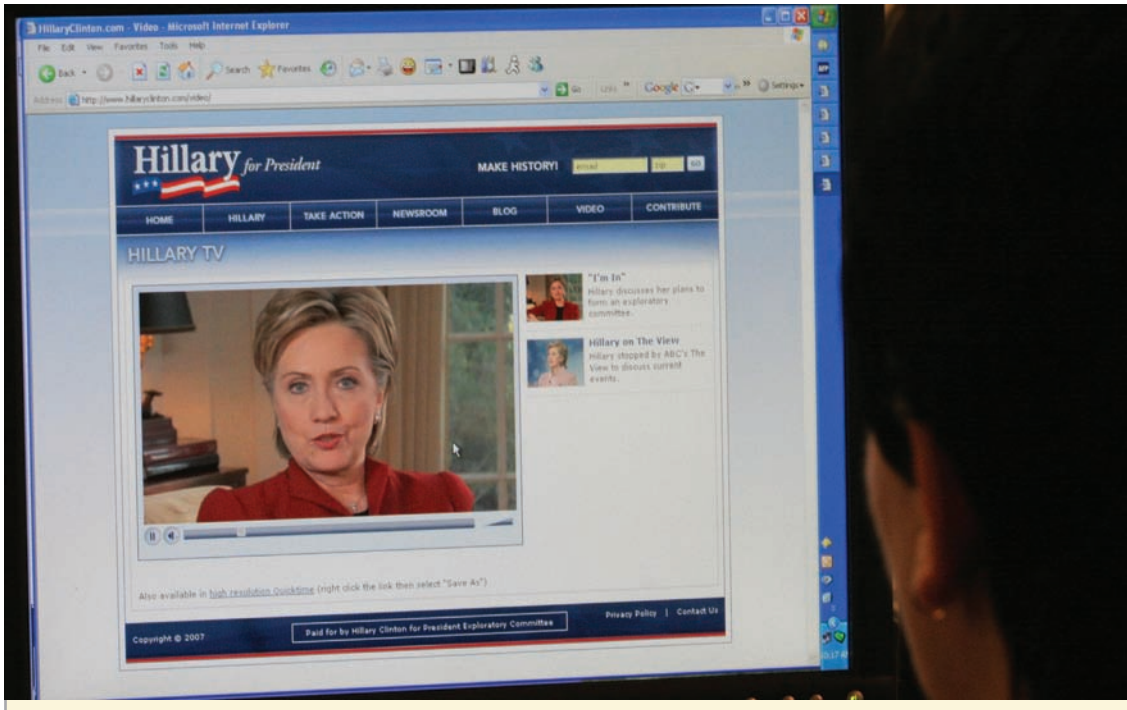
CHAPTER 11

CABLE, SATELLITE, AND INTERNET TELEVISION

This chapter will prepare you to:

- trace the development of cable, satellite, and Internet television
- describe the implications of the digital age for these media
- understand the structure, content, and finances of cable, satellite, and Internet TV
- appreciate the potential of user-generated content
- explain the audience measurement techniques used for these media



"I'm in and I'm in to win." Hillary Clinton chose to announce her candidacy for president over the Internet. Her site has attracted more than 400,000 unique visitors a month.

11

In 1976, when Jimmy Carter announced that he was running for the Democratic presidential nomination, he did it with a speech before the National Press Club in Washington, D.C. Present were figures from the nation's leading newspapers and correspondents and commentators from the three major broadcast networks. In 1984, when Walter Mondale announced his candidacy, he did it with a speech in his home state of Minnesota that was covered by all the major networks as well as new cable news networks, CNN and CNN Headline News.

When Al Gore announced his candidacy for the Democratic presidential nomination in 2000, he did it with a speech in his home state of Tennessee before cameras from all the major broadcast networks news organizations and reporters from cable networks, CNN, CNN Headline News, Fox News, MSNBC, CNBC, and MTV.

In 2007, when Senator Hillary Rodham Clinton announced her candidacy for the presidency, she did it via an online video clip posted on her Web site. The clip also wound up on video-sharing site YouTube where it was viewed thousands of times. Other candidates followed suit.

This brief chronology of political announcements is just one illustration of how television has changed over the past 35 years. The broadcast networks and local stations are no longer the only players in the game. They have been joined by cable and satellite networks and, more recently, by Internet video. This chapter will examine the history, economics, structure, and potential of these newer forms of television. We'll start with a look at how they came to be.

A BRIEF HISTORY

Cable TV began modestly in the 1950s as a device used to bring conventional television signals to areas that could not otherwise receive them. As cable grew, some systems imported signals from distant stations into markets that were already served by one or two local stations. The local stations, as you might imagine, were not pleased, since their audiences were being siphoned off by the imported signals. This situation caused some political maneuverings as stations affected by cable appealed to the FCC and to Congress for help. The FCC vacillated over the question of cable regulation before issuing, in 1965, a set of rules that retarded the growth of cable in large markets. In 1972 the FCC enacted a new set of less restrictive rules for cable. By 1980, in a move toward deregulation, the FCC had dropped virtually all rules governing cable.

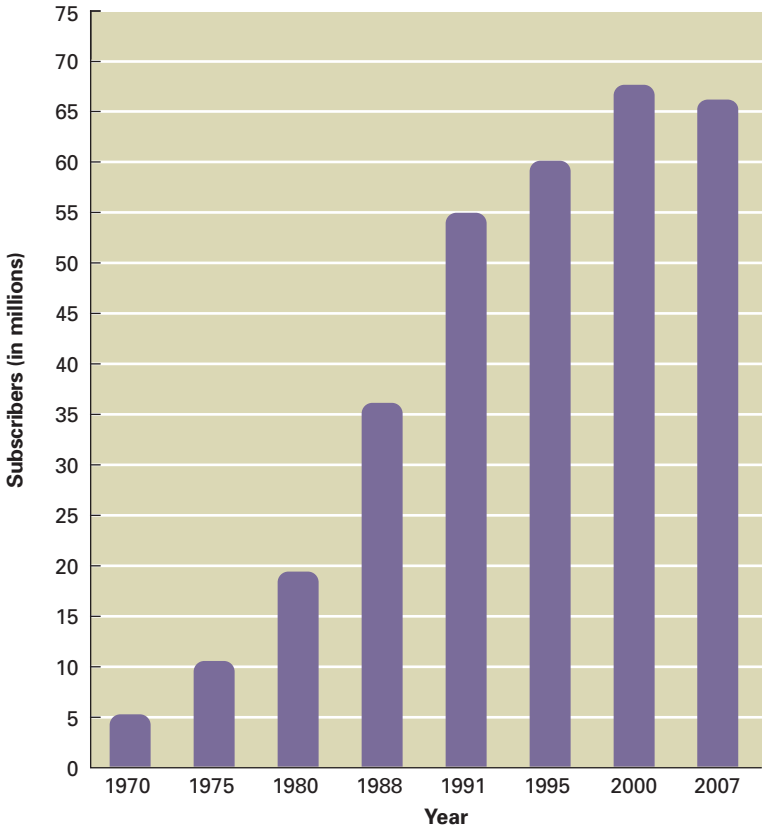
This deregulation move helped systems grow as cable companies scrambled to acquire exclusive franchises in communities across the nation (see Figure 11-1). Some companies made extravagant promises to win these contracts: a hundred or more channels, local-access channels, community channels, shopping and banking at home, two-way services—and all at bargain prices. After the smoke cleared, the industry recognized the economic reality dictating that its performance would fall short of promises.

