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AMAZING NEW
MEDIA SERVER



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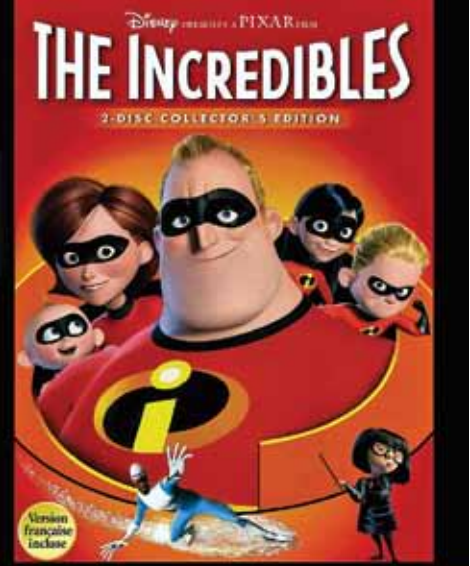
DIGITAL PROJECTION'S AMAZING TITAN
BRINGS THE BIG SCREEN 3D EXPERIENCE HOME



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Finding Nemo
Harry Potter and the Sorcerer's Stone
Ice Age

The Incredibles

Indiana Jones and the Raiders of the Lost Ark
Kalahari: The Flooded Desert (Narrated)
The Little Mermaid
Mary Poppins
Monsters, Inc.



Scenes Favorites Kids Collection New Play ▶

Going back several years, I remember my first reaction to learning of the Kaleidescape paradigm. Then, media servers didn't exist, and a Kaleidescape starter system cost a startling \$30,000. On paper, it looked like its principal novelty was ripping and playing back DVD movies without having to load a disc into a player. My first thought was something like, "Wow, life is really expensive for people who don't want to get up and walk a few feet to grab a disc and put it into a DVD player?" Of course, this was exceptionally ignorant and shortsighted. My cynicism lasted roughly two and a half to three seconds into actually using a Kaleidescape system. Much like the Apple products that are so near and dear to my heart, Kaleidescape's power is in the interface. The library management and organization is a metadata-enriched, best-in-class experience. It's about changing the way you browse and experience your content at least as much as it's about storing your digital content on a server. What's better still, it's dead simple to use. You could hand the remote to your mom, and she'd be watching a movie in seconds. But power users can dig deeper and find movies by their favorite actors, directors, genres, and more.

I'll get to all of that. First, you have to understand that this is describing only a sliver of what the Kaleidescape system is and does. A single Kaleidescape Player connected to one display shows

Escape Physical Media

Streaming your high-def content with Kaleidescape

BY Shane Buettner

off the media-rich user interface. But a Kaleidescape server like the 1U reviewed here can deliver as many as five separate Blu-ray Disc movie streams simultaneously to Kaleidescape M-Class Player devices throughout your house. No additional compression is involved, so even high-definition movies with lossless audio from Blu-ray Discs play back in all their glory. The Kaleidescape system isn't just an alternative to a DVD player, Blu-ray Disc player, or CD player or changer device. It's a different animal altogether. It's a networked digital media distribution solution that **dramatically changes the way you access and experience your content—for the better.** Does that grab your attention?

The Great Kaleid-Escape

In a vastly oversimplified nutshell, a Kaleidescape system looks like this: You plant a Kaleidescape server, like the 1U reviewed here (\$9,995 base price, \$12,470 as tested), somewhere in your house. You then connect it via hard-wired Ethernet to as many Kaleidescape Players like the M500 (\$3,995) as you want or need and to the Internet so it can

access system updates and pull down the metadata that's tied to your imported content (rich metadata is the key to the Kaleidescape experience). Movies and music imported to and stored on the server can then be streamed to an array of Kaleidescape Players either strewn throughout the house via Cat-5 or centrally located and distributed by other means. Each Player is equipped with an HDMI 1.3 output and can connect directly to a display or to a component-based home theater system. The M500 has a Blu-ray-capable disc tray that imports CDs, DVDs, and Blu-ray Discs to the 1U server. Although it requires a connection to a Kaleidescape server to boot up, you can also use it like a standalone Blu-ray player if and when you choose to. The M300 Player (\$2,495, not tested) is simpler, with no disc tray; it simply streams imported content from a Kaleidescape server, including Blu-ray Disc content. The type of clientele that this

system is aimed at would probably store the server and a variety of M500 and M300 Players in an equipment closet out of sight, with Players dedicated to the main home theater/media room, living room, bedrooms, etc.

