

How the change to digital broadcasts in the U.S. may affect you

Starting Feb. 17, 2009, U.S. television stations will discontinue use of analog signals and will broadcast only digital signals. This change is part of a nationwide technology upgrade that makes new services available to consumers. The federal government approved this change in 2005 with the aim of allowing stations to deliver more programming and to free up space on the airwaves for emergency services.

This will affect the more than 30 million analog TVs in households that rely on over-the-air broadcasts. It also affects the 40 million TVs in use for over-the-air broadcasts in homes that also have cable and satellite services. While the transition has some advantages, the bottom line is that many of us will have to pay money to keep perfectly good TVs working.

If you have an analog TV—likely to be an older set that is receiving signals through a set-top or roof-top antenna—you will need to spend at least \$20 to keep your current TV capable of receiving “free” broadcasts after Feb. 17, 2009, or roughly \$200 to replace it with a new digital TV.

When the only option offered is to buy something—a converter box, a new TV, DVD recorder, or antenna—it pays to know more about your options. Consumer Reports wants to give you the information you need so you spend only as much time and money on this decision as you think is important.

WHAT KIND OF TELEVISION DO I HAVE?

Your television has an analog tuner, also called an NTSC tuner, if it is a picture-tube TV bought before 1998, a smaller LCD set (15- to 18-inch screen), or is a set that was sold as HD-ready. If you have an analog TV and are receiving over-the-air broadcasts via an antenna you need to take action to continue to receive broadcast signals after Feb. 17, 2009.

Your television is more likely to have a digital tuner, also called an ATSC tuner, if it is a 25-inch or larger TV purchased since 2005. To confirm that your TV is digital, you should check the instruction manual for a statement that the TV has a digital tuner. If you don't have the manual handy, look for a menu function that allows you to scan for digital channels; this is typically in a submenu sometimes called “set-up” or “channels.”

I SUBSCRIBE TO CABLE/SATELLITE; WHAT DO I NEED TO DO?

Cable companies are required to carry both analog and digital signals until 2012. This means that if your analog set is connected to cable service, you have more time to make a change, but you will pay eventually, either in new equipment or higher service fees.

Your analog TV will not receive any over-the-air digital signal should your cable or satellite service go out, so you might still want to get a digital converter box now to be ready in an emergency.

If your set is digital, you might want to check that you can receive over-the-air signals in the event of a service disruption. Locate the antenna you would use to receive the over-the-air digital signals. (Your old rabbit-ears antenna will work if you have both the UHF and VHF components.) Also check that you've programmed your set to receive the over-the-air digital channels.

CONSIDERING THROWING AWAY AN OLD SET? REUSE OR RECYCLE.

American homes have an average of 2.6, sets and no one is suggesting it makes sense to upgrade them all. Those older sets will continue to be valuable for playing videos and DVDs or hooking up to game systems.

However, if and when you decide to discard your old set there are reasons to do so with care. Electronic products are the largest single source of lead in municipal solid waste. Older monitors can contain four to eight pounds of lead on average, while the plastics used in the housing of many television sets contain flame retardants that are toxic and persist in the environment.

Check whether your municipality offers recycling programs that accept electronic waste. The Electronics Industry Alliance's Web site at EIAE.org can help you identify a program in your area. Alternatively, look for retailer in-store collection events. In many cases these services are free, but some retailers might charge fees or accept only certain types or brands of equipment.

For more information on the digital TV transition, see our June 2007 report, [How to survive the digital TV transition](#), and check our [Digital TV Transition Web site](#) for the latest information.

DTV Converter Box Coupons: Apply Now!

As you probably know by now, TV as we know it will change next year as the airwaves go all-digital. Most stations now broadcast both analog and digital signals, but that will end February 17, 2009, when a new law requires them to transmit only digitally.

If you have an older non-digital TV that receives programming via rabbit ears or a rooftop antenna, you'll need to get a set-top converter box that can transform digital over-the-air broadcasts into analog signals that can be received by their TVs. (TVs with a digital ATSC tuner will continue to receive broadcasts via antenna, and TVs connected to cable, satellite and telco-delivered TV services won't be affected.)