While all this was going on, the United States and the Soviet Union were competing in the "space race" that culminated with the lunar landing in 1969. One of the by-products of the space race was the development of rockets that could launch communication satellites into Earth orbit. The first satellite TV transmission occurred in 1962 using *Telstar I* (this satellite has the distinction of being the only satellite commemorated by a rock song). In the early 1970s more communication satellites circled the Earth.

Satellite TV transmission came of age in 1976 when a little-known pay-TV cable service, HBO, used a satellite to transmit the "Thrilla in Manilla" heavyweight championship fight between Muhammad Ali and Joe Frazier to cable systems across the United States. That

FIGURE 11-1

Growth Within the U.S. Cable TV Industry



same year, media entrepreneur Ted Turner started transmitting "superstation" WTBS to cable systems. Other satellite-distributed channels quickly followed, and cable subscribers could now receive a host of new programming, including CNN, MTV, and ESPN. This gave people in urban and suburban areas a compelling new reason to subscribe to cable, and the industry grew quickly during the 1970s and 1980s. For example, the percentage of homes with cable increased from about 14 percent in 1975 to more than 50 percent in 1987. By the end of the 1980s, the cable industry was dominated by large **MSOs (multiple system operators)** such as TCI. Locally owned cable systems were quickly disappearing.

As of 1991, 7,500 cable systems served about 55 million households. Keep in mind that this growth occurred despite the fact that cable companies generally avoided expensive urban installations. The growth rate slowed somewhat during the mid-1990s, but by 2007 about 66 million households subscribed to cable.

Cable also scored several programming coups. ESPN signed a contract with the National Football League to carry prime-time pro football games. CNN's coverage of the Gulf War, the O. J. Simpson trial, and 9/11 attacks demonstrated that it could be a formidable competitor to network news. Big-ticket network series bypassed the traditional syndication route and premiered first on cable.

Cable got a competitor in the mid-1990s thanks to the development of high-powered **direct-broadcast satellites (DBS)** that could send a signal directly to a small home satellite dish, bypassing the cable system altogether. Two companies, Echo Star (Dish Network) and DirecTV, eventually dominated the industry. The number of households subscribing to satellite companies increased from about 2 million in 1995 to more than 20 million in 2006.

On the economic side cable advertising revenues exceeded $2 billion in 1990 and rose to about $27 billion by 2007. Although still small in comparison with the ad revenues generated by traditional television, the 2007 figure represents an increase of almost 42 percent over that of 2004.

The most significant developments in the cable industry in the past three decades have been legal ones. In 1984 Congress deregulated the rates cable systems could charge consumers. Eight years later, in response to subscriber complaints, Congress reregulated the industry by passing the Cable Television Consumer Protection and Competition Act, which caused about a 17 percent reduction in rates and mandated that broadcasters choose between *must carry* (the local cable system had to carry the station's signal) and *retransmission consent* (the local station had the right to negotiate compensation for carriage of their signal). Most broadcasters opted for consent and were compensated with promotional time on the system or were granted space for their own existing or planned cable networks. But this situation changed in the mid-2000s when broadcasters, facing declining ad revenues and looking for new sources of revenue, began demanding payment from cable companies in order to carry their programs. Satellite systems and phone companies that offer video already pay a fee to the broadcasters. It is likely that cable will eventually follow suit, a move that would mean increased monthly bills for subscribers.

The next major piece of legislation was the Telecommunications Act of 1996 (discussed in more detail in Chapter 16). The new law gave telephone companies the right to enter the cable business and gave cable companies the right to provide telephone services. In addition, both telephone and cable companies could own competing systems in the same community. Finally, the act allowed most cable companies to once again set their own rates. Significant competition between phone companies and cable companies did not materialize for several years, but by the middle of the decade, the situation was changing. Thanks to a new technology, **voice-over-Internet protocol (VOIP),** cable companies were able to offer an alternative to the traditional phone lines. Comcast, for example, planned to have VOIP service in place for its 40 million household subscribers by 2006. All the other large cable companies are following suit. For their part the telephone companies are moving into the television business. In cooperation with EchoStar, phone giant SBC launched a satellite TV service in 2004. Verizon is experimenting with a fiber optic system that would allow it to carry hundreds of video channels. If the trend continues, all these companies may be providing the same services. After being deregulated by the 1996 act, cable television

Decision Makers Judy McGrath

For many of you reading this, Judy McGrath would seem to have the ultimate dream job: She is the president of the MTV Networks Music Group and is responsible for MTV, MTV2, VH1, CMT, and all of the company's digital media services. Under her direction MTV has grown from a small niche cable network to an international brand that symbolizes a unique attitude and lifestyle.

Always a music fan, McGrath first tried to get a job writing for *Rolling Stone.* When her efforts proved unsuccessful, she turned to writing advertising copy and then went to work for *Mademoiselle* and *Glamour.* In 1981 she heard about a new cable channel launched by Warner Entertainment that would be devoted to rock music. Despite the fact that she could not even get the channel on her home TV, McGrath joined the newly created MTV as a copywriter and on-air promotion person. (She was one of the ones responsible for using all the space film footage to promote the channel.) To the surprise of many people, MTV was successful in attracting 16- to 24-year-olds, an audience coveted by advertisers. MTV became part of the huge Viacom conglomerate, and McGrath quickly moved up the ranks to creative director, executive vice president, and eventually chair and chief executive at MTV Networks. Under her direction MTV expanded all over the world.

When the music video novelty began to wear off in the mid-1980s and ratings started to sag, McGrath introduced programs that became popular culture icons: *Beavis and Butt-Head, The Real World, The MTV Music Awards, MTV Unplugged,* and *Total Request Live.* She also introduced political coverage to MTV and was instrumental in the development of the 1992 *Choose or Lose* get-out-the-vote campaign. More recently, McGrath has led MTV into other media: movies, books, and the Internet.

What does she see in MTV's future? Since a high proportion of MTV viewers are also Web surfers and spend a good deal of time on MTV.com, look for more integration of the music on MTV and MTV2 with the Web site. MTV.com will be used to highlight some of the artists or genres featured on the cable channels. In addition, plans are underway for more international expansion, particularly in Asia. Finally, it is likely McGrath will continue to provide special programming that deals with important social issues, such as the 17 hours the channel devoted to hate crimes. And, of course, there will always be music videos.

subscription fees increased. As of 2007, there were indications that Congress was considering a review of the 1996 legislation.

Cable was experiencing problems resulting from its own growth. There were more cable networks around than available space on local systems. In addition, like the broadcast networks, cable TV was becoming a victim of audience fragmentation.

Despite these difficulties, the long-range outlook seems positive. Cable continues to draw viewers away from the broadcast TV networks. In addition, thanks to their existing coaxial cable and fiber optic cables, cable companies can offer subscribers high-speed Internet connections.

The late 1990s saw the development of a different way to distribute TV signals: **Internet TV** or Webcasting. The key to this process was an innovation called *streaming,* in which a computer stores video signals—a process known as **buffering**—and plays them back while at the same time storing new, incoming signals. In short, the head end of the video is playing while the tail is being extended.

