



TV's VCR's and DVD's



Questions and Answers

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Preface

The world of television is changing faster than most of us can follow. Most folks know that the FCC has approved changes to television broadcasting for 2009. However, there are a lot of questions that folks need answers to before they go out and spend money on new TV's VCR's and DVD players. It is hoped that this paper will help answer some of the questions.

Will I have to buy a new television set to watch TV after February, 2009?

NO! After this date the broadcasters will no longer transmit analog (NTSC) signals over the air. From then on, broadcasters will only transmit digital (ATSC) signals over the air. However, if you are not now using a TV antenna to receive TV pictures, you will not need a new TV set after that date.

Here in Bristol Village, we receive our TV from a cable system. The cable company will continue to send a signal that can be received by older TV sets.

What is HDTV?

HDTV refers to **High Definition TeleVision**. For many years the television standard, NTSC, used an analog signal to produce pictures with 525 thin horizontal lines scanned alternately (interlaced) across the screen. With this standard, the resolution, or quality, of the picture was limited. HDTV uses digital technology for generating sound and pictures. Digital technology allows for higher resolution pictures and better quality sound.

A noticeable difference between the older and the newer pictures is the change in **aspect ratio**. Aspect ratio refers to the balance between width and height.

Older TV screens have an aspect ratio of 4:3 while newer ones have a ratio of 16:9.

This makes TV pictures the same shape as wide-screen movies. Sometimes when movies are shown on NTSC broadcasts or video tape they are modified to fit the screen. You might have noticed that sometimes the left or right edges of the picture are cut off. Sometimes the picture will have black bands across the top and bottom, making the visible picture have the same shape as a movie screen.

This is called **letter boxing**, and it prevents the loss of the sides of the movie picture when it is shown on an older TV set. If you check out the new TV sets in the stores, you might notice that most of them now have the new wider aspect ratio. Movies can be converted to the new HDTV 16/9 format without the need for letter boxing.



Since transmitting digital television is completely different from the older analog standard, new equipment is required to take advantage of the new standard. If you are planning to buy a new TV, VCR, or DVD player, you should do some homework and learn a little about HDTV before you spend your money.

What do 480, 720, and 1080 mean?

If you are shopping for a TV or player you might run across these numbers. They refer to the number of lines generating the picture. These numbers usually refer to how the original program was created (the bigger the number the better the picture). However most TV's can mush the picture to fill the screen no matter what the original format was. If you are really serious about creating a first

class home theater, you need to learn about these different resolutions, and also about up-converting.

If you are a normal TV watcher, don't worry too much if these numbers make you go cross-eyed. Take a close look at a TV before you buy it. If it looks good to you it's OK.

What is an LCD display?

An LCD (light Emitting Diode) display is a new technology for showing pictures. The older TV sets used a big heavy glass picture tube that commonly had a curved front surface. The new LCD TV's are very thin, have a flat surface, are a lot lighter and easier to move, and are currently more expensive than picture tube TV's.

LCD displays are also referred to as flat panel displays. However, flat panel display can also refer to a plasma display. To the casual observer the two types may look similar, however, plasma displays are typically more expensive than LCD displays, and since how good a picture looks is a subjective opinion, you would have to see the two side by side before you could decide whether plasma is worth the price increase.



What are the differences between TV's, Monitors, and Displays

If you are shopping for a new TV, be careful that you get a TV and not simply a monitor or display. A TV set will include a TV tuner, while displays and monitors require a separate box for providing the signal that makes picture to be displayed.

A video monitor or display will have video connectors that allow it to show pictures from an outside source. A TV set includes a connector for an antenna or a TV cable, and has a built-in TV tuner, a device that created pictures from the signal from the antenna.

One way to tell if a TV has a built in tuner is to check the connectors on the back of the set. If it has a tuner, it will have a place to attach the TV antenna or cable. This connector (called an F-connector) has screw threads, although spring loaded push-on F-connectors are available on some cables.



If it only has an rca-style video connector, it will not be able to get a picture directly from an antenna or TV cable. The rca video connectors are usually color coded yellow and do not have screw threads..



Unless you will only be looking at pictures from a cable box, VCR, or DVD player, be sure that your display device includes a TV tuner.

What kind of TV Tuner should I look for?

There are currently two different kinds of TV tuners, NTSC and ATSC. For many years only NTSC tuners were available. As of 2007, all new TV sets have to include an ATSC Tuner. Be careful. Some TV sets have been on the shelf for a while and may not have the latest ATSC tuner. Try to get a new set that has both NTSC and ATSC tuners.

The ATSC tuner is capable of receiving the digital HDTV signals that are now standard. In Bristol Village in 2007, folks who had ATSC tuners had the advantage of receiving 15 HD stations and over 40 digital music channels in addition to the 75 standard NTSC channels that are included in the Extended Basic cable service.

It is possible to receive the digital signals with the addition of a set top box, however, that requires paying an extra monthly fee to the cable TV provider.

Is there a way to see digital programming on my old TV set?

