THE 2015 GOLDEN EAR AWARDS TO PORT

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MUSIC FROM Joe Lovano, Wes Montgomery, Todd Rundgren, and Jeff Beck PLUS: The Best Hi-Res Downloads

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Photography by Dennis Burnett

et me begin with one central and perhaps overriding observation: One can debate the features and cost of the Burmester MC151, but not its sound quality. It is a truly outstanding digital player, one of the most musically exciting I've auditioned. It is superbly built, offers a wide range of features, and its iPad remote control option is well designed and highly functional. Quite frankly, I don't see how you could wrong with a properly set-up Burmester MC151 as a CD player, as a way to store any music collection under 2TB, as a portal to a streaming service or Internet radio, or as a means to play music off a USB stick or hard drive. Even in a world of ever-morecompetitive digital players and servers, this one is truly outstanding. That said, I have a few caveats.

One major catch is the price: The Burmester MC151 costs \$25,000, and not surprisingly there are cheaper competitive options. Another is its mix of features. This issue affects all digital music players and servers in a world of rapidly changing technology, where the evolving software for streaming services—and for storing and playing music, along with acquiring digital metadata—presents inevitable problems. The Burmester MC151, for instance, does not currently store SACD digital, and is limited to replaying 24-bit/192kHz files—this, in a world where raising bits and sampling rates beyond any conceivable technical rationale has become the equivalent of the horsepower race in cars.



As with any unit of its type, the Burmester MC151 does require careful setup, if you are going to take advantage of all of its features. Loading, cataloging, and sorting out the playback of a really large music library—particularly a classical library—present the same difficulties that come with any mix of downloads and CDs.

While I believe the MC151 is an outstanding product offering outstanding sound—and much more—for the purposes of this review, these initial challenges aren't easily rationalized away, even in light of the superiority of its technology and features. Moreover, when I say it is an outstanding product, it is with full recognition that this is a luxury item at a luxury price.

lechnology

First, let's examine Burmester's good and unusually objective summary of the technology in its MC151 Music Center:

"The MC151 Music Center has a fully DC-coupled signal path without capacitors, resulting in precise bass reproduction due to the nonexistence of phase shift in the audible range. The sophisticated analog output stages receive their signal from a reference-class converter section...Sampling rate for D/A conversion can be selected from either 24-bit/96kHz or 24-bit/192kHz, according to personal preference. An integrated slot drive is available to allow users to rip their CD

collection in optimum quality. To ensure the safety of their valuable music files, the unit contains two mirrored hard drives (HDD), each with a capacity of at least 2TB. The first drive is used for storing a music library while the second stores the same information in parallel, to ensure that the files are secure, in the event that a hard drive becomes defective. The system drive is a Solid State Disc (SSD).

"The optionally selectable level control allows direct connection to a power amp and therefore enables users to use the unit without an extra preamp. The MC151 Music Center can be operated by front panel controls on the device itself, via a Web

browser, and also by means of the custom-designed Burmester app via an iPad. Key functions are also controllable via the Burmester remote control. The music data on the server are also available to other UPnP players within the local network.

"Any album covers and title information not entered is automatically obtained by matching with the database. Since audio CD drives only have a forward error correction (FEC) of a few seconds, the data streams outputted by old or scratched CDs can suffer from dropouts during playback. If no appropriate countermeasures are applied, this can seriously impair enjoyment of the music. However, when a CD is ripped (and not simply played back in real time) it is possible to read the audio data several times over if necessary, until the data is completely recovered. In this way, the Burmester Music Center is able to process audio data in maximum resolution and quality, and to reconstruct a datastream free of the deficiencies described."

You will notice there are no claims about some unique DAC circuitry, chip, or storage device, and for me, this is just as well. There are, however, several additional things you need to know about the Burmester's technology before you invest in any unit this expensive and that, I feel, should be part of any modern music server's arsenal.

Burmester provided the following answers in response to my written questions:

What are the limits to sampling rate and frequency for high-resolution storage and playback? Quite frankly, going above 96/24 seems problematic to me, but higher rates are being sold.

The maximum sampling rate for the MC151 (111) is 192kHz and 24 bits.

Can the unit store and play SACD downloads?

Currently the MC151 does not support SACD, but we have already started an internal discussion as to whether this is a requirement for one of the next firmware updates. If we decide to change any feature set of the MC151 (e.g. SACD), we can do it very easily.

Is it possible to back up the stored collection on a separate hard drive? The question applies to future equipment upgrades and to having a unit with a large music collection that is damaged or stolen.

Yes, of course. Just connect an external USB hard drive to the Music Center, and you can back up or completely restore your music data.

You will notice there are no claims about some unique DAC circuitry, chip, or storage device, and for me, this is just as well.