Video on the Web grew slowly, primarily because most people had slow, dial-up connections, and it took a long time to play even a short clip. But the increasing popularity of high-speed broadband connections and the ease with which video could be uploaded on the Web helped fuel an explosion of user-generated content. By mid-decade, sites such as YouTube, Grouper, and Blinkx, where audience members upload and share their videos, became the hip places to visit. Experts predict that by 2010 more than half of the video content on the Web will be user-generated. The broadcast networks and cable companies started their own broadband channels, as did many private companies and individual entrepreneurs.

The huge success of Apple's iPod sparked another channel for Web video—the **podcast.** A podcast is a media program that is downloaded from a Web site and played back at an individual's convenience over a computer or an MP3 player such as an iPod. By 2007 thousands of video podcasts were available on the Internet.

The phone companies were also moving with more enthusiasm into the video business. AT&T, for example, announced U-Verse TV, a new Internet-based system that would provide 200 channels of video and music.

Media Probe TV to Go—Anywhere

The biggest use that consumers made of the VCR and later the DVR was "time-shifting"—recording and watching a program at a more convenient time. Now a new device will allow consumers to do "place-shifting"—watching a TV program wherever they want to. The device is called Slingbox, and it may be as revolutionary as the VCR/DVR.

Here's how it works: A consumer connects Slingbox to the video output of the cable box or satellite receiver. Next, Slingbox is connected to broadband Internet, and the appropriate software is downloaded onto a laptop or mobile phone. Slingbox is now ready to send live and recorded TV programs and DVDs via an Internet connection to the laptop or Windows-enabled mobile phone or PDA. With Slingbox's on-screen remote control, a viewer can control all of the functions of his or her TV: changing channels, playing back a recording, fast-forwarding through commercials, turning up the volume, and so on.

Slingbox opens up new possibilities for viewers. Travelers can keep up with their local newscasts. Instead of paying for in-room movies at a hotel, a person could simply watch one that was recorded on his or her DVR. One Slingbox owner took his laptop up on the roof and checked the picture quality while he adjusted his satellite dish. A few consumers have plugged a security TV camera into their Slingbox in order to monitor their homes while on vacation. When on the road, sports teams use Slingbox to watch their competition.

As far as the television industry is concerned, Slingbox seems to be a mixed blessing. On the one hand, it increases the number of screens where programs are available and thus might increase a program's audience. On the other hand, it directly competes with the new downloading or streaming video services that some networks are offering. It makes little sense, for example, to pay $1.99 to download last night's episode of *Lost* when Slingbox can record it and play it back for free.

CABLE, SATELLITE, AND INTERNET TV IN THE DIGITAL AGE

All three of these delivery systems are firmly established in the digital age. Cable and satellite systems now use digital techniques to distribute their programming. Internet TV has always been digital.

For cable and satellite systems, digital signals make possible video-on-demand, interactive program guides, high-definition TV, and digital video recorders (DVRs). Digital signals create sharper and crisper video and can be compressed, increasing the number of channels that can be transmitted over a single system.

In addition to television programs, cable systems use digital technology to provide telephone service to their customers as well as Internet access. Telephone companies are doing the same. This makes it possible for telephone and cable companies to offer a "bundle" of services—Internet, TV, phone—for a lower price. Satellite systems have trouble matching this feature.

▲ Mobile Media

Networks carried by cable and satellite have also made their way onto mobile media. MobiTV, for example, sends ESPN, MSNBC, Fox News, and C-SPAN, among others, to cell phones, PDAs, and laptop computers. User-generated content is showing up on cell phones as well. A company called Movidity plans to start a mobile video sharing site. As of mid-2007, wireless provider Verizon and YouTube were talking about a partnership that would give Verizon subscribers the ability to view clips on the video-sharing site.

▲ User-Generated Content

Like the broadcast industry, networks carried by cable and satellite are increasingly turning to user-generated video. CNN has a feature called I-Report that lets individuals send video to the news channel, where it might make it on the air. The cell phone video recorded by a student while the Virginia Tech shootings were in progress was played on CNN dozens of times. MSNBC features FirstPerson, where users can submit news video. ESPN has something similar called Sports Center Home Video.

The biggest place, of course, to find user-generated video is the Internet. Thanks to the success of YouTube (see the boxed insert "The Guys Behind YouTube"), user-generated content has exploded on the web. There were at least 150 video-sharing sites on the Web in mid-2007. YouTube, the most popular, has more than 6 million videos that take a up about

Media Probe The Guys Behind YouTube

Talk about striking it rich. In the digital age one good idea can be worth money—an awful lot of money.

Chad Hurley was raised in Birdsboro, Pennsylvania. He attended Indiana University of Pennsylvania where he first majored in computer science and later switched to graphic design. After graduating in 1999, he took a job with a new company based in California called PayPal. Steve Chen was born in Taiwan but moved to the United States when he was 15. He majored in computer science at the University of Illinois—Champaign-Urbana. He too wound up working at PayPal in the late 1990s. Jawed Karim also attended the University of Illinois but dropped out to move to Silicon Valley where he too took a job at PayPal.

At a dinner party one night in 2004, the three were talking about how easy it was to share photographs on the Internet but how hard it was to share video clips. They decided to work on that problem and started meeting at Karim's apartment and in Hurley's garage. Karim was impressed by a site called HotorNot.com that let users post pictures of potential dates and rate them on a 1–10 scale. This site was unique because up to this point only the people who owned the site could post content whereas with HotorNot anybody could post photos for everybody else to see.

The three young men managed to cobble together a simple routine that allowed users to post their own videos in any format and play them back using any Web browser. In addition, they built in a search function and allowed people to rate and tag other people's videos. They also incorporated a feature that let people insert a video directly to a Web page. They came up with a name for the site—YouTube—and a slogan—"Broadcast Yourself."

As is sometimes the case with breakthrough technologies, the creators had no idea about the ultimate use of their invention. They thought that people would use it to illustrate items for sale on eBay or to show travel videos. What happened next was totally unexpected: The audience took over the site. They posted karaoke sessions, snowboarding wipeouts, amateur stand-up comedy routines, stupid pet tricks, and introspective soliloquies. Some posted news footage, such as the aftermath of Hurricane Katrina and rocket attacks in Afghanistan. Others lifted clips from *The Daily Show* and the Cartoon Network and posted them (raising an issue with copyright holders that would become a continuing problem for YouTube). A couple of clips—one featuring Diet Coke and Mentos and another a skit from *Saturday Night Live*—were viewed by millions. Many used YouTube to post videos on their MySpace pages. Less than a year after it was launched, YouTube became a media phenomenon. It now airs more than 100 million videos, and about 70,000 are added every day.

YouTube was lucky to capitalize on two developments that fed on each other. The first was the revolution in digital video made possible by cheap cameras and simple editing software. The second was the rise of the Internet as an interactive social network where users generated and shared information. It was not coincidental that YouTube grew at the same time as Wikipedia, Facebook, MySpace, Flickr, and other, similar sites.

What about the three guys who made YouTube happen? They're a lot richer now. In 2006 Google bought YouTube for $1.65 billion.

45 terabytes of computer memory (1 terabyte equals 1,024 gigabytes or about 1 trillion bytes—that's a "1" followed by 12 zeros). YouTube also has what media gurus call "stickiness," the amount of time a person spends visiting a site. Visitors to the video-sharing site spend an average of nearly 15 minutes per session. Most sites are lucky if their stickiness number gets above 5 minutes.