Yes! In order to show digital programming, you have to have a digital (ATSC) tuner. However, the tuner does not have to be in the TV set. It can be in a DVD or VCR recorder/player that is attached to the TV.

There are an increasing number of video recorders on the market that include ATSC tuners. Top of the line DVD/VCR recorders that include ATSC tuners are currently priced around \$280 and lower priced models are starting to show up in the stores.

The tuner in the DVD/VCR can receive the digital TV signal and can pass it on to the old TV either on channel 3 or 4, or directly to a video input connector (if the old TV has one).

If you are going to buy a new DVD or VCR recorder, you should hold out for one that includes an ATSC tuner.

Do you have any suggestions for a new DVD/VCR?

I recently added a **Panasonic EZ47V** to my collection of toys. Although I bought it by shopping on the Internet, I have noticed that some local stores (like Sam's Club) now carry this model. The price is around \$280. It has both NTSC and ATSC tuners built in. It can receive the HDTV signals and has outputs that can display the picture on most TV sets. It can be used to copy from a DVD to a VHS tape, or to copy a VHS tape to a DVD. I am now able with this unit, to receive the digital music and HD stations from the local cable and to display them on a TV that does not have its own ATSC tuner. I am satisfied with the performance of the Panasonic EZ47V .

You should note, however, that some commercial videos are copy protected, and that some HD programming cannot be recorded in HD mode.

I recently saw that K Mart in Chillicothe had a lower priced brand DVD/VCR that included an ATSC tuner. I expect that there will be additional

models of DVD and DVD/VCR recorders with ATSC tuners introduced in the near future.

NOTE: There are now a number of DVD and VCR recorder/players being sold that do not have *any* TV tuner built in. This means that you cannot use them to directly record TV programs. Some of these models display 'line in recording.' This means that they must receive their signal from a cable set top box, or other video source, not an antenna or TV cable. If you want to record TV programs, you must have a TV tuner built into your recorder.

There are a lot of stations on the cable that I never watch, but I have to scroll past them when I use my remote control. Is there any way to remove these stations?

Yes! Most TV sets allow you to program the stations that the remote control cycles through when you press the channel up or down buttons.

The first step is to find the **setup menu**. (Look for a menu button on your TV remote control). Find the option for **auto tuning** your set. This option will search the input signal for all available channels. If you have a set with an ATSC tuner, be prepared to wait for several minutes for this process. The system has to look for all the possible sub channels present on the 135 main channels.

After the channel list has been generated, you can use a setup menu option to delete the channels you do not want to see as you press the channel up or down button.

This setup will take a bit of time, but will make **channel surfing** with your remote control more pleasant.

What is Blu-ray?

Oh NO! More format wars.

Two new versions of DVD's are now being marketed. These versions



boast larger capacities. The **Blu-ray** version is from Sony, and the competing **HD DVD** is from Toshiba. The two versions are not compatible with each other or with older DVD players.

It is not clear which format will win the war. It seems that every day there is a news article about some company that is, or is not, supporting one format or the other. Different content providers have decided to support one or the other format. Also, some computer makers have decided to include one or the other player in their computers.

There are major companies lining up behind one or the other formats. These include movie studios. Disc player manufactures, and computer companies. Content suppliers like Net Flix and Blockbuster, and stores like Walmart and Target are also choosing sides.

At this point it is not clear which format will survive. What is clear is that older CD's and DVD's will probably not work with the new players.

I think that most folks will sit back and see how things go before buying either a Blu-ray or HD DVD player. Recorders are available but at this point they are too expensive for normal consumers.

How big a TV should I buy?



Oops! This is a very personal question. But, consider the size of your room and how far you will sit from the set. Also, if your eyes are not as good as they used to be, you might find a bigger screen easier to see.

My Mother-in-law was legally blind, but was a big fan of woman's tennis. She got along pretty well by

sitting 5 or 6 feet away from a 32 inch screen. Some folks like sets that make the people on the screen bigger than life size. You will have to get in front of different sized sets, try to view them from about the distance you will be from the set at home, and then make a decision. Bigger is not always better, but it is almost always more expensive.

What about TV sound?

If you want a theater like audio experience... one where you can feel car crashes in the seat of your pants, or where you can hear the bad guys sneak up behind you, consider an add-on home theater sound system. However, many of our Bristol Village rooms are a little too small for both the loudness these systems put out and the space the extra speakers typically take.

Summary

- Do not worry about the new 2008 regulations unless you depend on an antenna to get your TV programs.
- If you are buying a new TV, DVD, or VCR, buy one with both NTSC and ATSC tuners. Do not pay attention to the advertising words HD ready. This might simply mean that if you have access to the HD signal from some other source (like a set-top box) the TV will display it.
- Hold off on HD DVD or Blu-ray until the format war is over unless you find a player that will play both formats.

Copies of this paper have been made available through the Bristol Village Computer Club. If you want to contribute to our printing supply fund, please drop a small donation in the box near the copy machine in the Computer Room.