Can hard drives larger than 3TB be fitted? A really extensive music collection can require big drives, especially with highresolution downloads.

Currently, the MC151 uses two 2TB hard drives to store the music data on a RAID 1 system. (With this configuration you have one 2TB HD for your music

storage and one 2TB HD for your automatic backup.) The size is limited by the maximum available sizes of 2.5-inch HDs on the market. (It is also possible to include two 1TB SSDs—the maximum available size of SSDs on the market is currently 1TB.)

Is there any way to use a system like JRiver to play back the digital music I store on my Mac, or to play directly from an external hard drive, as well as from a USB stick?

You can use JRiver to play back the stored music on your Music Center; just search for the Burmester DLNA/UPnP server in your network. Currently you cannot push any music directly to your Music Center; this function is more intended for our network player. But we are also thinking about offering this feature in one of the next firmware updates for the Music Center. We do not distinguish between a USB stick or an external USB hard drive; you can play back your audio files from either one.



How do I delete the CDs I loaded to test that aspect of the unit's operation?

If you want to delete or edit particular tracks or albums, you can do it directly from the WebUI of the Music Center. This function is not available within the Burmester MC app.

24-bit, 192k, or Bust

First, there is a steadily increasing debate among audiophiles and within the industry about the merits of ever-higher sampling rates. DACs and players that can store and play back at 32 bits and 352kHz or 384kHz are coming to market. There are some DACs and players available that can also store and play back both of the SACD standards normally used for home audio.

So far, I have yet to hear any rationale for going above 24-bit/96kHz in an attempt to improve sound quality. I also have yet to read any technical literature that justifies sampling rates above 24-bit/96kHz, even for those somewhat

mythical "golden ear" listeners who can really hear signals at frequencies around 20kHz and beyond, when they are part of real music. There are also some potential technical reasons—at least in the near term—for knowing when to stop. Higher sampling rates do mean that a lot more storage is required, and some experts believe that jitter becomes a greater problem at high sampling frequencies.

I have heard enough controlled tests on really good high-end systems to believe that making new recordings at 24-bit and rates

of 88, 96, or 192kHz with top-quality components at every other link from the microphone to the final product can make a difference. So far I have heard the difference best on simple stereo recordings made solely for test purposes wherein there was an absolute minimum of editing, and a direct comparison could be made of 16-bit/48kHz against a higher sampling rate such as 24-bit and 88, 96, or 192kHz.

Even then, the differences I have heard have amounted to a slight improvement in upper-octave sound and air in acoustic classical music and jazz that contains a lot of treble content. There may also be greater dynamic range, though I can't pick it out with any consistency—and I caution that unless you have a deadsilent environment, normal room noise even in a quiet listening space can have a masking effect at practical listening levels.

To be blunt, I also don't hear any benefit from going "hi-res" in the vast majority of so-called high-resolution downloads made from remastering older analog tape recordings, efforts to "digitize" LPs, or digital recordings made with mediocre front ends. I regard most of these "hi-res" options as little more than expensive frauds, particularly when comparing a new "hi-res" recording to an older CD indicates that the new recording may have been tweaked a bit during its production and remastering.

Music is not a hearing test, and bit and frequency rates are only one parameter in the complex "error budget" of all the factors that affect a given recording. For instance, I have found the difference between the sound of given brands of microphones to be more important—even in controlled tests of recordings of the same performance—than higher bit and frequency rates.

I often prefer the musical realism of simply miked recordings of great performances made in the 1960s to the complex, over-produced recordings with too much upper-octave content that are all too common today. I can accept higher distortion and less dynamic range as trade-offs for more natural timbre and a more

...there is a steadily increasing debate among audiophiles and within the industry about the merits of ever-higher sampling rates.

realistic soundstage. I also prefer the humanity and life of a performance with minimal editing over assembled perfection (and, in the case of popular music, the tendency to compress dynamic range during the production phase to give the recording more punch when played back over radio and in portable players).

As for SACD—as mentioned, a format the MC151 does not currently support—I do have a large collection of classical SACDs and I do use a black box to store the stereo signal you can get from an SACD via an HDMI connector in my digital music collection. *But* my interest lies in the music on these SACDs, not in some special advantage in sound quality. Almost all SACD production and editing requires that the DSD signal be converted to PCM for processing. DSD can add a measurable amount of high-frequency noise above 20kHz

that places a burden on your tweeters and your system. I feel SACD is optional for the classical music buff, and somewhat pointless for others, given the wide variety of non-classical recordings now available in other formats.

But I digress. In short, I believe the Burmester MC151's capability to store 24-bit/192kHz recordings meets every current, real-world need for even the most demanding audiophiles. Moreover, given its

superb performance with CD and other nonhi-res digital recordings, an audiophile will get far more musical pleasure from any existing collection of music than from a unit that is less than excellent at playing those basic formats.