YouTube has become so popular that it is used by politicians (as noted in the chapter opener), advertisers, recording hopefuls (remember Esmee Denters from Chapter 8), aspiring actresses (lonelygirl15), comedians, and others hoping for their 15 minutes of fame. MySpace, the social networking site, contains a tutorial on how users can post a YouTube video into their profile. Many apparently do, as a significant number of visitors to YouTube are MySpace subscribers embedding video on their MySpace site.

DEFINING FEATURES OF CABLE, SATELLITE, AND INTERNET TV

Obviously, a person needs at least one extra piece of equipment in order to receive video from these sources. Cable subscribers rent set-top boxes or use cable "smart cards" to receive their programs. Satellite viewers need a receiver and a satellite dish. Internet TV viewers have to have a computer and a modem.

A second obvious feature is that the consumer has to pay extra to receive these services. Unlike broadcast TV, where a rabbit-ears antenna connected to the set is enough to bring in their programs, cable and satellite subscribers must pay a monthly fee to receive their

programs. On the Internet viewers can watch some programs for free but must pay to receive others (such as the $1.99 on iTunes). All, however, have to pay extra for Internet access.

A third feature is that these services carry many channels that appeal to niche or highly differentiated audiences. Unlike broadcasters, who still try to aggregate the biggest possible general audience, cable/satellite systems carry such specialized channels as the History Channel, the Weather Channel, and the Documentary Channel. And even the niche audiences are being divided up. There are two cable networks devoted to health programming, for example, and five devoted to home and lifestyle topics.

Although some mass-appeal TV shows and movies are available via the Internet, broadcasters and movie distributors don't expect them to draw a mass audience. Relatively speaking, only a small number of people download this content. A quick tour of the many Internet video sites will reveal that most of the available content is geared to those who share some special interest—music, comedy, sports, celebrities, pets and animals, and so on.

ORGANIZATION OF THE CABLE AND SATELLITE INDUSTRIES

We'll first focus on the organization of the cable and satellite industries and then take a look at Internet television.

▲ Structure: Cable TV

Cable systems are structured differently from those of conventional TV. There are three main components in a cable system: (1) the head end, (2) the distribution system, and (3) the house drop, (see Figure 11-2).

The **head end** consists of the antenna and related equipment that receive signals from distant TV stations or other programming services and process these signals so that they may be sent to subscribers' homes. Some cable systems also originate their own programming, ranging from local newscasts to weather dials, and their studios may also be located at the head end.

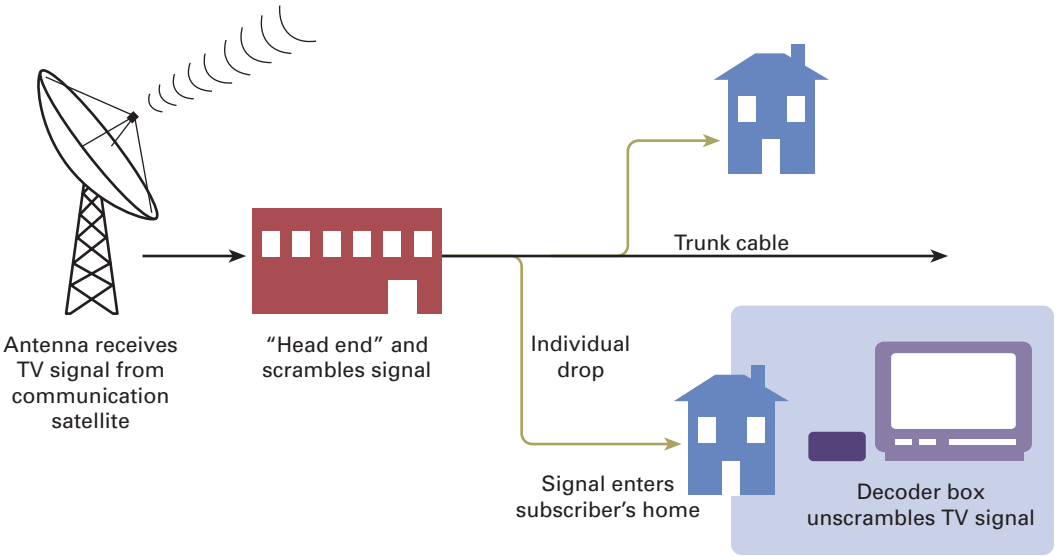
The **distribution system** consists of the actual cables that deliver the signals to subscribers. The cables can be buried or hung on telephone poles. In most systems the main cable (called the *trunk*) has several feeder cables, which travel down side streets or to other outlying areas. Finally, special amplifiers installed along the distribution system boost the strength of the signal as it comes from the head end.

The **house drop** is that section of the cable that connects the feeder cable to the subscriber's TV set. Drops can be one-way (the signal travels in only one direction—from the

FIGURE 11-2

Diagram of the Transmission of HBO Programming from Studios, via Satellite, to the Pay Subscriber's Television Set.

At the head end the signal is assigned to a cable TV channel before being sent on its way to the subscriber's home.



head end to the house) or two-way (the signal can also be sent back to the head end by the subscriber). Fiber optic cables make it possible to carry 500 or more channels.

▲ Programming and Financing: Cable TV

We will examine these topics from two perspectives: (1) that of a local cable system operator and (2) that of a national cable network.

Local Operators There are six basic sources of programming for a local system:

1. *Local origination:* This programming might include local news, high school football, and discussions. A local government channel may carry city council meetings or zoning board hearings. Some systems have set aside public access channels for anyone to use for a modest fee.
2. *Local broadcast television stations:* Some cable systems carry signals from nearby cities in addition to local channels.
3. *Superstations:* These are local stations whose signals are carried by many systems nationwide. Major superstations include WGN, Chicago; KTLA, Los Angeles; and WPIX and WWOR, New York. The original superstation, WTBS, Atlanta, changed its status in 1998 to that of a cable network.
4. *Special cable networks:* These are services distributed by satellite to cable systems. Most of these networks are advertiser supported. Examples include MTV, The Weather Channel, USA Network, Black Entertainment Television, and the noncommercial C-SPAN (which covers Congress).
5. *Pay services:* These are commercial-free channels that typically provide theatrical movies and original programming. HBO, Showtime, The Movie Channel, and Cinemax are examples.
6. *Pay-per-view:* These are channels set aside for the showing of recently released theatrical films and special sports and entertainment events. Subscribers receive the programs for a specified price. Movies, for example, might cost $4.95; special events, such as Wrestlemania, might run $20–30.

A local cable system has two basic sources of income: (1) subscription fees from consumers and (2) local advertising. Most systems charge a fee for local stations, superstations, and special cable networks. In addition, consumers might pay an additional fee to receive one or more pay channels. Cable is a capital-intensive industry: It takes a lot of money to start a system. The operating costs of a typical system are more reasonable. A good part of the basic cable monthly subscription fee goes to cover construction and maintenance costs.

Cable systems must also pay for their programming. In the case of pay services, the consumer fee is split between the cable system and the cable network. There has been a recent shift in the composition of cable system revenue. Pay-cable and pay-per-view receipts now account for more than half of cable operators' income. Local advertising on cable represents another source of income for operators. This sum is growing, but it still represents less than 20 percent of total income for local systems. In addition, cable systems that carry home shopping networks generally receive a percentage of the sales revenue generated in their market.

National Operators At the national level cable networks draw upon three major sources for their programming: (1) original production, (2) movies, and (3) syndicated programs. The all-news channel CNN relies upon original production for virtually all its content. Most of ESPN's programming is also original, as is C-SPAN's. Movies make up most of the content on HBO and Showtime. Superstations program a mix of all three sources, while channels such as USA Network and Lifetime depend heavily on syndicated programs.

