1%	1%	1%	2%
Apple iPod -- 20GB iPOD	1%	1%	2%	1%
Apple iPod -- 4GB iPOD Mini	1%	1%	1%	1%
HP Media Center PC - A white tower CPU	0%	0%	0%	0%

Demand for the representative home audio and video products we tested appears to be higher among online households than U.S. households generally, though no significant differences emerged between primary and mass market consumers.

- To assess whether demand for certain products is increasing or declining, we included some of the same offerings examined as part of the 2003 State of the Connected Home Market Study. Comparing results between the two points in time suggests the following:
 - Consumer demand for video-on-demand has held steady;
 - The market potential for Xitel's HiFi-Link, which facilitates playing PC-stored digital music files on a stereo, has improved, probably due to the intervening proliferation of MP3 players; and
 - Consumer demand for XM satellite radio, TV tuner cards and Media Center PCs remains about the same—none of these products have gained more likely adopters over the past two years.

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Evaluation of new Home Concepts

Audio

	Est. U.S. HH Total (n=368)	Est. U.S. Online HH Total (n=541)	Primary Market (n=215)	Mass Market (n=298)
HD Radio				
Concept Ratings (Average/Mean)				
Likeability	3.3	4.8	4.8	4.9
Compatibility	3.0	4.4	4.4	4.5
Relative Advantage	3.7	5.5	5.4	5.4
Complexity	3.1	4.5	4.5	4.6
Adjusted Demand				
HD radio receiver for car	9%	13%	13%	13%
HD radio receiver for home	8%	12%	12%	12%
Digital Audio Recorder				
Concept Ratings (Average/Mean)				
Likeability	3.0	4.4	4.5	4.6
Compatibility	2.8	4.1	4.1	4.4
Relative Advantage	3.3	4.9	4.9	5.0
Complexity	3.1	4.6	4.6	4.7
Adjusted Demand	6%	9%	10%	10%
Visual Radio on Mobile Phone				
Concept Ratings (Average/Mean)				
Likeability	2.4	3.5	3.5	3.6
Compatibility	2.2	3.2	3.3	3.3
Relative Advantage	3.0	4.5	4.5	4.5
Complexity	2.9	4.2	4.4	4.2
Adjusted Demand	3%	5%	6%	5%

Among the home audio concepts tested, high-definition radio (HD radio) has the greatest immediate mass market potential, followed by digital audio recorders (DARs) and visual radio for mobile phones.

- HD radio uses a digital radio signal that piggybacks on standard analog frequencies. Given the high consumer interest in broadcast radio noted earlier, it's no surprise this concept garnered the greatest interest. HD radio scored particularly high among online consumers in terms of 'relative advantage'; in other words, most online consumers regarded HD radio as an improvement on existing radio broadcasts. Consumer demand for this concept is about equally strong for home and car.
- About one-in-ten online households would seriously consider adopting a DAR, allowing them to time-shift broadcast radio. A DAR is an HD-compatible radio receiver that records radio programming on a hard drive for listening later.
- Visual radio allows consumers to tune into local FM radio via their mobile phones while simultaneously receiving info and graphics synchronized with the broadcast. This concept tended to polarize consumers, with a decided majority considering it incompatible with their lifestyle. That said, the concept trumped estimated demand for the iPod, indicating it may have legs.

Evaluation of new Home Concepts

Video

	Est. U.S. HH Total (n=368)	Est. U.S. Online HH Total (n=541)	Primary Market (n=215)	Mass Market (n=298)
Multimedia Server				
Concept Ratings (Average/Mean)				
Likeability	3.5	5.1	5.3	5.2
Compatibility	3.2	4.8	4.9	4.8
Relative Advantage	3.6	5.3	5.4	5.3
Complexity	2.9	4.2	4.2	4.4
Adjusted Demand				
Multimedia server: All	9%	13%	14%	14%
Multimedia server: White Tower CPU	7%	10%	9%	14%
Multimedia server: Black Box CPU	9%	13%	15%	14%
Multimedia server: Game Console CPU	10%	15%	12%	18%
Movie Download Monthly Service (Library of 250 Movies)				
Concept Ratings (Average/Mean)				
Likeability	3.0	4.4	4.6	4.2
Compatibility	3.0	4.4	4.7	4.2
Relative Advantage	3.1	4.5	4.6	4.3
Complexity	3.6	5.3	5.4	5.2
Adjusted Demand	8%	12%	14%	11%
Movie Download Monthly Service (Library of 40,000 Movies)				
Concept Ratings (Average/Mean)				
Likeability	3.1	4.6	4.6	4.5
Compatibility	3.1	4.5	4.5	4.5
Relative Advantage	3.3	4.8	4.8	4.7
Complexity	3.4	5.1	5.2	5.0
Adjusted Demand	10%	15%	16%	13%

The multimedia server proved to be the most popular home video concept, followed by a movie download service with a substantial title library.

- Over the years, the Alliance has evaluated a number of variations on the multimedia server concept. All of them have proven to be popular among online households. This version was characterized as 'a single box solution for storing and playing digital media, including audio, TV, home video and still images.' Of the three form factors tested, the game console version appealed to the greatest percentage of online households, generally due to strong demand from mass market consumers. As in previous studies, primary market consumers lean toward a 'black box CPU'—a device resembling a cable/satellite TV box that would fit in an entertainment center—rather than a game console.
- We tested two distinct variations on current movie download services. Both versions allowed consumers to download an unlimited number of movies from the Internet to either a PC or DVR in exchange for a monthly fee. The first version involved a limited, though changing library of 250 movies, while the other contained a library of 40,000 and permitted consumers to automatically download up to three movies at a time based on their personal online queue. Both versions tested sufficiently well to warrant further exploration.

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Demand for Current Car Products/Services

	Est. U.S. HH Total (n=323)	Est. U.S. Online HH Total (n=475)	Primary Market (n=212)	Mass Market (n=291)
Adjusted demand for Car Products/Services				
TransPod iPod Car Adapter	5%	8%	8%	8%
XM Satellite Radio for car	4%	6%	7%	7%
Rockford Fosgate's Omnifi	4%	5%	6%	6%
XM Satellite Radio for home	3%	5%	6%	6%
TracVision Satellite TV Expansion Pack	3%	5%	5%	6%
TracVision Statellite TV antenna	3%	4%	5%	5%
Vizualogic's Headrest Video Monitor System	2%	3%	3%	3%

Demand for the representative car entertainment products we tested appears to be on the rise. Across the board, these products have broadened their likely reach over the last two years.