The system supports a maximum of five simultaneous, independent Blu-ray Disc-based streams. That is, people can watch five separate Blu-ray movies on different Players in the house, at the same time. If you add more Players, the system can support more independent streams, but some people better be listening to music or watching DVD content. Personally, I don't know enough people to have that many different guests over, and if I did, I assume we might be socializing together instead of consuming media alone in different parts of the house. But I'm sure that the people who can afford this system live life at a different scale than I do in many ways.

The Kaleidescape system is designed for scalability and

Kaleidescape 1U Server and M500 Player



PRICE: \$16,470 (as tested) **AT A GLANCE:** One-of-a-kind, best-in-class movie interface • Very expensive • Music management not at same level • Blu-ray playback currently cumbersome • Standout pure performance

wholehouse media distribution. But at its core, a functional Kaleidescape system requires at least one server and one media Player capable of importing content, plus Internet connectivity and a hard-wired home network to connect the devices. Kaleidescape sent me a 1U server fully loaded with four 2-terabyte hard drives stuffed with a variety of Blu-ray, DVD, and music content, plus an M500 Player. The two boxes were wrapped together in a travel case and connected to each other over Ethernet with a small router also tucked into the box. I essentially had a base Kaleidescape network system in a box. The 1U server I received was maxed out with the four 2-TB drives creating a proprietary type of RAID array, which to non-nerds means that one of the drives is purely for parity and data redundancy so the content is protected from hard-drive failure. If one drive dies, you can hot-swap a new one without losing any data. That leaves 6 TB for content storage, which according to Kaleidescape, translates to storage for 150 Blu-ray Discs, 900 DVDs, or nearly 10,000 CDs. Or some mix in between. To give you an idea, as I write this, the storage on the 1U server I'm using is nearly 90 percent full. It's loaded with 142 movies on Blu-ray and DVD and over 84 CD albums. It says it has room for 22 more Blu-rays, 124 DVDs, or 1,400 CDs.

Kaleidescape customers love movies (and probably music) and might want more storage. You can do this in a few different ways. One, the bigger 3U server holds 14 of those 2-TB drives, quadrupling your storage to 600 Blu-ray Disc movies or 3,600 DVDs. A fully loaded 3U will set you back \$33,000. And you can cluster multiple 1U or 3U servers and still access your content as a single, monolithic library.

Of Great Import

This will be brief. **To import a disc into your Kaleidescape library requires just two button pushes on the M500.** One push opens the tray, then you press the Import button, and the tray closes and the system imports the disc. That's it, for real. After you import a CD or DVD, you have to swear on your stack of remotes that you own it. Importing a Blu-ray Disc can take an hour or more, which isn't that surprising. CDs can take 15 to 20 minutes, which did surprise me. Part of that could be ping-pong the Net for the metadata, but still, this is something a Mac Mini can do in a few minutes.

Crying the Blues

There is a big ol' *but*, as of right now. As I mentioned, Kaleidescape can import and play back Blu-ray Discs. But there's a big catch. For Blu-ray playback, you first have to load the movie you're watching into the disc tray of a Kaleidescape Player somewhere in the system (not necessarily the Player you're using) even after you've imported the title into the system. Imported Blu-ray Discs still play back from the server, and not the disc tray, and there's a serious upside to that, which I'll tell you about shortly. But overall, this is a total drag. It negates much of the Kaleidescape system's convenience and at least some of its value, for now.

Without digging too deep into this area, the DVD Copy Control Association (DVD CCA) has been tied up in the courts with Kaleidescape for years over its

KALEIDESCAPE 1U SERVER AND M500 PLAYER

PERFORMANCE ★★★★★

FEATURES ★★★★★

ERGONOMICS ★★★★★

VALUE ★★★★★

DVD importing capabilities. Kaleidescape contends that its customers have a fair-use right to make copies of DVDs or CDs that they own a copy of, and so far, Kaleidescape is still in business building and selling its systems. However, the Blu-ray solution is in compliance with Blu-ray's AACS copy-protection scheme and clearly seems intended to discourage anyone who's thinking of renting and ripping their way to a huge Blu-ray Disc library. With this system, you have to own the Blu-ray Discs you import, and you have to load the disc into the network somewhere to prove it. That somewhere is where things will get interesting.