To help ease the burden of paying for these government-approved DTV converter boxes, Uncle Sam is offering each household two \$40 coupons to buy two digital converter boxes, which are expected to cost \$50 to \$70. But you have to request the coupons. We suggest you apply immediately, as they're being offered on a first-come, first-served basis until the funding runs out. Another reason to act now: Most stations are already broadcasting digitally, so you can use the converter box as soon as you get one to receive the extra programming and enhanced quality of digital transmissions.

To get your coupons, you can call a toll-free number, 1-888-DTV-2009, and give them your name and address. You can also visit a website, www.dtv2009.gov, to apply. The last day to request coupons is March 31, 2009, but there's no guarantee they'll be available at that late date if funding for the program runs out. The coupons are good for 90 days, and the federal government is supposedly timing coupon distribution to coincide with retail availability of the DTV converters. Many leading retail chains, including Best Buy, Circuit City, Kmart, RadioShack, Sam's Club, Sears, Target, and Wal-Mart, have been certified to participate in the coupon program.

Every household in America is eligible for coupons, regardless of income. For more information on the coupon program, go the FCC site at www.dtv.gov. Or you can check out these other resources: www.dtvtransition.org, *Consumer Reports'* online [Guide to the Digital TV Transition](#) (www.ConsumerReports.org/dtv), and HearUsNow.org, a consumer-advocacy Web site managed by Consumers Union (publishers of Consumer Reports).

How to survive the digital TV transition

The impending switch to all-digital broadcast TV will be a step forward, but it could be bumpy for many

Over the next 18 months or so, you'll be hearing a lot about the digital TV transition. Here's what you need to know: On Feb. 17, 2009, broadcasters must shut down their analog systems and transmit only digital TV signals to comply with the Digital Television Transition and Public Safety Act. (For more information, see our [Digital TV Transition information center online](#).)

While that sounds cataclysmic, the change will affect only the way free TV will be broadcast over the air, to a rooftop or indoor antenna. All TVs (no matter what type) connected to cable, satellite, or one of the new telephone company fiber-optic services should continue to function as they do now.

A TV connected to an antenna might or might not work after Feb. 17, 2009. That depends on the type of TV.

WHICH TVS WILL STILL WORK WITH AN OVER-THE-AIR ANTENNA?

A TV with a built-in digital tuner (called an ATSC tuner) will be able to get free over-the-air digital programming, with no action on your part. Your TV probably has a digital tuner if it falls into one of the following categories:

- **It's a big-screen, high-definition TV bought within the last few years.** The government has required sets with screens 35 inches and larger to have a digital tuner since July 2005, and sets 25 inches and larger since March 2006. Those sets are sometimes called integrated HDTVs.
- **It's a new TV purchased this year.** Since March of this year, all new TVs regardless of size have been required to have a digital tuner. Most TVs bought within the last few months should be OK, whether they're high-definition sets or the new digital standard-definition TVs. (Retailers are allowed to sell off their existing inventory of analog TVs that do not have a digital tuner. They should be clearly marked as analog sets, but ask the salesperson to be sure.)

WHICH TVS WILL NO LONGER WORK WITH AN OVER-THE-AIR ANTENNA?

A TV that has only an analog tuner, called an NTSC tuner, will not be able to get free over-the-air digital programming. Your TV does not have a digital tuner if it is one of the following:

- An older picture-tube TV that is not a high-definition set.
- An HD-ready TV purchased several years ago.
- A new type of set, called a monitor, that has no built-in tuner of any kind.

(If you're unsure as to whether or not your TV contains a digital tuner, consult the product manual or call the manufacturer's customer service line.)

HOW CAN YOU MAKE THOSE TVS WORK?

To use any of those TVs to get free TV via antenna, you will have to attach an external device that contains a digital ATSC tuner. (Keep that in mind if, at some point, you disconnect cable or satellite from an older set to use it in your bedroom or basement with an antenna connection.) There are two ways to do this:

- You can buy a **digital converter box** that will accept the digital feed from the antenna and convert it into analog signals your TV can accept. That would enable you to receive digital broadcasts, but they will be converted to lower-quality analog signals--even if your TV is an HD-ready set or an HD monitor. Those

converters are not yet on the market, but they are expected soon. LG and Thomson (RCA) are expected to introduce models by January for \$50 to \$70. The government will offer a limited number of \$40 coupons on a first-come, first-served basis to defray the cost.