- In general, consumer demand is stronger for car audio products than video products. Even so, where comparable data are available from our 2003 State of the Connected Home Market study, consumer demand is up for both existing audio and video products
- In 2003, consumer demand for XM satellite radio for the car was estimated at about 3% of online households; the new estimate is twice that percentage, indicating the service has significant untapped potential.
- In terms of both the TracVision satellite TV system and Vizualogic's Headrest TV system, consumer demand is up, though still relatively weak. Estimated demand for the latter, for instance, has gone from less than 1% to about 3% of online households over the last two years—a noticeable uptick but hardly indicative of a breakthrough product.

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Evaluation of New Car Concepts

Audio

	Est. U.S. HH Total (n=323)	Est. U.S. Online HH Total (n=475)	Primary Market (n=212)	Mass Market (n=291)
Mobile Music Store			A	B
Concept Ratings (Average/Mean)				
Likeability	3.2	4.7	4.9	4.7
Compatibility	3.0	4.4	4.6	4.6
Relative Advantage	3.6	5.3	5.2	5.5^A
Complexity	3.2	4.7	4.8	4.8
Safe driving habits	2.6	3.9	4.1	4.0
Adjusted Demand	11%	17%	18%	19%
Audio Entertainment Hard Drive				
Concept Ratings (Average/Mean)				
Likeability	2.9	4.2	4.3	4.2
Compatibility	2.7	4.0	4.2	4.0
Relative Advantage	3.2	4.7	4.8	4.8
Complexity	3.0	4.4	4.4	4.5
Safe driving habits	2.6	3.9	4.0	4.0
Adjusted Demand	7%	11%	12%	12%
Digital Audio Recorder				
Concept Ratings (Average/Mean)				
Likeability	3.0	4.4	4.5	4.5
Compatibility	2.7	4.0	4.3	4.1
Relative Advantage	3.3	4.8	4.8	4.9
Complexity	3.1	4.5	4.6	4.7
Safe driving habits	3.1	4.5	4.6	4.7
Adjusted Demand	7%	11%	11%	14%

Among the three car audio concepts we examined, the mobile music store, which would allow consumers to buy songs instantly via satellite radio, generated the greatest consumer interest.

- The mobile music store was described as a way for consumers to instantly download desirable songs to a car hard drive, copy them to a home computer or MP3 player (via a USB connection), and/or burn them to a CD. The concept also indicated consumers could copy digital music from their home library by connecting their car's removable hard drive to a home PC or MP3 player via a USB cable. The concept addressed the most prevalent ideas consumers suggested (unaided), namely, improving ways to access and store digital music in the car. This observation is evinced by the high average 'relative advantage' score the concept garnered.
- The other two concepts scored well, also. The audio entertainment hard drive was defined, in part, as a hard drive in new automobiles that would come pre-loaded with audio content that could be previewed and purchased instantly. The DAR, on the other hand, was described as a DVR for the car, designed for time-shifting radio programming. Both yielded total addressable markets of about 11% of online households.

Q122-127C; Letters denote statistically significant differences between segments.

Evaluation of New Car Concepts

Video

	Est. U.S. HH Total (n=323)	Est. U.S. Online HH Total (n=475)	Primary Market (n=212)	Mass Market (n=291)
Video Entertainment Hard Drive				
Concept Ratings (Average/Mean)				
Likeability	2.7	4.0	4.2	4.1
Compatibility	2.6	3.9	3.9	4.0
Relative Advantage	3.3	4.8	4.9	4.9
Complexity	3.0	4.5	4.4	4.7
Safe driving habits	2.4	3.5	3.6	3.6
Adjusted Demand	6%	9%	10%	11%
Quick Clips Video				
Concept Ratings (Average/Mean)				
Likeability	2.5	3.7	3.8	3.9
Adjusted Demand				
Quick Clips Video (watch twice/week)	24%	35%	29%	42%
Quick Clips Video (buy)	4%	5%	6%	7%

The Video Entertainment Hard Drive edged out the Quick Clips Video service for the top-ranked car video concept. Although about one-third of online consumers would seriously consider using the Quick Clips Video service—designed to entertain passengers on short trips—few indicated they would be likely to purchase it. As described to respondents, the service would provide TV programs, news, music videos and specialty programming, including children’s programs, in 15-minute increments.

- The video entertainment hard drive is analogous to the audio entertainment hard drive described earlier. The video version of the concept scored similarly, with an estimated demand among online households of about 9% compared to 11% for the audio version.

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Segment Responses to Products

To better understand the composition of the DE market, we developed a consumer household segmentation scheme based on self-reported product adoption, current product ownership and technology-related behavior. The optimal solution involved eight segments, described briefly below:

- **Innovators** (15% of online households): These are quintessential early adopters who own the broadest range of new technologies for the home and car.
- **Early adopters** (12% of online households): This group consists of consumers who own a moderate amount of new home audio/video and car audio/video technologies. Roughly speaking, their pattern of adoption is similar to that of innovators, just less intense.
- **Early majority 1** (14% of online households): These consumers are heavy consumers of home computers and gaming technology.
- **Early majority 2** (13% of online households): Home computers and audio technologies are of greatest interest to this segment.
- **Late majority 1** (9% of online households): The distinguishing feature of this group is a penchant for console gaming technology; otherwise, they aren't heavy consumers of home technology.
- **Late majority 2** (14% of online households): These consumers are relatively low consumers of home computers and moderate consumers of other product categories.
- **Late majority 3** (14% of online households): Low consumers of TV-related technologies and moderate consumers of home computing technologies.
- **Laggards** (9% of online households): These are traditional late adopters who are low consumers of technologies across the board.

Segment Responses to Products

As might be expected, so-called 'Innovators' who have a preponderance of new technology are most likely to adopt many of the products we tested. They are heavily audio-focused, so are more likely than other segments to acquire an iPod and/or an associated docking station, a Sonos whole-house audio system, XM satellite radio (for home or car) and any of the car video options we examined.