There are three main revenue sources for national cable services: (1) advertising, (2) carriage fees, and (3) subscription fees. Pay-TV channels such as Showtime and HBO

Speaker of the House Nancy Pelosi appears on C-SPAN. Special-interest channels such as C-SPAN have fragmented the cable TV audience.

make their money from subscription fees paid by consumers. Some cable networks, such as MTV and ESPN, charge local operators a **carriage fee.** As of 2005, for example, ESPN charged $2.60 per subscriber, Fox Sports about $1.68, and CNN about 45 cents. Cable companies pass these charges along to their customers. Some channels, such as C-SPAN, support themselves entirely from this money. Other networks sell advertising in addition to the carriage fee, and still others, such as TNN, support themselves almost entirely through ads. As mentioned earlier, advertising revenues for cable are growing, but cable still accounts for only a small percentage of the total TV ad dollars. Table 11-1 lists the top cable channels.

▲ Pay-per-View (PPV)

PPV makes most of its money from sporting events (mainly high-profile boxing matches), movies, concerts, and adult content. Subscribers pay fees ranging from $5 to $50 to see these events. After racking up impressive revenue figures during the late 1990s, PPV has fallen on difficult times. Increasing competition from video-on-demand and digital cable channels has forced many cable system operators to reexamine the long-range future of this service. Still, the potential for big money exists. The 2002 Lennox Lewis–Mike Tyson boxing match brought in $106 million and was the biggest money-maker in PPV history.

▲ Video-on-Demand (VOD)

Cable and satellite operators are hoping that **video-on-demand (VOD)** will provide a big boost to their bottom lines. VOD works like this: A cable or satellite company stores movies or TV shows on a huge server. A searchable index contains a list of everything that is available. A subscriber scans the list and selects the program that he or she wants to watch; the selection is sent immediately to the person's TV set. A special set-top box lets the viewer pause, fast-forward, or rewind. In short, you get to watch whatever you want to watch whenever you want to watch it. Most cable/satellite services offer a per-program fee.

VOD has been around for a number of years but was slow to catch on because of a lack of content and a complicated user interface. Its fortunes have improved a bit recently as cable/satellite companies have simplified the ordering process and added more movies and TV shows to VOD libraries. In 2006 cable giant Comcast delivered 1.9 billion VOD sessions, up about 33 percent from the previous year. Movies are still popular, but TV show episodes are the fastest-growing genre.

In the past few years, however, VOD has been less of a priority for cable and satellite companies as they turn their attention to the Web. VOD does not create the same kind of "buzz" as a popular video on YouTube. Further, cable and satellite services are facing

TABLE 11-1

Top Cable Services, 2006

Network	Number of Subscriber Households (in millions)
Discovery	92.3
ESPN	92.2
CNN	92.0
USA	92.0
TNT	91.9

Media Probe — You Can't Get Away from Them—Part One

Big cable MSO Cox Communications recently struck a deal with ABC and ESPN to offer popular ABC programs and football games on Cox's video-on-demand schedule for free. Sounds like a good deal, right? But there's a catch: ABC and ESPN insisted that Cox disable the fast-forward feature that allows viewers to zip through the ads. In short, if you want it for free, the ads come with it.

This arrangement only applies to VOD programming. Cox subscribers who record the programs on their DVRs can still zip through the commercials when they view the shows. So far, Cox has no plans to disable the fast-forward function on the DVRs it rents to customers. But who knows what the future might bring?

competition from other companies that now offer VOD. Apple sells TV shows and other content on its iTunes Web site. AOL launched its VOD service with a library of about 5,000 episodes of classic TV series.

▲ Structure: Satellite TV

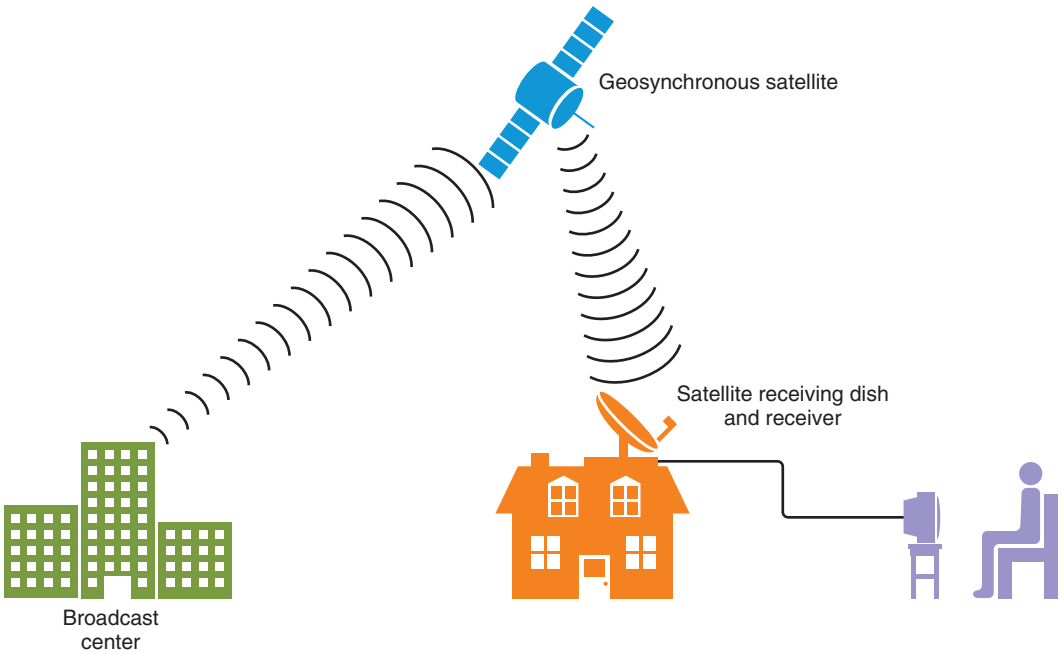
A satellite system consists of five elements (see Figure 11-3):

1. Content providers, such as ESPN, Nickelodeon, or local broadcast stations, who send their signals to
2. A broadcast center, which takes the programming and transmits it to
3. Geosynchronous communication satellites (a **geosynchronous satellite** is one whose orbit keeps it over the same spot on Earth), which receive the programs from the broadcast center and send them back down to
4. A small satellite receiving dish, which picks up the signal and transmits it to
5. A satellite receiver, which transforms the signal so that it can be viewed on a conventional TV set.

Satellite signals are compressed in order to allow a greater number of channels to be transmitted to and from an orbiting satellite. To prevent people from receiving the signals without a subscription, the signals are **encrypted** (scrambled so that only those with a proper decoder can view them). The satellite receiver decrypts the signals and distributes them to one or more TV sets.

FIGURE 11-3

Diagram of a Satellite Broadcasting System



▲ Programming and Financing: Satellite TV

The same programming is carried by the major cable companies is also distributed by satellite, including local broadcast stations; superstations; nonbroadcast networks such as MTV, USA, and CNN; pay services such as HBO; and pay-per-view. Unlike cable, satellite networks are national in focus; there is no local origination of programs.

Similar to cable, the biggest source of revenue for satellite companies is the monthly subscription fees paid by their customers. In addition, DirecTV and Dish charge extra for DVRs, HDTV, and additional receivers. Unlike cable, local advertising is not a significant revenue stream.