- You can also buy a new **VCR, DVD recorder, or digital hard-disk recorder (sometimes called a DVR) that contains a digital tuner** and route signals from the antenna through that device to your TV. A number of such recorders are already available from various brands, many selling in the \$200 range. As with TVs, verify with a salesperson that the model you've selected contains an ATSC tuner. You would have to keep the recorder turned on in order to watch TV. An HD-ready set or HD monitor would then be able to display HD, but a standard-definition set would downgrade the signal to analog quality.

OTHER OPTIONS FOR GETTING TV PROGRAMMING

Alternatively, you could use one of those TVs with cable, satellite, or telephone company video service if it is available in your area. Plans start at about \$15 to \$20 a month for the most basic level of programming, and a digital set-top box rents for about \$5 to \$10 a month.

As you're weighing the costs and complexity of those various options, don't rule out the idea of buying a new TV before seeing what's involved. You don't have to buy a high-definition TV set. Some digital standard-definition TVs, which contain an ATSC digital tuner, are relatively low-cost--in the neighborhood of \$250 to \$300 or so for a 27-inch picture-tube model. We tested a number of those sets last year and found that most offered good picture quality. Another budget-friendly option: You'll find some digital LCDs with screens in the 20- to 26-inch range that sell for about \$400 to \$600. With any of those TVs, you could get digital TV from an antenna with no extra equipment or ongoing cost.

FEDERAL COUPONS MIGHT HELP U.S. CONSUMERS

Because the federal government is requiring the transition, Uncle Sam will foot part of the bill for the purchase of digital converter boxes. Households with analog TVs connected to an antenna are eligible to receive two \$40 coupons to buy two converter boxes (two coupons cannot be combined to purchase one box). Consumers must request the coupons from Jan. 1, 2008 through March 31, 2009. The coupons will expire three months after they're issued. Coupons will be available on a first-come, first-served basis until federal funding is exhausted.

Federal legislation has allocated up to \$1.5 billion to this program. Consumers Union, publisher of *Consumer Reports*, finds little to applaud in this plan, which senior policy analyst Jeannine Kenney describes as "underfunded" and "intentionally difficult for consumers to use." "Unless Congress revisits the structure and funding of the coupon program," she said, "the digital transition will be not just an annoyance to consumers, it will be a financial burden as well, undermining the likelihood that the 2009 transition deadline will be met."

For more information on the coupon program, visit the [FCC's DTV home page](#). You can phone in questions about DTV to the FCC's toll-free Consumer Center at 888-CALL-FCC (888-225-5322). Other useful online resources: www.dtvtransition.org, a site sponsored by the Digital TV Transition Coalition, a diverse group of TV and consumer electronics industry associations dedicated to educating consumers, and the official Web site of the [National Association of Broadcasters' digital television \(DTV\) transition campaign](#). You can also check out www.HearUsNow.org, a consumer advocacy Web site managed by Consumers Union for public policy issues such as the [transition to digital TV](#).

ANTENNAS: YOUR LINK TO FREE DTV

The impending transition from analog to digital for local broadcasts has put a whole new spin on over-the-air reception, which lost favor when cable and satellite became widely available. Here's what you need to know about using an antenna to get digital TV broadcasts.

More channels, better quality. Digital over-the-air broadcasts can provide very high-quality picture and sound--including high-definition programming--free of charge. You might even get more channels than you did with analog broadcasts, because many networks broadcast several subchannels with different programming than the main station. (You won't pull in cable- and satellite-only stations such as ESPN and

CNN.)

What you'll get. The number of stations you can receive digitally, and whether you can receive them, will vary depending on your locale. To find out about digital TV stations in your area, visit <http://www.fcc.gov/mb/video/files/dtvonair.html>. You'll have the best shot at receiving digital transmissions if there's a clear path to a station's transmitter. Tall buildings, mountains, or trees can block the signal. To gauge the potential strength of the HD signal in your area, check out [AntennaWeb](#).

Antenna choices. Rabbit ears and indoor antennas might work, but a larger roof-mounted antenna is generally more effective at pulling in signals. Larger antennas can also be mounted in attics. You'll find antenna advice at the [AntennaWeb](#) Web site and the [HDTV Antenna Labs Web site](#), an enthusiast site dedicated to reviews of DTV antennas and technical articles.