	Innovators (Heavy tech. owners)	Early Adopters (Moderate tech. owners)	Early Majority 1 (Heavy PC + TV + gaming tech. owners)	Early Majority 2 (Heavy PC + audio owners)	Late Majority 1 (Heavy console gamers)	Late Majority 2 (Low PC owners)	Late Majority 3 (Moderate PC owners, low TV owners)	Laggards (Light tech. owners)
[heavy tech. owners]								
Home Audio/Video Products								
Xitel's HiFi-Link	20%	12%	14%	11%	5%	9%	11%	9%
Apple iPod- All	20%	14%	13%	9%	7%	9%	13%	7%
Apple iPod -- 1GB IPOD SHUFFLE	10%	18%	5%	23%	10%	8%	13%	5%
Apple iPod -- 4GB IPOD MINI	18%	20%	11%	4%	6%	5%	8%	2%
Apple iPod -- 20GB IPOD	23%	0%	18%	8%	7%	25%	18%	23%
iTunes Music Store	11%	12%	17%	10%	5%	9%	16%	8%
Yahoo Music Unlimited	4%	4%	6%	4%	2%	6%	3%	3%
JBL On Stage Docking Speaker System	16%	9%	8%	7%	2%	5%	6%	9%
Sonos Digital Music System	12%	7%	3%	6%	5%	2%	6%	3%
XM Satellite Radio for car	16%	7%	6%	8%	10%	6%	6%	2%
XM Satellite Radio for home	9%	3%	5%	7%	7%	6%	8%	1%
TV Tuner Card/ Digital VCR	18%	10%	8%	10%	4%	6%	5%	5%
HP Media Center PC	6%	9%	4%	8%	5%	5%	6%	1%
HP Media Center PC -- A white tower CPU	0%	0%	5%	10%	0%	0%	5%	0%
HP Media Center PC -- A black box CPU	6%	10%	4%	7%	5%	6%	7%	1%
DVR	11%	15%	11%	8%	18%	11%	12%	8%
Video on Demand	28%	22%	12%	13%	16%	18%	14%	10%
Slingbox Personal Broadcaster	8%	6%	4%	7%	5%	4%	6%	5%
Movielink	15%	9%	6%	10%	6%	5%	7%	8%
Base	(n=55)	(n=65)	(n=75)	(n=67)	(n=43)	(n=89)	(n=71)	(n=48)
Car Audio/Video Products								
XM Satellite Radio for car	22%	10%	8%	12%	13%	3%	6%	7%
XM Satellite Radio for home	19%	9%	7%	11%	10%	3%	6%	5%
Rockford Fosgate's Ormifi	19%	8%	9%	9%	7%	6%	5%	2%
TransPod iPod Car Adapter	24%	17%	11%	14%	10%	10%	8%	6%
Vizualogic's Headrest Video Monitor System	10%	6%	3%	7%	5%	6%	1%	5%
TracVision Satellite TV antenna	16%	7%	7%	11%	9%	3%	5%	4%
TracVision Satellite TV Expansion Pack	15%	6%	6%	14%	8%	3%	6%	5%
Base	(n=100)	(n=58)	(n=65)	(n=69)	(n=51)	(n=49)	(n=68)	(n=43)

Q80-95, Q115-121

Segment Responses to Concepts

Among Innovators, the three concepts that generated the greatest demand estimates include: the mobile music store (28%; allows consumers to purchase songs from the radio), the multimedia server (21%) and the digital audio recorder (20%).

- Interestingly, so-called Laggards appear to be much more interested in video than audio concepts. For instance, only 7% took a serious interest in the mobile music store (the top-ranked concept among Innovators) compared to about 17% in regards to the online movie download service.

	Innovators (Heavy tech. owners)	Early Adopters (Moderate tech. owners)	Early Majority 1 (Heavy PC + TV + gaming tech. owners)	Early Majority 2 (Heavy PC + audio owners)	Late Majority 1 (Heavy console gamers)	Late Majority 2 (Low PC owners)	Late Majority 3 (Moderate PC owners, low TV owners)	Laggards (Light tech. owners)
Segment Response to Concepts (Adjusted Demand)								
Home Audio/Video Concepts								
HD radio receiver for car	19%	13%	13%	12%	12%	12%	13%	11%
HD radio receiver for home	17%	12%	12%	12%	10%	10%	14%	9%
Digital Audio Recorder	12%	10%	7%	13%	8%	9%	10%	6%
Visual Radio	12%	7%	4%	5%	3%	5%	5%	5%
Multimedia server: All	21%	14%	15%	17%	11%	12%	12%	12%
Multimedia server: White tower CPU	37%	8%	20%	4%	10%	10%	6%	16%
Multimedia server: Black box CPU	20%	15%	13%	18%	11%	13%	13%	11%
Multimedia server: Game console CPU	18%	16%	21%	14%	8%	10%	16%	10%
Movie Download Monthly Service (250 movies)	15%	13%	12%	9%	7%	18%	10%	17%
Movie Download Monthly Service (40K movies)	16%	18%	13%	19%	16%	11%	11%	17%
Base	(n=55)	(n=65)	(n=75)	(n=67)	(n=43)	(n=89)	(n=71)	(n=48)
Car Audio/Video Concepts								
Mobile Music Store	28%	19%	16%	21%	19%	9%	16%	7%
Audio Entertainment Hard Drive	19%	11%	10%	13%	12%	8%	12%	6%
Digital Audio Recorder	20%	10%	13%	12%	14%	8%	9%	4%
Video Entertainment Hard Drive	17%	9%	9%	13%	10%	9%	7%	5%
Quick Clips Video (watch twice/week)	36%	42%	19%	24%	48%	31%	36%	43%
Quick Clips Video (buy)	12%	7%	5%	7%	5%	4%	3%	5%
Base	(n=100)	(n=58)	(n=65)	(n=69)	(n=51)	(n=49)	(n=68)	(n=43)

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New Car Intender Responses to Products & Concepts

	Est. U.S. HH Total (n=323)	Est. U.S. Online HH Total (n=475)	New Car Intenders (n=249)
New Car Intender Responses to Products (Adjusted Demand)			
TransPod iPod Car Adapter	5%	8%	14%
XM Satellite Radio for car	4%	6%	13%
Rockford Fosgate's Omnifi	4%	5%	18%
XM Satellite Radio for home	3%	5%	14%
TracVision Satellite TV Expansion Pack	3%	5%	12%
TracVision Statellite TV antenna	3%	4%	9%
Vizualogic's Headrest Video Monitor System	2%	3%	12%

	Est. U.S. HH Total (n=323)	Est. U.S. Online HH Total (n=475)	New Car Intenders (n=249)
New Car Intender Responses to Concepts (Adjusted Demand)			
Quick Clips Video (watch twice/w eek)	24%	35%	35%
Mobile Music Store	11%	17%	22%
Digital Audio Recorder	7%	11%	16%
Audio Entertainment Hard Drive	7%	11%	16%
Video Entertainment Hard Drive	6%	9%	13%
Quick Clips Video (buy)	4%	5%	8%

New car intenders tended to respond more favorably than online consumers generally to current and potential products.

