

## Everything You Need to Know about the Video iPod



Okay, so this new iPod plays...videos?

When Steve Jobs first announced the new iPod a few months ago in a highly anticipated “special event” in San Jose, California, a lot of questions were raised, ranging from disbelieving “Play Videos? Are you nuts?” to thoughtful “What types of video would it play?”

Well, whatever questions you may have, we’ll try to answer them for you.

First up, let’s just make it clear that the model we’re talking about here is the 30 GB iPod, not the bigger 60 GB model. System requirements are: PC with USB port running Windows 2000 SP4 or Windows XP SP2; Mac with USB port running Mac OS X 10.3.9. List price is US\$299, but you can probably find a better bargain at other online stores.

### **New Look, New Package**

The new iPod no longer comes in the traditional “cube” packaging. Instead, it comes in a box that is quite similar to that of the nano – a thin black box with photos of the iPod on the front, back, and sides. When you open the box, you’ll find the iPod itself inside. Don’t be surprised by the seeming lack of accessories.

### ***Accessories Galore!***

Besides the unit, the box also contains a software disc, Apple stickers, a USB dock connector cable, a universal dock adapter, headphones, headphone covers, and a thin iPod case. Unlike the older models, you’ll notice that absent are the dock, remote, wall chargers, and AV cables – all of which you can purchase individually or bundled with your new iPod at an Apple Store. If all

that you're interested in with the new iPod is the video output, then the AV cables are a must-have. You can find them for around \$20 online or at a retail store.

### ***Bigger Screen, Better Viewing***

Appearance-wise, what exactly has changed about this new iPod? Your first impression would probably be that the iPod somehow looks wider. In reality, however, the only physical update (besides the model being considerably thinner than the 4G) you'll find is that the LCD is larger. From the previous 2" LCD, they've upgraded it to 2.5" LCD – a marginal difference, so to speak, but the difference is amazing.

The scroll wheel of the new iPod has also been reduced from the old model's 41.67mm across to a mere 38.10mm. The face material of this new iPod is dual layered with a clear resin on top of white plastic, probably to prevent the LCD from damage and makes for a clearer-looking screen.

### ***Oh No! Where's the Headphone Jack?***

If you can't find the headphone jack at first, don't fret. They've relocated the headphone jack so that it is now positioned opposite the hold switch. One change that has caused a lot of furor from long-time Mac users is the lack of Firewire support on these new iPod models. The technical specifications is silent on this, except that it requires USB to use it.

### **Video and TV on the Go**

Physical updates aside, the biggest feature of this new iPod model is that it now plays video. What? What technologically revolutionary thing is Steve Jobs up to now? Does this new iPod do something radical with video playback to put PSP and other similar devices to shame?

Well, not exactly. The new iPod plays videos, and that's about it. There is nothing remotely revolutionary about the way it plays video. Ah, but when you take the ease of use of getting videos onto those portable devices into account – that's where the new Video iPod truly shines.

For all of PSP's widescreen glory, you cannot yet output that video to an external display. The new iPod however makes video output seem like the easiest thing to do. What's more, you can even hook up your iPod to your PC, open an Apple video store, and upload last night's episode of your favorite TV show with one or two clicks of your mouse. It's that simple.

For the new video content, there is a new "Videos" menu available on the iPod, and under that are options for "Video playlists," "Music Videos," "Movies," "TV Shows," and "Video Podcasts."

As another plus to this nifty device, Apple has made the interface for playing movies extremely similar to playing music. Just click the middle wheel once and you control the volume with the scroll wheel. Click it a second time and you're surfing through video.

### ***What It Can Play***

Here are the new iPod's supported video formats:

- **H.264 video:** up to 768 kbps, 320x240, 30 frames per sec, Baseline Profile up to Level 1.3 with AAC-LC up to 160 kbps, 48 khz, stereo audio in .m4v, .mp4, and .mov file formats

- **MPEG-4 video:** up to 2.5 mbps, 480x480, 30 frames per sec, Simple Profile with AAC-LC p to 160 kbps, 48 khz, stereo audio in .m4v, .mp4 and .mov file formats

### **Battery Life, Scratching Situation, and Other Miscellany**

Apple advertised 14 hours of battery life for the 30 GB model. That's for music, of course. That and provided that you play it at about ¼ volume.