2TB Storage Capacity, External Hard Drive, and Backup

The Burmester's limit of 2TB worth of storage arguably may be more important than its bit and sampling rates. I have a digital collection of well over the equivalent of 7000 albums, plus a lot of experimental and commercial high-resolution recordings. They add up to more than 3TB of data. This is, however, the result of decades of collecting music and storing digital copies of my LPs, in addition to my fascination with multiple recordings of the same music and to loading a bunch of high-storage-capacity, "hi-res" recordings into my music collection.

That said, I believe 2TB will be more than enough for most (saner) audiophiles, and that Burmester is correct to focus on having two identical hard drives to provide a built-in backup system. As previously noted, you can also add a USB stick or external hard drive to increase storage capacity.



Even more important (as indicated earlier), the Burmester gives you the ability to back up your collection in its original format on another external hard drive. If you don't own a server or store music on your computer, you may not realize how critical this feature is, particularly given that some companies don't advertise its absence. I have had hard drives fail and experienced a weird problem with my Sooloos wherein I somehow lost the content on the two redundant hard drives in the same Twinstore storage unit. I'd failed to fully back these up and had to go back and reedit the metadata on nearly half of my classical collection to properly catalog it. Not a good situation. What's more, you are almost certain to move on to another server someday. Being able to make separate external-drive backups in the original format and store them somewhere safe is simply basic common sense. As far as I'm concerned, any storage system that does not permit this should not be on the market, and no reputable dealer should sell one.

Ability to Play Back External Storage Systems. plus Downloading and Streaming

I do believe a unit this expensive should have its firmware upgraded so you can "push" music from streaming services like JRiver, Tidal, etc. This is a update I believe will be necessary at this \$25k price. The Burmester MC151 does a good job of downloading from commercial services, and its iPad interface comes set up to download music from the German hi-res services.

The more critical point here is that Burmester makes clear that it is creating its own software and can make firmware upgrades. This is an area that gets far too



little attention in the world of highend, hi-res servers and players. I have, for instance, had welcome firmware upgrades that enhanced the sound and playback capabilities of my Oppo, PS Audio, Sooloos, and EMM Labs players and servers. In every case, the increase in overall musical-playback quality or ease was far more apparent than any differences I've heard between topquality CDs and hi-res digital!

The MC151 brings to the table both an Ethernet connection and a manufacturer dedicated to steadily improving the component's sound and features—absolutely critical in today's constantly shifting world of digital music.

In the end, the only fault I could find was that it is not suited for background music. Its sound is too compelling and involving.

An Actual Instruction Manual

One key feature, however, is that the Burmester actually has English-language instruction manuals. The MC151 manual is tailored to specific types of use and contains enough diagrams and step-by-step options to get most users up and running—and, when they revisit the instructions later on, to remind them of how to do it.

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Far too many high-end manufacturers promise good instruction books during the review phase, but don't deliver. Happily, Burmester appears to be an exception.

Features and the Personal Nature of Server Ergonomics

I would strongly advise prospective buyers to spend some significant time with a dealer before purchasing this or any other complex server or network system. The ergonomics of such systems are complex, and because ease of operation is a relatively personal matter, it's important to consider and work through every feature you intend to use. This is only possible through a hands-on effort before you buy (although I hope Burmester will put its manuals on-line by the time you read this).

There are also three other general things you need to know about features of the MC151 (and servers in general).

First, sorting and storing your existing music collection can be time-consuming, and if you can get help, do so. Also, the MC151 is a fast downloader when it comes to storing digital downloads, but it's a slow copier of CDs. (If you are patient by nature, this doesn't matter.) However, the Burmester does a superb job with transferring slightly damaged CDs in its slower-loading mode—much better in this regard than my Sooloos and other servers I've used—although it had more trouble getting the album-cover data for CD-R copies.

Second, most popular and jazz digital recordings have useful metadata you don't need to edit, although getting the cover art can be a problem. You also expect your music to be sorted by the artist or group, with his or its name establishing the alphabetical order first, and the album title being the second way to find them.

The metadata on any large classical library, however, can be a nightmare to catalog. They are sometimes filled with extraneous or erroneous material, or just missing. Composers are often listed by first name, and with a wide range of spellings. (Listened to much John Bach as a contemporary music artist recently?) Album titles cover only part of the music, don't put the composer's name first, sometimes don't indicate the musical content at all, and use strings of metadata so long that key information does not show up in the limited display space on the server or on the readout of remote controls.

These problems in loading and cataloging classical music are at their worst

with older recordings, but even many current ones don't properly edit the title or composer, don't indicate what music is actually on the recording, don't bother to include the original recording data or to take advantage of the ability to store all of the album-cover and review information in the backup metadata.