- Among existing vehicle entertainment products, new car intenders showed the strongest purchase interest in Rockford Fosgate's Omnifi system, followed by an iPod adapter and XM satellite radio for home (tie).
- In terms of potential vehicle entertainment products, new car intenders expressed the greatest interest in the mobile music store, followed by the digital audio recorder. Although a plurality indicated they would likely use the Quick Clips Video service if it were available, only 8% indicated they would be likely to acquire it.
- While the general pattern of purchase interest across products among new car intenders is similar to those for online households generally, the relevant proportions are different. Overall, a greater percentage of new car intenders considers themselves part of the addressable market for these products.

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Parent & Teen Responses to Products

Parent and Teen Responses to Products (Adjusted Demand)	Primary Market		Mass Market	
	Parents	Teens	Parents	Teens
Home Audio/Video Products				
Xitel's HiFi-Link	13%	19%	5%	10%
Apple iPod- All	3%	11%	5%	14%
Apple iPod -- 1GB IPOD SHUFFLE	0%	2%	3%	3%
Apple iPod -- 4GB IPOD MINI	2%	1%	1%	4%
Apple iPod -- 20GB IPOD	0%	8%	1%	7%
iTunes Music Store	4%	6%	8%	12%
Yahoo Music Unlimited	3%	12%	3%	8%
JBL On Stage Docking Speaker System	2%	10%	4%	12%
Sonos Digital Music System	6%	12%	2%	14%
XM Satellite Radio for car	3%	11%	3%	8%
XM Satellite Radio for home	2%	9%	2%	9%
TV Tuner Card/ Digital VCR	2%	6%	1%	6%
HP Media Center PC	2%	5%	2%	10%
HP Media Center PC -- A white tower CPU	0%	0%	0%	2%
HP Media Center PC -- A black box CPU	2%	5%	1%	8%
DVR	1%	4%	4%	10%
Video on Demand	12%	16%	7%	14%
Slingbox Personal Broadcaster	1%	8%	1%	2%
Movielink	4%	12%	4%	9%
Base	(n=25)	(n=25)	(n=88)	(n=88)
Car Audio/Video Products				
XM Satellite Radio for car	11%	16%	6%	16%
XM Satellite Radio for home	9%	14%	5%	13%
Rockford Fosgate's Omnifi	7%	18%	7%	17%
TransPod iPod Car Adapter	7%	18%	6%	16%
Vizualogic's Headrest Video Monitor System	2%	14%	4%	19%
TracVision Satellite TV antenna	6%	13%	6%	18%
TracVision Satellite TV Expansion Pack	4%	12%	6%	17%
Base	(n=32)	(n=32)	(n=73)	(n=73)

As might be expected, teens showed a stronger purchase interest than their parents in most of the existing entertainment products we tested.

- Among primary market households, the three greatest teen-parent discrepancies concerned vehicle entertainment products, namely, the headrest video monitor system (14% vs. 2%), the Omnifi system (18% vs. 7%) and the iPod car adapter (18% vs. 7%).
- Several in-home products generated notable discrepancies among teens and parents in primary market households, notably, Yahoo! Music Unlimited (12% vs. 3%), Movielink (12% vs. 4%), XM satellite radio for the car (11% vs. 3%) and the Apple iPod (11% vs. 3%).
- The teen-parent discrepancies in mass market households concern largely the same items. One significant exception is the Media Center PC. Here, twice as many mass market teens as primary market teens showed a strong purchase interest (10% vs. 5%), so the resultant gap between the estimated teen and parent demand is that much greater. The same phenomenon applies, albeit to a lesser degree, to the DVR.

Parent & Teen Responses to Concepts

Parent and Teen Responses to Products (Adjusted Demand)	Primary Market		Mass Market	
	Parents	Teens	Parents	Teens
Home Audio/Video Products				
HD radio receiver for car	22%	22%	16%	27%
HD radio receiver for home	24%	22%	17%	27%
Digital Audio Recorder	9%	25%	10%	24%
Visual Radio	8%	23%	4%	27%
Multimedia server: All	15%	26%	17%	33%
Multimedia server: White tower CPU	10%	23%	13%	23%
Multimedia server: Black box CPU	13%	19%	17%	26%
Multimedia server: Game console CPU	30%	32%	19%	39%
Movie Download Monthly Service (250 movies)	12%	0%	12%	0%
Movie Download Monthly Service (40K movies)	19%	37%	20%	28%
Base	(n=25)	(n=25)	(n=88)	(n=88)
Car Audio/Video Concepts				
Mobile Music Store	16%	28%	21%	31%
Audio Entertainment Hard Drive	9%	21%	13%	22%
Digital Audio Recorder	10%	22%	16%	23%
Video Entertainment Hard Drive	9%	20%	12%	23%
Quick Clips Video (watch twice/week)	24%	43%	46%	41%
Quick Clips Video (buy)	6%	6%	6%	12%
Base	(n=32)	(n=32)	(n=73)	(n=73)

Teens showed a stronger intent than their parents to purchase many, if not most, of the concepts we examined.

- Among primary market households, the three greatest teen-parent discrepancies involve the Quick Clips Video service (43% vs. 24%), the DAR for the home (25% vs. 9%), and visual radio (23% vs. 8%).
- For the most part, the teen-parent discrepancies in mass market households follow the same pattern as those in the primary market households. One prominent exception concerns HD radio. Mass market teens appear to be more enthusiastic about this concept than their primary market counterparts, while the opposite is true regarding parents. The result is a teen-parent discrepancy of about 11% in regards to mass market households where none exists among primary market households.