The next two components on the Kaleidescape road map are Blu-ray Disc vaults. These add a lot of expense to an already expensive solution but also restore all the convenience lost with Blu-ray storage at this point. A Modular Disc Vault scheduled for Q4 of this year will hold 100 Blu-ray Discs and must be connected to an M500 or M300 Player via USB. This vault will be \$1,500 or \$3,995 bundled with an M300. A larger Integrated Disc Vault solution is tentatively scheduled for June 2011 and will hold 300 discs and connect to the Kaleidescape network via Ethernet, making it more of a

scalable, standalone device. While the Integrated Vault's not-to-exceed price is a hefty \$6,000, it will include built-in M-Class player functionality and will be able to handle bulk imports for a large number of discs. The disc vaults aren't changer devices; imported discs still play back from the server. But once either of these solutions is in place and your Blu-ray Discs are loaded into them, the system automatically verifies the presence of the disc on the network and enables Blu-ray Disc streaming. You no longer need to track down the disc and put it in a tray. This will be an expensive proposition if you have a large library of Blu-ray Discs, and we obviously couldn't test it here to verify that it's as seamless as Kaleidescape's other components. But for Blu-ray snobs like me, it seems apparent that a more expensive Kaleidescape system with these vault devices will actually have more value to prospective buyers. Not to mention that people who can afford any Kaleidescape system can probably afford a few of them.

Blu-ray Now

As of now, Kaleidescape's Blu-ray playback still has significant advantages. First, as far as media servers that can import Blu-ray Discs go, it's probably the only game in town. Some systems claim Blu-ray capabilities but require third-party software to rip the discs, software that the manufacturer doesn't officially support. It's a wink-wink, nudge-nudge deal between you



and your installer. There's no need to become a hacker or a felon here; importing Blu-rays is the easy button push import that CDs and DVDs are.

Once Blu-ray Discs are imported, with the disc in a drive on the network, playback is better and faster than any Blu-ray player I've used. Even Java-intensive discs start up in seconds. Tired of skipping past 10 screens of warnings and trailers just so your kids can watch *WALL-E* for the 29th time? Kaleidescape goes directly to the movie and skips all the junk. So, imported Blu-ray movies start in seconds—single-digit seconds. Fox Blu-ray Discs are among the slowest-loading discs out there. *Fantastic Mr. Fox* takes about a minute and a half to load on my OPPO BDP-83, but the imported version starts on the Kaleidescape in less than 20 seconds. And most imported Blu-ray movies start much faster. You can also stop a movie and then resume play where you left off even if the disc isn't Java-encoded to perform that function. I know of no other BD player of any type that can defeat either of those annoyances. Overall, even though I was putting a disc in the tray, interacting with my BD library and watching BD movies on the Kaleidescape system was still a vastly improved experience over using a standalone player.

When I tested the M500's pure performance like a standalone player (i.e., playing back from the disc tray, not an import), it yielded fantastic results. Disney's *Ratatouille*, a notorious boot-time stress test, revealed that the M500 tracks within a few seconds of my OPPO, meaning it's quite fast. I tested its video processing converting both 480i and 1080i to 1080p with our usual battery of Video Test Bench testing (note that this would apply to standalone disc playback and playback of imported Blu-rays and DVDs).

I saw excellent results from both standard- and high-definition discs. Rolled-off chroma response at the highest frequencies was the only blemish, and nothing I saw on any program material—DVD- or Blu-ray-sourced—showed anything less than pristine performance. One note, though: Your installer will use a PC/Web browser interface to set up the Kaleidescape. The system defaults to clipping black and white levels over HDMI and overenhancing upconverted DVDs. For the performance I describe here, make sure your installer enables blacker than black/whiter than white, selects None for Detail Enhancement, and allows Deep Color. The M500 doesn't offer onboard lossless audio decoding for Dolby TrueHD and DTS-HD Master Audio, so I engaged bitstream output for the lossless formats from the PC/browser setup.

Another note on Blu-ray playback and interactivity: The Kaleidescape system is optimized for movie watching more than digging into extras and interactivity. To access real-time chapters, Bonus View PiP features, or BD-Live interactivity, you select Play Disc instead of Play Movie. Even though you're still accessing the imported version of the movie, it's just like you're playing back the physical disc. When the Java engine starts, you have to cut through all the splash screens and trailers, etc. Play Disc was swift and sure with the PiP features I tried, even the tricky one for Warner's *Watchmen* Maximum Movie Mode. It was sometimes inconvenient to not have access to Blu-ray's real-time chapter menus when using Play Movie to watch imported titles.