Also similar to cable, satellite providers' biggest expenses are related to hardware. It costs a lot of money to launch, maintain, and eventually replace a communication satellite. Installing, servicing, and replacing dishes and receivers constitute another significant expense. DirecTV and Dish also pay content producers for the right to carry their programs.

As mentioned above, DirecTV and the Dish Network are having trouble competing against the cable industry's ability to bundle voice, video, and high-speed Internet access. In response, the satellite providers have explored alliances with other companies. The Dish Network, for example, joined AT&T in its Homezone package, providing the television part of a video, phone, and Internet bundle. It is unclear how long this relationship might last, as the phone companies are moving more heavily into providing TV themselves.

▲ Ownership of Cable and Satellite TV

The ownership trend in cable, as in other media, has been toward consolidation. Comcast acquired the assets of AT&T Broadband in 2002 to become the nation's largest cable provider. Comcast and number-two Time Warner serve more than half of all cable customers. The five largest cable companies are listed in Table 11-2.

There are two major companies that dominate the U.S. satellite TV market: DirecTV and Dish Network. DirecTV, with about 15 million subscribers, is controlled by Rupert Murdoch's News Corporation. The Dish Network is owned by EchoStar and has about 12 million customers.

INTERNET VIDEO

Compared to starting a cable or satellite TV channel, starting an Internet TV channel is relatively easy. No expensive studios and pricey equipment are needed. All it takes is a camera, a computer, some software, and a Web site, and you're in business. It's no wonder that this is a hot area.

Further, the explosion of video on the Internet in the recent years is another indication that the convergence between television set and computer is well on its way. Of course, an explosion is a difficult thing to analyze. Internet video is still expanding, and its final configuration is up in the air. This section will try to make some sense out of this rapidly changing area by examining its structure and finances.

▲ Structure: Sources and Content

One way to analyze Web video is to classify it by its source—amateur or professional—and by its content—original or repurposed. Let's first look at professionally produced content.

TABLE 11-2

Five Largest Cable System Operators, 2006

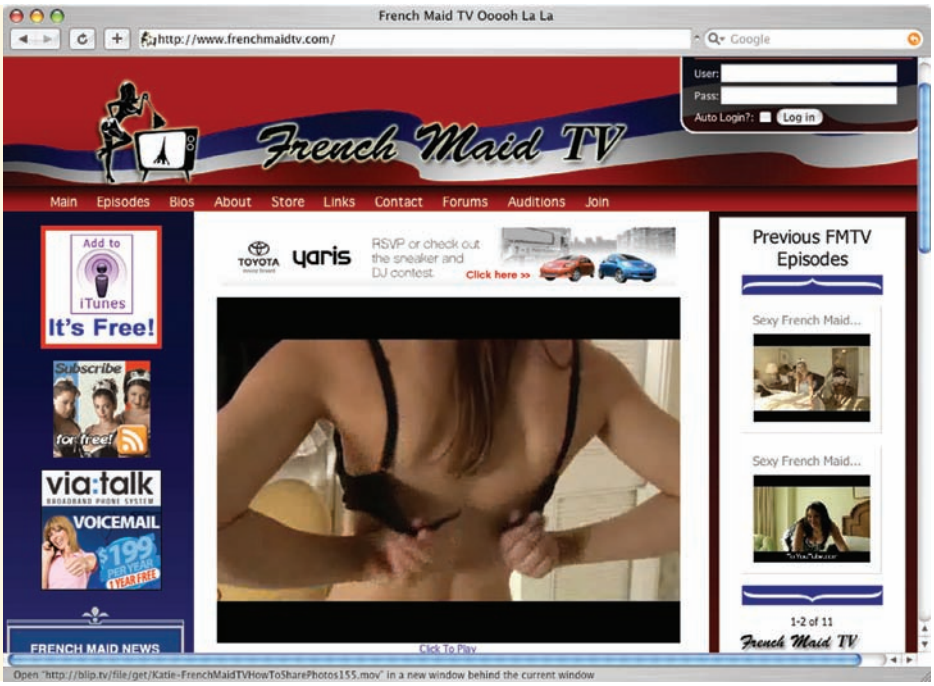
Company	Number of Subscribers (in millions)
Comcast	24.1
Time Warner	13.5
Charter Communications	5.5
Cox Communications	5.4
Cablevision Systems	3.1

Professionally Produced Content Professional video can be either original to the Web or produced initially for some other purpose and then posted on the Web. The current TV programs that appear on the broadcast or cable networks' Web sites or that can be downloaded from iTunes are examples of this latter category. Other examples are AOL TV, with its archive of old Warner Brothers–produced TV shows, and Joost, a service that carries Comedy Central and the National Geographic channel, among others. These programs reach (or reached) the majority of their viewers through traditional TV, and the Internet provides a supplemental channel that attracts additional viewers. Parts or sometimes all of these programs might also be available on video-sharing Web sites where their presence can cause copyright issues.

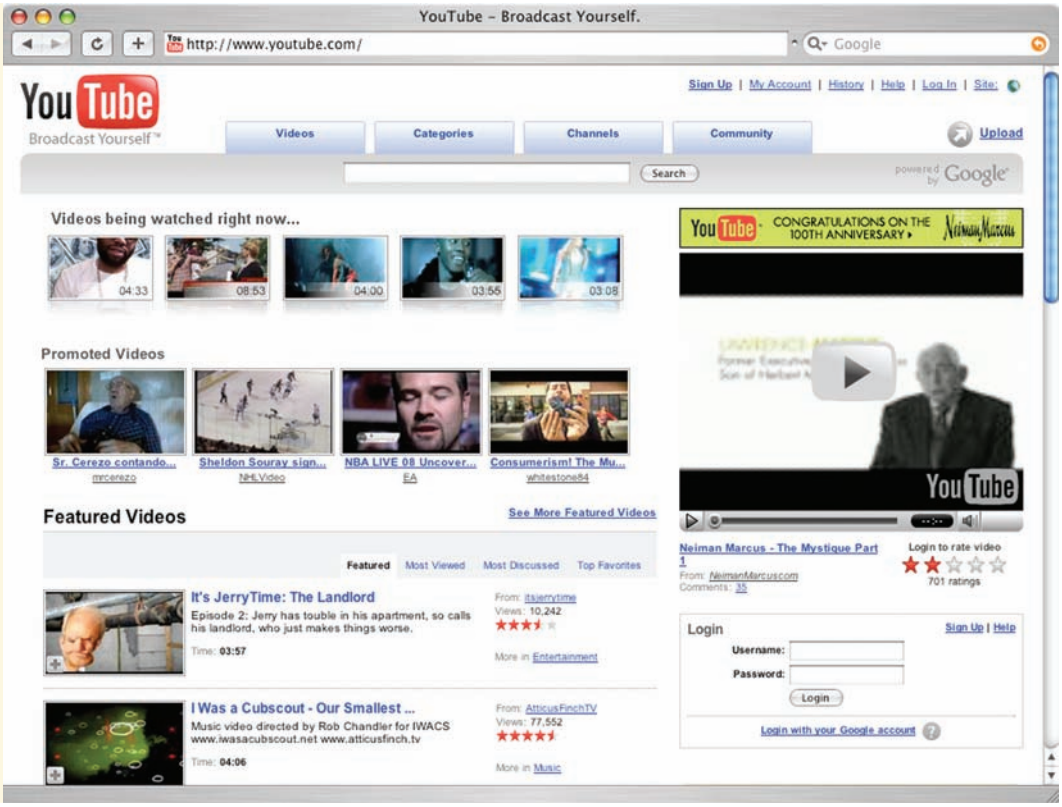
There are numerous examples of professionally produced original online content. These usually use the Internet's broadband capability to carry video. Like their broadcast counterparts, cable networks have discovered broadband channels. In 2006 the Scripps Company, owner of the Food Network and Home and Garden Television, announced plans for as many as 10 broadband channels examining topics such as woodworking and kitchen design. MTV Overdrive has channels devoted to style, movies, and backstage interviews. Oxygen Network produces a broadband channel called Oh Baby that is aimed at new parents. The broadband channels are carving out niches within niches, appealing to even smaller audience segments.