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Demographics

	Est. U.S. Online HH Total	Primary Market A	Mass Market B
Age			
18 - 24	27%	34% ^B	28%
25 - 34	23%	28% ^B	20%
35 - 44	23%	18%	23% ^A
45 - 54	19%	14%	19% ^A
55 - 64	8%	6%	10% ^A
Base	(n=1,016)	(n=427)	(n=589)
Marital Status			
Married or living with a partner	59%	54%	54%
Single, never married	33%	41% ^B	34%
Separated, divorced, or widowed	8%	5%	11% ^A
Base	(n=1,016)	(n=427)	(n=589)
Employment			
Employed (NET)	60%	64% ^B	57%
Employed full-time away from home	37%	39%	36%
Employed part-time away from home	11%	9%	11%
Employed full-time at home	8%	11% ^B	6%
Employed part-time at home	5%	5%	4%
A full-time student	15%	20% ^B	15%
A full-time homemaker	13%	7%	15% ^A
Not currently employed	8%	6%	8%
Retired	4%	3%	4%
Base	(n=1,016)	(n=427)	(n=589)
Spouse Employment (Of those with a spouse or partner)			
Employed full-time away from home	74%	73%	69%
Employed full-time at home	6%	9% ^B	4%
A full-time homemaker	5%	6%	6%
Not currently employed	5%	2%	8% ^A
Employed part-time away from home	5%	5%	5%
Retired	3%	3%	3%
Employed part-time at home	1%	2%	3%
A full-time student	1%	1%	1%
Base	(n=599)	(n=230)	(n=320)
Housing Status			
Own	80%	100% ^B	58%
Rent	18%	0%	37%
Refused	2%	0%	6%
Base	(n=1,016)	(n=427)	(n=589)

Appendix

Demographics

	Est. U.S. Online HH Total (n=1,016)	Primary Market (n=427)	Mass Market (n=589)
Household Income		A	B
Less than \$25,000	10%	0%	20%
\$25,000 - \$49,999	18%	0%	35%
\$50,000 - \$74,999	13%	0%	27%
\$75,000 - \$99,999	31%	50% ^B	9%
\$100,000 - \$124,999	12%	22% ^B	3%
\$125,000 - \$149,999	5%	10% ^B	0%
\$150,000 - \$174,999	3%	8% ^B	1%
\$175,000 - \$199,999	2%	4% ^B	0%
\$200,000 or more	2%	6% ^B	0%
Don't know/Refused	2%	0%	5%
Home Internet Access			
Yes, cable modem	44%	0%	33%
Yes, DSL	34%	57% ^B	36%
Yes, dial-up access up to 56K	20%	42% ^B	28%
Yes, satellite	1%	2%	1%
No	1%	0%	2%
Propensity to Adopt New Products/Services for the Home			
Wait to buy it until the technology has definitely proven itself & prices have started to drop	54%	5%	5%
Buy new home technology w ithin the first year, after the technology has proven itself a bit, though prices may still be a little high	24%	33% ^B	21%
Wait to buy it until the technology has become an established standard & prices are reasonable for most people	17%	62% ^B	41%
Buy new home technology soon after it's available, almost regardless of price, because technology is so central to your life	3%	0%	30%
Rarely, if ever, buy new home technology	1%	0%	2%
Number of People in Household			
1	4%	4%	4%
2	19%	25% ^B	7%
3	21%	22%	25%
4 or more	57%	49%	64% ^A

Appendix

Product Descriptions

Xitel's HiFi-Link connects your PC to your stereo system so you can listen to digital music and audio through your stereo system. The device plugs into a USB port on your PC and into the RCA inputs of your stereo system. There's no need to download any drivers or make any modifications to your PC to use it. The kit comes with a 30-foot high-definition cable with gold-plated RCA jacks. The device automatically bypasses your PC's sound card and sends the audio signals through the HiFi Link to your stereo.

Apple's iPod allows you to carry your music collection anywhere, listen for up to 12 hours straight, and store files and play games. Using the touch-sensitive Apple Click Wheel, you can select playlists, scroll through your music collection, and shuffle songs for random play. iPod works with the iTunes Music Store, where you build and manage your digital music collection. Browse through more than one million songs and 9,000 audiobooks to buy music and content you like. iTunes is available on Mac and Windows PCs. With iTunes software, you can transfer your CDs to the iPod. It takes about five seconds to transfer a CD. The **iTunes Music Store** offers a wide range of legally downloadable songs at 99 cents each. You can transfer purchased tracks to an iPod as many times as you like, plus burn tracks to CD, which can be played in any CD player. Tracks can be played on up to three computers, and you can burn as many CDs as you like. The iTunes Music Store also features 30-second previews and one-click purchasing. Purchased music downloads immediately, along with album artwork. Tracks purchased from iTunes are encoded in a protected AAC format, which means they can only be played on a computer or on an iPod. Some tracks sound better than the CDs because they were sourced from master copies. iTunes offers exclusive tracks not available elsewhere.

Yahoo Music Unlimited is a music subscription service, which gives you access to their library of one million songs. You can download tracks to a PC and transfer them to a portable MP3 player. You can download and transfer as many tracks as you like for the cost of the monthly subscription. The service works with about a dozen portable MP3 players, and can play both WMA and MP3 formats. It doesn't work with the iPod, however. With this service, you "rent" the tracks rather than purchasing them. This means you can't burn tracks to a CD, or send tracks to someone. If your subscription expires, the tracks become unplayable.

At the Music Unlimited Web site, you can share your playlists with friends, and they can download and transfer the tracks for use on their PCs and portable MP3 players.

The **JBL On Stage Docking Speaker System** is a compact speaker system for the iPod. Dock your iPod, and broadcast your music through the unit's built-in speakers. The speakers deliver full-spectrum high quality audio using Harmon Kardon proprietary technology. The device is compatible with standard iPods but not the iPod Photo or iPod Shuffle. The unit is also an iPod charger, and it can sync your iPod when attached to your PC. *(You need an iPod to use this system.)*

The **Sonos Digital Music System** is a wireless digital music system that lets you play your music all over your house, including different selections in different rooms. You control it using a remote. Here's how it works. Keep your PC where it is now. Put Sonos ZonePlayers and stereo speakers in the rooms where you want to hear music. Each ZonePlayer is a standalone playback device with a built-in amplifier that connects to your speakers. Once set up, you can access your music from the remote, which has an iPod-like scroll wheel for navigating through lists of songs, artists and genres, using a 3.5" LCD color screen. It also displays album art. Use the remote to send different play lists to different rooms, or play the same songs in every room simultaneously. You can also stream Internet radio. *(You need a wireless home network to do this.)*

Appendix

Product Descriptions

XM Satellite Radio is a subscription service that transmits about 130 digital-quality radio channels with all types of music, talk and sports, including content from MTV, VH1, NASCAR, the Discovery Channel, and Sesame Workshop. Commercials are less frequent than on traditional radio, and song and artist information is sent along with the music.

