

about progressive scan

Progressive scanning, otherwise known as 480P (p=progressive), creates a picture signal with double the scan lines of a conventional interlaced picture, 480I (I=interlaced), to create a noticeably sharper image. The 480P image offers higher picture resolution and eliminates virtually all motion artifacts. Even on large screens, the progressive scan lines are barely noticeable and picture flickering is greatly reduced, so you can enjoy extended viewing without eye fatigue. Our progressive scan DVD players can handle both progressive and conventional interlaced video.

In order to take advantage of a progressive scan DVD player, your TV must be capable of accepting and displaying a progressive scan signal (480p).

The Benefits of Progressive Vs. Interlaced Scanning

Standard DVD-Video players use interlaced scanning to produce a picture. Interlaced scanning combines two fields to generate a picture of 525 scan lines (480 of which are displayed). Your television projects an interlaced image by first scanning the 240 odd-numbered lines of one field (in 1/60th of a second), followed by the 240 even-numbered lines of the other field (in 1/60th of a second). So, it takes two fields to build one frame of video.



Interlace scanning first scans the odd-numbered lines in 1/60th of a second...



...followed by the even-numbered lines in the next 1/60th of a second.



Progressive scanning the entire picture in 1/60th of a second.

Our progressive scan DVD players have a progressive video processor, which enables all 525 lines (480 of which are displayed) to be scanned at the exact same time; two interlaced fields are combined into one progressive frame. A television with 480P component inputs can completely scan the entire image in 1/60th of a second. The result is a smoother and sharper picture with high resolution and minimal motion artifacts.

Advantages of Progressive Conversion

Line doublers are used in other high-end home entertainment systems to provide progressive scanning. These may be stand-alone devices or incorporated into a digital TV. Impressive as they may be, our progressive scan DVD players' in-player progressive conversion has three big advantages over line doublers:

1) High precision and stability

A DVD-Video disc mastered from a film holds all the data necessary to produce an accurate progressive image, whereas an external line doubler must take hints from the video source to determine the source material and frame allocation.

2) All-digital conversion minimizes signal degradation

Since the signal from the DVD-Video disc is digital, progressive conversion can be performed digitally inside the player. Signal quality is protected until it leaves the player's analog output. In contrast, a stand-alone or in-TV doubler first receives information from the analog output of the source device then converts this analog signal back to digital for processing. Finally, it must translate the signal back to analog before outputting it. All this back-and-forth translation is much more likely to degrade the signal.

3) Processing is optimized to DVD-Video's high image quality

Line doublers built into digital TV sets are designed to work with a variety of video sources, so their settings are not necessarily ideal for DVD-Video. The progressive conversion of our progressive scan DVD players is optimized for the high resolution and low noise of the DVD-Video format. This enables the unit to preserve DVD-Video picture quality for display on all screen sizes, from direct-view CRT to projectors.