Advertisers and marketers are another source of professionally produced, original Web video. Budweiser, for example, offers Bud.TV, a site that contains programs featuring Hollywood celebrities and an original game show. Land Rover debuted Go Beyond TV in 2006 with six different channels of original programming. French Maid TV offers "how to" instructions on various topics (geared to the needs of marketers) starring a trio of French maids (who else?). Broadband brings additional refinement to target marketing.

Then there are the Web sites that specialize in new programs. Blip.tv, for instance, offers about a dozen broadband channels with comedy and entertainment clips. LX.TV, with channels devoted to food, nightlife, style, and the arts, is designed for affluent young people. Forbes.com caters to those with an interest in business with programs such as *Street Talk* and *Sports Money*.



French Maid TV might look like one of the many X-rated sites on the Web, but it's really a site used to advertise various products and services. Marketers pay about $50,000 for one episode.



Videos on YouTube have been viewed nearly 2 billion times. It has been estimated that the total amount of time people have spent watching YouTube since it first started is more than 9,000 years.

The political announcements mentioned at the opening of the chapter represent another example. Moreover, Democratic presidential candidate Barack Obama's site included BarackTV, with clips of his speeches and campaign appearances. On the Republican side, candidate Mitt Romney's site featured MittTV with similar content. These Web video efforts are another example of the audience-building function mentioned in Chapter 2.

Amateur-Produced Content Some amateur-produced video might be repurposed, such as posting a homemade wedding video on YouTube, but most amateur-produced content is original. The subject matter of these amateur clips is so diverse that it defies categorization. A quick scan of some of the more popular video-sharing sites reveals clips that range from serious to funny, from mundane to bizarre, and from intriguing to absolutely boring. In addition, they are almost always short clips, seldom more than 5 minutes long—"bite size entertainment," as suggest by a recent issue of *Wired*.

Homemade video, of course, is the ultimate example of user-generated content, and it has spawned a whole new Web industry—video sharing. Why is video sharing so popular? Three possible reasons: (1) We are inherently nosey and want to find out what's happening in other peoples' lives, (2) we have lots of free time, and (3) we all want our 15 minutes of fame.

YouTube, of course, is the best example of what can be done with user-generated content, but it has numerous competitors. Revver, for example, promises to share advertising revenue with its contributors. Google Video requires a verification process to make sure user-generated videos meet its legal and technical requirements. MySpace makes it easy to add a video to a person's profile. Jumpcut offers extensive video editing tools; Vimeo lets subscribers upload 250 megabytes of video every week. No matter how many video-sharing sites appear, there always seem to be videos to fill them up. No wonder *Time* magazine named the user-generating audience its 2006 Person of the Year. Not everybody, however, wants to post his or her videos along with everybody else's on these sites; some prefer a more limited approach. Porsche encourages its customers to post their homemade videos to its Porsche.magnify site. Even the New York Hamster

Media Probe — You Can't Get Away from Them—Part Two

It was only a matter of time. Spam messages are popping up on video-sharing sites. Let's say you're a big Paris Hilton fan. You go to YouTube, type "Paris Hilton" in the search box, and hit return. Up pop several Paris Hilton clips along with videos touting a Mexican vacation resort and a get-rich-quick scheme. How did that happen? Probably because whoever posted the vacation and get-rich videos submitted a bogus list of key words, including Paris Hilton, hoping that YouTube's search engine would pick them up and display the videos to unsuspecting consumers. At some video-sharing sites, spammers have typed in hundreds of false key words to ambush searchers.

Fighting video spam is tough. Revver has employees physically scan each video before it is posted. Some online sites have developed software that checks the video clip description looking for an unusually large number of key words. In the planning stages are speech recognition programs that will scan the audio accompanying the clip to check if the spoken words match up with the description submitted by the person who uploaded it. All these methods will probably help, but spam has proven remarkably hard to eradicate.

House, a haven for homeless hamsters in New York City, has user-generated videos on its Web site.

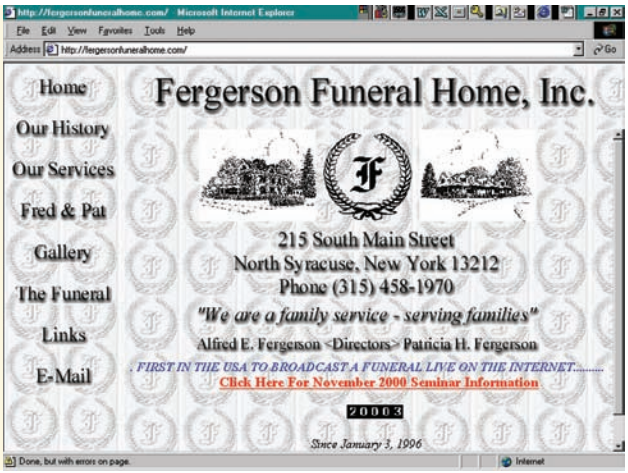
Internet video can also be used for microcasting.

▲ Microcasting

When the Brookwood High School Marching Bronco Band of Snellville, Georgia, spent a few days at band camp in South Carolina, parents back in Georgia could check up on their progress thanks to a Web cam that sent video of their practices over the Internet. Newlyweds Dusty and Fernando of Austin, Texas, put streaming video of their wedding on their Web site so that people who could not attend in person could see the ceremony. At the other end of the spectrum, more than 60 funeral parlors nationwide offer Webcasts of funerals.

The word *broadcasting*, as first used with early radio and then TV, meant sending a message to a large, heterogeneous group of people. When format radio and cable TV networks came into being, the word *narrowcasting* was coined for targeting your message to appeal to a small, well-defined subsegment of the total audience. Top 40 radio stations, for example, narrowcast to 12- to 22-year-olds; ESPN, primarily to male sports fans; and C-SPAN, to aficionados of politics. Video sent over the Internet takes this process one step further by making possible **microcasting,** sending a message to a small group of interested people. This is another example of the "few-to-few" model of communication mentioned in Chapter 1.

Although many experts think that the Internet will ultimately become a mass communication medium and that audiences will watch TV shows and Hollywood movies over their broadband connections, the Internet is also evolving in the other direction. The most successful applications, such as instant messaging, online auctions, and peer-to-peer file sharing, have been inspired by the end users and not by big mass communication conglomerates. Microcasting is yet another example of this trend.



Fergerson Funeral Home microcasts funerals on the Web.

Before long, Internet-capable cell phones will be equipped with video cameras. When that happens, the possibilities for Web microcasts will become endless. Dad could microcast Scott's and Buffy's soccer games or band recitals to the grandparents in another state. High schools could microcast the

Media Probe — Breaking into TV Has Never Been Easier

There's good news for those of you who are thinking about television as a career. There are signs that the Internet and the broadband revolution have made it much easier, for some at least, to become a media star.