Browsing and Watching: The Glory

This is where I was hooked into the Kaleidescape experience. The best thing about Kaleidescape's movie capabilities is how fully it understands and anticipates a movie watcher's behavior. Basic navigation in the system is breathtakingly intuitive. It requires just four direction keys and an OK button to engage menu selections. Because of the enormous breadth of what the Kaleidescape system can do,



• The 1U Server holds four 2-terabyte hard drives.

explaining this in greater detail would make it seem complex when it isn't. Its functionality is incredibly robust, but using the Kaleidescape for movies requires no learning curve. It's that easy. It's also fast. Scrolling in any direction through the interface is lightning fast, and in two-plus months of continuous use, it's never slowed down, frozen, or needed to be rebooted. It's very robust hardware. Keep in mind this is with the stock remote, which is quite good. Most Kaleidescape owners will use an integrated control system, but I wouldn't hesitate to recommend the remote that ships with the unit, especially for a simple system in a bedroom or guest room.

The HD graphics and cover art have a lot of pop. They're very crisp and clear. For movies, there are three main views, and they're exceptionally easy to navigate to, from, and within. The Covers view is sexiest; it shows a tiled mosaic of all of your movie cover art. Hovering over a movie rearranges the covers around it on theme—from simple to complex. For instance, highlight a sci-fi title, and watch the sci-fi titles come up front; highlight a Pixar movie, and see the other Pixar and computer-animation movies tile around. But it goes farther. Highlight *Raiders of the Lost Ark*, for instance, and all the other *Indiana Jones* movies populate around it. Ditto for *Star Wars* or *Harry Potter*. Highlight *The Book of Eli*, and you'll see *Inside Man* and *Remember the Titans*, also starring Denzel Washington. Highlight *Blade Runner*, and director Ridley Scott's *Gladiator* then comes front and center. Get the idea? It's smart.

The Collections view organizes preset lists like Blu-ray (for all your Blu-ray titles), plus genre-oriented choices like Action and Adventure, Concerts and Musicals, Date Night, etc. The New collection auto-populates anything you've imported in the last 30 days, and you can tag anything in your collection to the Watch Soon Collection (I love that one). You can also tag certain scenes in a movie, which will then populate the Favorite Scenes Collection. And you can name your Favorite Scenes either through a programmed remote control solution or the system's web browser control interface (the stock remote doesn't work for this). You can see how über cool it is to have your favorite home theater demo clips locked and loaded for instant showing off. Of course, the drag is that DVDs don't do it for demo in the Blu-ray era. The fact that you have to schlep Blu-rays into and out of the tray blunts this feature's effectiveness, even if it's faster than just loading your discs into and out of a standalone player. But this feature's future is probably brighter in the Disc Vault era. The Paused Collection tracks the movies or TV shows that you've started but not finished and keeps them in a list, even if it's a Blu-ray that's been removed from the network. If you select a Blu-ray from the Paused list, it will simply ask you to restore the disc to a tray

SPECS

KALEIDESCAPE 1U SERVER

HARD DRIVE CAPACITY:
6 TB (content storage) 8 TB total

DIMENSIONS (W X H X D, INCHES):
17.5 x 1.7 x 18.8

WEIGHT (POUNDS):
24 (with four 2-TB hard drives loaded)

PRICE: \$9,995 base price, \$12,470 as tested

CONNECTIONS 1U SERVER

OUTPUTS: ADDITIONAL: USB 2.0 (2), Ethernet (1), RS-232 (1)

3:2 HD	2 HD	MA HD	3:2 SD	2:2 SD	MA SD	VIDEO CLIPPING	LUMA RESOLUTION	CHROMA RESOLUTION	SCALING
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	EXCELLENT



on the system to resume play, and it resumes right where you left off. DVD content resumes instantly. And just because you start a movie or program in one room doesn't mean you can't finish it in another. If you can't make it through that last episode of *Mad Men* in your theater room, you can polish it off from the master bedroom.

The List view shows all your movies in alphabetical order, with a side order of performance-enhancing drugs. As you vertically scroll your movies, moving to the right reorganizes your collection by several categories—genre, cast, director, year. Scrolling vertically on a highlighted category lets you find movies with the same actors, directors, etc.