You need a satellite receiver to listen to satellite radio. Delphi's SKYFi XM receiver lets you listen to XM radio both in your car and in your home, because you can take the receiver from one location to the other. The receiver is the size of a pack of cards. It has a five-line display to show the channel number and name, artist name and song title; 10-button direct channel entry, 20 presets and the ability to see and scroll through what's playing on other channels. It also comes with a remote.

To use the SKYFi receiver in the car, you need to hook it up to your car's stereo system, either with a vehicle adaptor kit (which uses the stereo's cassette deck and cigarette lighter) or with a wired FM modulator (which may require professional installation). In either case, the receiver sits in a cradle that's mounted on or near the dashboard.

To use the SKYFi receiver at home, you use the home adaptor kit to attach the SKYFi receiver to a home stereo system or powered speakers.

Your reception at home will vary depending on where you live. In metro areas, where terrestrial repeaters amplify the satellite signal, you'll get continuous, high-quality audio from even deep inside standard residential buildings. Away from the metro area, you'll have satellite-only reception, which isn't as robust. But you are likely to encounter only occasional dropouts, solved by nudging the receiver into a different position.

Creative Labs' TV tuner card/Digital VCR lets you: *(To watch TV on your PC, you need a TV tuner card and either a TV antenna, cable box or satellite box connected to your PC.)*

- Watch sharp, full-screen TV on your PC
- Pause, replay and fast-forward live TV on your PC
- Capture video from your antenna, cable box, satellite box, VCR, or camcorder, and watch it on your PC

Here's how it works. Install the PCI card that holds the TV tuner and MPEG-2 recording engine into your PC. Then connect your antenna, cable, or satellite TV feed and the included infrared receiver to the Digital VCR card. The composite to S-Video adapter allows you to attach a composite video source, like a camcorder.

The Digital VCR software is fast and flexible. You can watch live TV, channel surf, schedule recordings, choose a recorded program to watch, and import video from VCRs, camcorders, and other video sources on your PC. When you're recording a program, the PCI card with MPEG-2 hardware does the processing work, so you can continue to use your PC for other applications.

A **DVR** digitally records TV programming to a hard drive so you can watch it when you want to. You can record, pause and rewind live TV using your remote. Using an onscreen program guide, you can search for programs to record by title, actor, or subject matter. Recorded programs can be played as many times as you like, and you can pause, rewind, and fast forward using your remote. The hard drive holds about 100 hours of programming. A DVR can be part of a cable or satellite set-top box. *(You need satellite or digital cable in order to use this product.)*

Movielink is an online movie download service with an extensive selection of recently released films as well as thousands of films spanning a wide range of genres.

This is how the service works. Browse the site and view trailers of available titles. Then choose a movie and pay for it with a credit card. After downloading the film, you generally have 30 days to start playing it. Once you start playing it, you have 24 hours to watch it as many times as you like. You can pause, rewind and fast-forward the movie. When that movie's 30-day subscription expires, it's automatically wiped from your computer.

Rendered in a highly compressed format, a movie takes about 550MB of hard-drive space and an average of 80 minutes to download. On recent model PCs, you can run applications like Word or email while you watch a movie.

Play movies using Real Player or Microsoft Windows Media Player. The size of the image is adjustable, though at full-screen, the image degrades considerably due to compression.

You can view the movie only on the computer you've downloaded it to, and you can't copy or distribute movies.

Appendix

Product Descriptions

The **HP Media Center PC** combines the capabilities of your TV, CD player, and DVD player into one device, and it adds even more media options with a DVR and a DVD burner. It comes with software installed for playing, organizing, and editing a wide variety of media. It puts your entertainment in one place and you can use it in a home office, or from the comfort of your TV room with an included remote.

It includes:

- **TV features.** Connect it to TVs in your home and use it as a DVR with controls to watch, pause, replay, and record TV programming. It works with cable, satellite, or over-the-air TV. Watch a previously recorded show while recording a live TV program. Use the free electronic program guide to find programs to watch and record. The PC updates the 14-day programming schedule by connecting to the Internet each night. You can watch/record/replay TV on the PC as well as on TVs in your home.
- It includes a DVD player, and a DVD burner for making DVDs of recorded TV and your home video. You can transfer home video to the hard drive, edit it, and then play it on your TV using your remote.
- **Music features.** Connect it to a stereo system or home entertainment system and play your CDs, MP3s, and WMA files. It also includes a CD burner for making CDs. It comes with Apple iTunes software. Use it to organize your digital music collection and make playlists. Then you can play your digital music using your remote, searching by key word, artist, album, or genre. iTunes also displays cover art.
- It also includes a docking station integrated into the chassis for syncing and charging both an iPod and an HP camera (both the iPod and an HP camera are sold separately).
- **Digital photo features.** There is a 9-in-1 memory card reader integrated into the chassis. You can use it to transfer photo files to the hard drive. Then use included software to organize images (including key word tagging) edit images, make slide shows, and add music to slide shows. Then see your photos on your TV or PC.
- The package includes the HP Media Center PC, multimedia keyboard, optical mouse, and a remote. It doesn't include a monitor, and it doesn't include applications like Word or an email program, but you can add these if you choose.

Video on Demand is a continually updated library of more than 1,000 programs - movies, cable programming, sports and news, documentaries and children's programs which you can watch whenever you want. With Pay Per View, the program starts at a pre-determined schedule. But with Video on Demand, you can start a program whenever you like. Press a button on the remote, and the program starts. You can pause, rewind, and fast forward the programming using your remote.

Most programs are free. Recent release movies cost about \$4 to rent. Premium movie channels like HBO are included in Video on Demand if you subscribe to the premium channel.