For instance, consider the case of Andrew Mathas, a college student who posted an online parody of a Fall Out Boy music video, "Sugar We're Going Down" (a song whose slurred lyrics are open to interpretation, to say the least). Mathas's spoof consisted mainly of crudely drawn stick figures and text, but its rudimentary nature didn't put people off; more than a million people watched it on Google TV and other Web sites. One of the people who saw it was an executive for MTV, who offered Mathas a job at Overdrive, MTV's broadband video site.

Then there's Brooke Brodack, a 20-something whose comedy videos brought her to the attention of Carson Daly, who signed her to a production contract with his company. Finally, how about Andy Milonakis? Comedian Jimmy Kimmel liked his online videos so much that he got Milonakis his own show on MTV2.

For the first time in several years, would-be TV producers and creators have new outlets for their efforts. As of 2006, Comedy Central, for example, was developing 20 series for broadband video and considering 40 more. Court TV has plans to air 30 mini-documentaries on its broadband site.

All of these new channels demand content, and as the above three examples show, the TV industry is using the Internet as a testing ground for new talent. At MTV executives are encouraged to surf online video sites such as YouTube to look for creative people. Finding new talent on the Web entails little risk. A typical broadband production costs only a few thousand dollars, and it takes only a few weeks online to see if the new program attracts an audience. If it does, then its creator can move on to more mainstream and more lucrative projects.

prom to interested parents. How about video of the local Little League games? Microcasting, of course, will raise all sorts of questions about privacy that will have to be resolved in the near future.

FEEDBACK FOR CABLE, SATELLITE, AND INTERNET TV

Networks distributed by cable and satellite are measured by Nielsen Media Research. The techniques are the same as reported for broadcast TV in Chapter 10. A national sample using People Meters provides viewing data that are reported in terms of ratings and shares. Ratings for cable/satellite-distributed networks tend to be smaller than for broadcast networks. Nielsen also publishes a *Cable Network Audiences Composition Report* that provides more detailed information about audience demographics.

Gathering feedback on Internet video is a new and difficult area. One company, comScore Media Metrix (see Chapter 12), released its first *Online Video Ratings Report* in 2005. The data are collected from a sample of about 2 million people worldwide who agree to install comScore Media Metrix tracking software on their computers. Nielsen's online division, Nielsen/NetRatings, announced its online video measurement service, VideoCensus, in 2007.

▲ Audience

About 85 percent of American households get their television from either a cable or a satellite provider. Those who subscribe tend to be younger, have more children, and be more affluent than those who are not subscribers. Cable/satellite networks are more specialized than over-the-air networks, and their demographic makeup varies according to their target market. ESPN, for example, attracts a male audience; Oxygen, a female one. Nickelodeon aims for youngsters while CNN and MSNBC try for a more mature audience.

Some preliminary data about the audience for online videos gathered by the Online Publishers Association revealed that about 1 in 4 Internet users watched online video at least once a week, and about 1 in 20 watched every day. A visitor to an online video site, such as YouTube, spends about 15–25 minutes on the site (compare this to the 4+ hours that the average person spends watching conventional TV). Other data suggest that those who share video tend to be male and young, with about half under 20 years of age.

CAREER >> OUTLOOK

THE CABLE/SATELLITE AND INTERNET INDUSTRIES

The cable/satellite industry is relatively small, employing about 90,000 people, far fewer than the number who work in traditional broadcasting. Nonetheless, the career outlook appears more positive in this area than in some of the traditional media that we have discussed. There are hundreds of cable/satellite networks now in operation and probably more to come. The industry will need more people in production, performance, publicity, marketing, and community relations.

As with the broadcast industry, newcomers should not be afraid to start at the bottom and work their way up the organization. Likewise, your first job in this area may not last long. Be prepared to move on to other opportunities as they become available.

Moreover, the explosion of broadband channels has opened up new career opportunities, especially for those with a creative bent (see the boxed insert "Breaking into TV Has Never Been Easier"). Finally, the online video surge has produced a number of jobs that didn't exist a few years ago. After all, somebody has to decide what videos to feature on the site's home page; somebody has to sell advertising; somebody has make sure the system works correctly; and so on.

MAIN POINTS

- Cable TV began in the 1950s as a way of bringing TV signals to places that could not otherwise receive them.
- Cable TV reached maturity by the turn of the century and was facing competition from DBS satellite systems.
- The Telecommunications Act of 1996 permitted cable and telephone companies to compete with one another.
- Internet TV developed in the late 1990s and became more popular with the growth of broadband.
- Cable and satellite systems are structured differently from those of conventional TV.
- Cable television is dominated by large multiple system operators. Two companies, DirecTV and the Dish Network, are the leading DBS providers.
- Internet video can be categorized by source (professional or amateur) and content (original or repurposed).
- User-generated video, such as those on YouTube, has become extremely popular.
- Internet video sites make money by charging a fee for their content or by selling advertising.
- Nielsen provides rating data for cable/satellite networks. Ratings for online video sharing sites are provided by companies that measure Internet usage.

QUESTIONS FOR REVIEW

1. What are the defining features of cable/satellite TV? Of Internet TV?
2. Who are the major owners of cable and DBS systems?
3. How does cable/satellite programming compare to traditional broadcast network programming?
4. Trace the structure of a cable system from head end to home.
5. How can online video sites make money?

QUESTIONS FOR CRITICAL THINKING

1. How, if at all, will VOD change the cable TV industry?
2. Have you ever posted a video online? Why? Have you ever looked at online videos? Why?
3. Google paid $1.65 billion for YouTube. Do you think Google will get its money back?
4. Why do you think many presidential candidates opted to make their announcements using online video as opposed to a press conference?

KEY TERMS

multiple system operators (MSOs) (p. 259)
direct-broadcast satellites (DBS) (p. 259)
voice-over-Internet protocol (VOIP) (p. 259)
Internet TV (p. 260)
buffering (p. 260)
podcast (p. 260)
head end (p. 263)
distribution system (p. 263)
house drop (p. 263)
carriage fee (p. 265)
video-on-demand (VOD) (p. 265)
geosynchronous satellite (p. 266)
encrypted (p. 266)
microcasting (p. 270)

INTERNET RESOURCES

Online Learning Center

At the Online Learning Center home page, www.mhhe.com/dominick10, *select* Student Center *and then* Chapter 11.

1. Use the Learning Objectives, Chapter Outline, Main Points, and Time Line sections to review this chapter.
2. Test your knowledge of the chapter using the multiple choice, crossword puzzle, and flashcard features of the site.
3. Expand your knowledge of concepts and topics discussed in the chapter by going to Suggestions for Further Reading and Internet Exercises.

Surfing the Internet

http://wedcast.istreamplanet.com/lwc/whitechapel.asp
The Little White Wedding Chapel in Las Vegas has live and on-demand videos of their weddings.

www.blinx.tv
Example of a video-sharing site that mixes professional and amateur content.

www.historychannel.com
Has more about history than it does about the cable network, but contains good examples of streaming video and interactivity.

www.multichannel.com
Multichannel News is the leading trade publication covering cable, satellite, and wireless companies.

www.ncta.com
Web site of the National Cable Television Association. Contains information about the latest issues facing the industry.