Installation options. Although professional antenna installation was once a common service, finding an installer today might not be as easy as finding someone to wire a home computer network. None of the major electronics chains our reporter called (BestBuy, Circuit City, and Sears) install outdoor antennas.

[AntennasDirect](#) provides a listing of resellers and installers around the country. The do-it-yourselfer can [download a useful guide](#) on installing an outdoor TV antenna. You might also find a professional antenna installer in your area on the [Homeblue Contractor Network](#) site, or at [Craigslist](#).

Got an older TV? Read this

If you get TV reception through an antenna, as roughly 42 million U.S. homes do, things will change for you in February 2009. That's when television broadcasters will stop sending analog signals and will switch to all-digital broadcasting. Unless your TV has a digital ATSC tuner--older sets don't--you'll have a box that sits in the corner and hisses at you when you try to watch your shows. Might as well get a cat.

Newer, digital TVs have their advantages, including sharper pictures, better sound, and more channels. But don't be pushed to buy one unless you want a TV anyway. Your existing set will still play DVDs, video games, and videotapes. And you can get a converter box that will let it pick up the new digital TV signals.

COUPON CLIPPING

Along with the federally mandated conversion to digital broadcasting comes a federally sponsored coupon to defray the cost to consumers of retrofitting their televisions to receive digital signals. A provision passed by Congress at the urging of Consumers Union and other groups allows every household to get two \$40 coupons to apply toward the cost of two converter boxes. The boxes will probably cost \$50 to \$70, so consumers will still have to shell out something for this new world of TV. The money available for the program is limited, and the number of coupons is smaller than the number of analog sets out there, but it's something. The converter boxes and the coupons will be available in early 2008. For more information, go to www.dtv.gov.

If you already receive your signals through a cable, satellite, or telephone company, you shouldn't need any new equipment. See [How to survive the digital TV transition](#) for expert advice on the conversion. Online subscribers can also receive up-to-date [Ratings](#) of TVs and assessments of services.

As the transition to digital TV nears, we'll be watching to see how well the government informs the public, what information manufacturers and retailers are pitching, and whether the government and industry are meeting their obligations to ease the transition. We'll also be tracking the effect of the conversion on low-income consumers, who most need the coupons. Check out www.HearUsNow.org, CU's Web site for communications issues, for the latest information.

Option 1: DTV converter boxes

The least expensive way to get digital TV signals

If you are a cost-conscious consumer and are basically happy with your existing analog TV and reception, the [change to digital TV transmissions in Feb. 2009](#) doesn't necessarily mean a costly or painful switch.

The least expensive option is to purchase a digital converter box. The box is plugged in between your antenna and your television set and works by converting the digital signal into an analog signal that your television can display. The quality of your reception might be greatly improved by digital signals, but there is also a chance that poor reception will get worse. Once you've hooked up the converter box, if the digital signal is giving you an image worse than your original setup, try a new antenna before you buy a new TV. If that still doesn't give you what you want, return the box and the antenna and try one of the other options.

BUYING ADVICE

- Converter boxes should be available at major discount and electronics retailers in early 2008. A basic box should sell for about \$60.
- Get a rebate coupon to offset the cost of a basic converter box. Between Jan. 1, 2008, and March 31, 2009, the federal government is offering a \$40 converter box coupon (two per household). The coupon cannot be used for an antenna or any other peripheral and will expire 90 days after it is issued. There are no eligibility requirements; just call 888-DTV-2009 or go to www.DTV.gov and provide your name and address. Note that the number of coupons is large but not unlimited and that they will be given on a first come, first served basis.
- If you need to replace or upgrade your antenna, information on coverage and options is available at Antennaweb.org. The coupon cannot be applied to this purchase.
- Beware of bundling. Retailers might also package antennas, boxes, and services that will end up costing you more than you planned to spend. Our advice is to skip the bundles and try the basic converter box first.

Free coupons from the gov't:

<https://www.dtv2009.gov/>

or call 888-DTV-2009

Every household in America is eligible, regardless of income.

More info about the transition:

<http://www.hearusnow.org/tvradio/12/>

Consumer Reports and HearUsNow.org have put together a comprehensive brochure on what consumers should do to prepare for the DTV transition.

http://www.hearusnow.org/fileadmin/sitecontent/dtv_brochure_--_english.pdf