Video on Demand is streamed to the home via a satellite or digital cable provider. *(You need satellite or digital cable in order to use this product.)*

The Slingbox Personal Broadcaster allows you transmit whatever live or recorded media is on your TV to another device connected to the Internet, like a laptop PC. It redirects the TV signal from a cable box, satellite receiver or DVR to your laptop, whether it be in another room, or in any location with wired or wireless high-speed Internet access.

It connects to a home router and to your cable/satellite/DVR box. It includes software that's installed on your laptop for viewing the TV signal. With the Slingbox you can:

- Redirect any live video or broadcast feed from your TV to your laptop or desktop.
- Get TV on your PCs without having to install a TV tuner card on each PC.
- Watch TV programs on your laptop from your home TV or DVR from wherever you happen to be, as long as you have access to high-speed Internet (WiFi for example).

For example, assume you were at the airport waiting to board a flight. With a laptop and WiFi access, you could watch TV programming from your home TV while at the airport. Or if you had a wireless network at home, you could watch TV on your laptop anywhere in your house.

The device provides the best possible video quality and is easy to set up and use with any TV programming source. Soon, you will be able to use it to view TV programs on WiFi-enabled PDAs and third-generation wireless phones.

Appendix

Product Descriptions

Rockford Fosgate's Omnifi is a hard drive unit and digital audio player for the car. It transmits audio files from a home PC to the hard drive unit using a wireless home network. It eliminates the need to burn CDs in order to listen to digital audio in your car.

There are three items in the set:

- a 20GB hard-drive unit that sits in the trunk or under the seat
- an 802.11b wireless antenna
- an in-dash control unit, which fits a standard radio slot in a dashboard

Here's how it works. First, use the USB connector to upload your audio file library (MP3 and WMA formats) from your home PC to the hard drive. Then permanently install the hard drive under the car seat or in the trunk. The unit's RCA outputs connect to any in-dash receiver via auxiliary inputs. Use the in-dash controller to choose items to play from the hard drive. The hard drive unit becomes a node on your home PC's wireless network, so you can then add or remove files from the hard drive wirelessly via the wireless antenna.

Track and artist info is displayed on the controller's LCD readout. The controller includes quick-launch buttons to sort your music collection by categories such as artist, album, genre or playlist, with a navigation dial that lets you jump quickly from menu to menu.

Using the system's desktop software, you can choose online content like news and traffic reports and have it uploaded to your car's hard drive on a set schedule.

The **TransPod iPod Car Adapter** plays, charges and mounts all varieties of iPod. The device broadcasts music stored on your iPod to your car stereo speakers via a digital, drift-free stereo transmitter. The TransPod charges your iPod while it is playing. It is mounted using two jointed arms so you can position your iPod for convenient access.

The device's FM transmitter operates from 88MHz to 108MHz, giving you the full FM spectrum to choose from.

The TransPod iPod Car Adapter includes a combination FM transmitter and cigarette lighter adapter and a docking connector. (*You need an iPod in order to use this.*)

With **Vizualogic's Headrest Video Monitor System**, you can enjoy movies and video games in through two new headrests that you install in your car. The system includes two 7" Active Matrix LCD screens, a stereo DVD player, and two three-channel headphones.

Here's how it works. Slide the new, 100% color matching headrests into the channels, plug and play. The video cable is hidden inside tubular chrome posts, so there are no exposed wires. Viewing formats are adjustable (cinema, full-screen, wide-screen and normal).

The kit includes:

- Two factory headrest replacements—no cutting fabric or factory leather
- DVD/CD/MP3 compatible player
- Two three-channel crystal tuned headphones
- Three channel RF transmitter—dual output transmits audio to your headphones
- FM modulator transmits audio through your existing car stereo

Appendix

Product Descriptions

The **TracVision Satellite TV antenna** is a 4.5-inch disc that provides 125+ channels of DIRECTV, including 30 digital satellite music channels. The system integrates with any backseat video system to supply reliable satellite TV reception throughout the U.S. It connects with standard video screens that you use for watching DVDs or videotapes, or playing console videogames. The antenna supports multiple video screens, so passengers can watch different programming.

It's designed for easy installation and compatible with most roof racks. It is positioned horizontally on the roof top, not vertically. The antenna mounts to the roof rack using tamper-resistant hardware. It draws power from the vehicle's 12-volt electrical system, as onboard video screens do. The system provides reliable performance withstanding typical road and weather conditions.

You must subscribe to a DIRECTV Total Mobile Choice programming package in order to receive satellite programming. The cost is \$4.99 per month for DIRECTV home satellite subscribers and \$41.99 per month for mobile-only subscribers.

An expansion pack enables mobile, high-speed Internet access via satellite. *(You need a TV Monitor in your car to use this.)*

Appendix

Concept Descriptions

HD Radio is high definition digital radio. It uses a digital signal that piggybacks on standard analog frequencies. The system works with both FM and AM stations. AM stations transmit signals equivalent to FM radio in clarity, while FM stations transmit in CD-quality. There is no static with digital radio and it's less vulnerable to reception problems than standard radio. Should the digital signal be lost (while traveling out of broadcast area), the HD radio defaults back to the station's standard analog transmission mode. Many stations across the country are expected to start transmitting digital radio signals along with their analog signals by the end of 2005.

HD radio is free, but you need an HD radio receiver in order to hear it. This radio plays both HD and analog stations. When tuned to a station transmitting in HD, the receiver displays text information, including artists and song titles, talk program topics and guests, and weather and traffic information.

In your home, the receiver fits in component stereo arrangement and would take the place of the your current home stereo receiver. In your car, the receiver fits in a standard radio receiver slot in the dashboard.

The **Digital Audio Recorder** is like a DVR for radio programming. It is an HD-compatible radio receiver that records radio programming on a hard drive, so you can listen to it when you want to. It fits into a component stereo arrangement and would take the place of the your current receiver. The hard drive stores about 8 hours of programming. Use the front panel display and control buttons to find stations and programs you want to record, and to schedule recordings. Use a flash memory card to transfer radio recordings to a portable music player. And use a flash memory card to transfer digital music files from a PC to the hard drive, so you can play them on your stereo system.

Visual Radio on your mobile phone lets listeners tune in to local FM radio via their mobile phones while simultaneously receiving information and graphics that are synchronized with the broadcast. Text and graphics are delivered using the cellular network onto the screen of the mobile handset.