There are some other cute points too. If a movie has multiple cuts encoded on the disc used for

I used the system exactly like I would if I owned it, which means I imported and watched tons of movie discs. On imports, I only fooled it once. A few days after



The Kaleidescape remote is intuitive to use for any family member.

street date, I imported the Sergio Leone/Clint Eastwood *Man with No Name Trilogy* on Blu-ray Disc, a set of three Westerns in one case with a single UPC. While the system imported all three movies, only the previously released *The Good, the Bad and the Ugly* had full metadata. While I could play the movies, without the full metadata, I couldn't skip the warnings, trailers, etc. The system requested the UPC for the set, but that still didn't do it. I had to inform Kaleidescape, and within a week or so, metadata for all three movies was in the system.

My understanding is that this wasn't special reviewer treatment; any Kaleidescape owner's request would have resulted in action. The only playback glitch I encountered was with *Spider-Man*



import, you can easily select which version you want to watch. For example, *Spider-Man 2* on Blu-ray offers playing either *Spider-Man 2* or the extended *Spider-Man 2.1* cut. *Blade Runner* on Blu-ray allows you to watch either the 1982 U.S. Theatrical and International cuts, or the 1992 Director's Cut. The TV series treatment is awesome. Even though *Lost* seasons 1 and 2 are contained on several discs each, the Kaleidescape showed one entry for each season. Each season's splash screen lets you play the season by episode, or you can choose Play All Episodes. Stop in the middle or end of any episode, and you simply pick up again where you left off, until that season is complete.



2 on Blu-ray. When I played back the extended (via seamless branching) *Spider-Man 2.1*, the picture and sound started to play at slightly faster speed several times throughout the movie. Stopping and resuming play solved the annoyance for a time, but the issue recurred throughout this movie.

Kaleidescape's music management is also robust, but with a steeper learning curve. I like that you can play music and then browse and add to the music to be played, or even replace it. But there are other,

CONNECTIONS M500 PLAYER

OUTPUTS: VIDEO: HDMI 1.3 (1), component video (1), S-video (1), composite video (1) **AUDIO:** Digital optical (1), digital coaxial (1), analog stereo (1) **ADDITIONAL:** USB 2.0 (1), Ethernet (1), RS-232 (1)

simpler operations that are curiously absent or difficult. Most notably, there's no way to sort by or search for songs. Shuffling songs (Random play) by artist or genre is reasonably simple and very useful. But creating custom playlists (Collections, Mix Albums) can be cumbersome, especially if you want them composed of individual songs as opposed to broader categories such as genres or artists. On the music side, while I found a lot of capability, I found myself thinking about each step in the process, even after being tutored by Kaleidescape.

What More Could You Possibly Want?

A few minor things, just to keep up my curmudgeon's card. I'd love it if the menus did PiP, so that your streaming content would remain playing in a smaller window while you search through the menus. Also, outside of the

SPECS

KALEIDESCAPE M500 PLAYER

HDMI OUTPUT RESOLUTION: Up to 1080p/24/60

AUDIO DECODING: Dolby Digital, DTS

BITSTREAM OUTPUT: Dolby TrueHD, DTS-HD Master Audio

OPTICAL DRIVE: Blu-ray, CD, DVD

DIMENSIONS (W x H x D, INCHES): 17.5 x 1.7 x 13.8

WEIGHT (POUNDS): 10

PRICE: \$3,995

can support this kind of functionality, and it's looking at a future system update along these lines.

Conclusion: A Dream

The Kaleidescape's music management is a bit suspect, but with movies, its capabilities are beyond parallel, and that's more than enough. Compared with the full scope of the Kaleidescape's abilities, its Blu-ray capabilities are hamstrung, to a degree, for now. Expensive help is on the way, but as is, the Kaleidescape Blu-ray experience is still far beyond what you'll get from any other Blu-ray player. As a movie management system, Kaleidescape is completely unrivaled in so many respects that matter, but especially in its simplicity and usability. I'm all for anything that improves the experience of watching movies at home. And the Kaleidescape does that, for anyone in your house who can pick up a remote control. There's really nothing out there I've seen that's comparable. The advent of 3D doesn't make Blu-ray feel even a little bit boring to me. But when the Kaleidescape is packed up and returned, watching my favorite movies, even on Blu-ray Disc, is going to feel a little plainer as an experience. The Kaleidescape isn't just highly recommended, it's fervently coveted. My only serious issue with it is that I have to send it back. ☹



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