At ¾ volume, the new iPod can be trusted to play and play for six hours straight without any problems before it gets into the "red" colored section of the battery indicator. That's far from what has been advertised but for most people, that seems to be enough. For what it's worth, the 60 GB model is rated by Apple for 20 hours of life (that's 3 hours worth of video playback).

### ***What About those Nasty Scratches?***

People have been talking about crazy scratching on the iPod nanos. Now that the new iPod is constructed in much the same way and comes in black to boot, people are asking if they'd have to worry about nasty scratches with this new model. Well, Apple has included a soft carrying case with this model. That should take care of it. Black looks really snazzy, but if you're more worried about scratches on your iPod than looking cool, you might want to get the white one as scratches on a white surface are less obvious.

### ***Newly Added Features***

Features that we've only seen for the first time with the nano can also be seen in this new Video iPod, which is definitely up to speed with the nano in terms of applications. What's more, the new features are even better looking on larger screen.

The Video iPod has a screen lock, something that those of you (who are reluctant to store your entire schedule and contact database around where anyone could steal a peak) might enjoy. The screen lock allows you to create a 4-combination code that you use like a PIN.

The second new application of the Video iPod is the "World Clock." This feature allows you to define several different time zones that you'd like to monitor. You can also have their date and time displayed along with a graphical depiction of an analog clock listed on the screen. This is great for those people who travel a lot or just want to stay connected with the rest of the world.

And finally, there's a stopwatch – excellent for anal human beings. Oh, did I say anal? I meant, time-oriented individuals. Seriously, this new iPod feature will come in handy on a treadmill because now you can time your run down to the exact nano-second and listen to all your favorite songs while at it too.

### **It's What's Inside that Counts**

On to the juicier bits of this new iPod. Taking this unit apart might feel a bit different than previous models, but that's probably due to the overall design. Next to the nano, the new iPod is one of the first Apple products that use Apple's entire in-house design.

You can open the unit using a flat, hard tool like a screwdriver, just like opening a nano, basically. The ideal tool to use should probably be a plastic device, however, to minimize damage to the case.

Once you get the iPod open, among the first things you're going to notice is the Toshiba 30 GB hard disk, model MK3008GAL, which rotates off the main circuit board. Next is the battery which is super compact and actually affixed to the metal backplate. The battery sits above its own power management circuitry and right next to the headphone port and its driver circuitry.

After pulling away the ultra-diminutive hard drive from the main board, most of the major chips of this device can now be plainly seen. Notice the PortalPlayer 5021C-TDF chip. It's actually the same chip that powers the iPod nano. Also similar to the nano is the 32 MB of Samsung (534-K9WAG08U1M) SDRAM that serves as the device's buffer memory, the power management chip Philips CF50607.

The similarity with nano ends right there, because new to the iPod model is the prominently placed Broadcom "VideoCore" chip, the BCM2722. This is the chip that makes the Video iPod a *real* video iPod, considering how it does all of the heavy video lifting. It replaces the nano's Wolfson audio codec and adds video processing and output.

This component serves as the heart and soul of the video output layer of the iPod. It does the TV output and decodes and displays the video content. It natively decodes H.264 and MPEG-4 video up to 640x480 which is noticeably higher than what Apple's specs state are the maximum allowable video resolution.

### **Component Listings**

The Video iPod contains the following components and their model numbers:

- LCD: Unknown manufacturer, model no. 1WX510015194, 320x240, .156-mm dot pitch, 2.5"
- Battery: Unknown manufacturer, model no. 5H27086
- CPU/media decoder: Portal player 5021C-TDF (audio decoding)
- Video decoder/driver: Broadcom VideoCore BCM2722 (video decoding, audio encoding, LCD, TV out driver)
- Power Management: Philips CF5067
- Voltage Regulator: National Semiconductor LM34910 high voltage (40V, 1.25A) step down switching regulator
- Audio Codec: Wolfson WM87588G (Audio decoding, mixing, driving)

The new Video iPod might be fifth-generation, but it does share a lot of technology with the nano, taking care to absorb the strengths of the older model and mix in new ones to come up with a wholly different product. And with the Broadcom VideoCore chip, it tacks a new generation of mobile video, audio, and image processing technology.