Users can view images related to news and weather reports, see the title and artist of a song playing, check news and weather text while songs are playing, check upcoming concert dates, buy ring tones or other content, and participate in radio station contests and polls.

To get Visual Radio, you need to have a Visual Radio-compatible mobile phone, which will soon be offered by several of the biggest mobile phone manufacturers. Users also pay a small monthly fee for the service.

Movie Download Monthly Service. This service lets you watch an unlimited number of movies each month that are downloaded from an online service for a the cost of a monthly subscription. Movies can be downloaded to a home PC or to a DVR. Choose from a **library of 250 movies**, including recent releases and older movies. You can play the movies on one computer or one TV. You can pause, rewind, and fast forward through movies. Once you choose a movie, you can watch it as many times as you like within a 24 hour time period. After 24 hours, the movie is automatically removed from the hard drive or DVR. You can download it again if you choose to however. You can't burn the movies to DVD or send them electronically to other people.

Movie Download Monthly Service. This lets you watch an unlimited number of movies each month that are downloaded from an online service for the cost of a monthly subscription. At the Web site, you make a priority list of movies you want to download, choosing from a **library of 40,000 movies**. Movies are downloaded to a home PC or to a DVR. You can store and watch up to three movie downloads at a time. Once you've watched a movie, delete it from your PC or DVR, and the service automatically downloads to you the next movie in your priority list. You can play the movies on one computer or one TV. You can pause, rewind, and fast forward through movies. You can't burn the movies to DVD or send them electronically to other people.

Appendix

Concept Descriptions

The **multimedia server** is a single box solution for storing and playing digital media, including audio, TV and home video, and still images. It attaches to either cable or satellite TV in your home. You can browse your media library from a TV or from a home PC using a remote. You can use it to:

- Play digital music files on any home stereo or PC
- Stream Internet music on any home stereo or PC
- Play digital video files (like home movies) on any home TV or PC
- Play photo slide shows with music on any home TV or PC
- Use the server as a DVR. Record, pause, rewind and replay live TV. Use the included interactive program guide to search for programs and schedule recording.
- Watch live or recorded digital TV programming on any home TV or PC. Pause a program in one room and resume it in another. Users in different rooms can watch the same program simultaneously with independent capability to pause, skip and rewind.
- Surf the Web and send/receive email on any home TV
- Play video console games on any TV. Play on multiple TVs in the home and play against others on the Web
- Back up all stored files on both a removable hard drive and in a secure online storage vault. Your music, video, and photos are secure.

The media server does not include standard applications like Word or Excel, and it doesn't include a monitor. It's designed instead to store, play and distribute or transmit digital media.

You move your digital media files into the server in a couple ways. Insert CDs and DVDs into the front-panel tray to copy music, video, and photo files to the server. You can't copy copy-protected DVDs, like movies, however. If you connect the media server to your PC, you can copy files from your PC to the server. Then categorize your files using the included software, making it easy to browse and find files.

There are three models available. The functionality is the same, but the shape and look of the CPU is different.

The **mobile music store** could be a new feature of satellite radio in your car. While you're listening to satellite radio music, you can press the 'Buy' button on your stereo, and the track is instantly downloaded to a hard drive in your car, which is attached to the car's audio system. You can play the track in your car, and copy it to a home PC or MP3 player using a USB port. Because you own the track, you can burn it to CD if you like. You can also copy items from your personal digital audio library to your car by connecting the removable hard drive to a home PC, or MP3 player using a USB port.

The **audio entertainment hard drive** could be an option on new automobiles. This is a hard drive pre-loaded with 40 hours of audio content, including music, audio books, and talk programming. It attaches to a car's audio system. You can preview material on the hard drive by hearing the first part of a song or program. When you hear something you like, press the 'Buy' button on your stereo, and begin listening to it.

You can listen to purchased songs/programs/books in your car as many times as you like within a 30-day period. Then, it's wiped from your car's hard drive. Every month, your car hard drive automatically receives new audio content that you can preview and buy, including two recent best-selling audio books. Every month you also get two hours of free programming. New material is delivered to the hard drive via a wireless home network.

You can also load items from your personal digital audio library by connecting the removable hard drive to a home PC, or MP3 player using a USB port. The audio you buy in your car is copy-protected, meaning you can't copy it to a home PC, burn it to CD, or send it electronically to other people.

Appendix

Concept Descriptions

The **digital audio recorder (DAR)** could be an option on a new automobile. It is a hard drive in your car for recording and storing satellite radio programming and traditional over-the-air broadcast too. You can record programs that air when you're not in the car. Before turning the engine off, set the channel and the recording schedule using the controls on your radio receiver. At the scheduled time, your car's electrical system turns on and the recorder starts recording. To play recorded programs, press the 'Play' or 'Resume' button on your radio receiver. Recording is automatically terminated if your car battery is below a certain threshold.

The hard drive stores up to 40 hours of recorded programming. It does not store items from your personal digital audio collection, like MP3 files.

The **video entertainment hard drive** could come as an option on new automobiles. This is a hard drive pre-loaded with 20 hours of video content, including movies, TV shows, and video games. It attaches to a car's video entertainment system/monitors. You can preview material on the hard drive by watching the first several minutes of a program or movie. When you see something you want to watch, press the 'Buy' button on your video system controller, and watch the programming.

You can watch a program you buy in your car as many times as you like within a 30-day period. Then, it's wiped from your car's hard drive. Every month, your car hard drive automatically receives new video content that you can preview and buy, including two recent movie releases. Every month you also get two hours of free programming. New material is delivered to the hard drive via a wireless home network.

You can also load items from your personal digital media library by connecting the removable hard drive to a home PC, or MP3 player using a USB port. The video you buy in your car is copy-protected, meaning you can't copy it to a home PC, burn it to DVD, or send it electronically to other people.

Quick clips video is designed to entertain passengers on short car trips. It works with a car's video entertainment system. It consists of TV programs, news, music videos and specialty programming, including children's programming, in 15-minute increments. Some clips are shortened versions of popular TV programs, allowing you to watch just the 'high points.' It could be stored and played from a hard drive in your car, or it could play on a mobile satellite TV service if you have one. Ten hours of new quick clips are available every week, and news and programming is composed of shows that have been recently broadcast.