And, incidentally, I have never found anyone who bothers on any album to show how it was originally recorded, with details about what equipment was used, how it was remastered or produced, and whether the claim that it is PC-hires or all-SACD is justified.

The Burmester MC151 relies largely on computer editing of a classical collection. It isn't complex, and you can edit track names (not just titles and performer), which can be helpful when the metadata don't properly name a given track. You may still need a dealer's help, however. To get started you need to see what is involved and how well the system suits you.

Finally, virtually everyone ends up making playlists. The Burmester has its own approach, and you should see it demonstrated. I found it to be fine for jazz and popular, but a bit more difficult than the Sooloos for classical. Once again, ergonomics and user preferences are personal, so you may find just the opposite to be true.

I did mildly prefer the overall operating features on my Sooloos, but largely because I was far more familiar with them (and I have a version where you can do on-screen edits while loading a CD). I suspect any user new to both servers would find them identical, and a PC computer user even might find the Burmester to be better. I must say, the Burmester was far better than any separate computer-storage system, such as JRiver, that I've yet encountered.

I've tried a number of systems, and I also should note that the problems in using your



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computer as a server run deep. I do use JRiver—its sound quality is excellent, and I used it for some of the comparisons of the Burmester and other servers and players later in this review. It is a way to create a much cheaper and more effective server system.

By contrast, JRiver is typical of the systems I've tried to date in that it needs a massive overhaul to improve its ergonomics. It is reasonably functional as a playback system, but its queuing and playlist features are royal pains in the ass. Its setup is one of the least-intuitive and worst-written software packages I've encountered, compounded by the fact that the separately vended remote apps have equally obscure and over-complex set-up features. Once you know the way through the set-up jungle, JRiver is fine for basic playback. But damn, it's like going back 20 years in ergonomics.

Some Other Notes on Features

The Burmester's Internet radio feature works fine, but finding the right station for the first time can take a while as you sort by country, and find the station name.

The Burmester did a good job of finding the Oppo, PS Audio Bridge, JRiver, and the other server options I use, but ease of operation with large collections was mixed. I do wish you could easily sort by level of digital resolution.

The fact that the Burmester MC151 has a remote volume control does, as noted, allow it to be used directly with a power amp, and eliminating the preamp can *slightly* improve detail and transparency. I find, however, that many digital recordings require a slight tweaking of the balance control to present the soundstage at its best. Try this before you bypass a preamp. Dave Wilson once remarked that the balance control should be called a soundstage control, and he was right.

Sound Quality

However, the crowning aspect of the Burmester MC151 is not its technology or features, but its sound quality. I recently had a competing server in that costs some \$50,000. It has not yet made it to market, but sonically it fell distinctly short of the Burmester MC151, in spite of the fact that it costs twice as much.

Moreover, the Burmester was consistently able to get the best musical sound

quality out of all of my CDs, downloads, and hires titles. It never favored any particular aspect of the sound over another—as in the kind of reproduction that produces unique "insights" into the music by emphasizing one aspect of the sound.

Basic Sound Quality

The Burmester consistently got to the soul of the music.

It did an excellent job with the better highresolution recordings that I referred to earlier. It brought out their exceptional upper-octave life and air, and still kept all the warmth of the midrange. Bass was equally excellent, as was soundstage width, depth, and detail. I kept trying to fault its performance, but the unit kept dragging me back into the music. In the end, the only fault I could find was that it is not suited for background music. Its sound is too compelling and involving.

At the same time, it kept reminding me just how good better-quality CD and 16-bit 44.1k or 48k recordings can be. Returning to points I've made earlier, it showed me that some supposedly "highresolution" recordings are simply remasterings of analog recordings or digital recordings that don't really benefit from being "hi-res," but do benefit from a great digital player.

Furthermore, not every modern remastering on either CD or "hi-res" was better than a older recording on CD. This was scarcely surprising. Anyone who is aware of what it takes to remaster some older mastertapes to digital has to question whether a new effort to transcribe a "baked" old mastertape is really a more musical or authoritative source.



I did not really expect this level of sound quality. Most digital units that come my way for review also come with a vast amount of written hype as to why their one unique approach is the revealed truth, and then rapidly demonstrate that it is isn't the moment I start listening.

I'm not sure that being understated is a clear sign of superior performance, but I am basing my praise on comparing a wide range of classical, jazz, rock, and pop recordings played back thought the Burmester MC151 with the sound of the same recordings on the Sooloos and using JRiver with Oppo and PS Audio DACs. I also focused on recordings of acoustic instruments where I have some practical experience as to what a live recording should sound like, and I judged the results largely on the basis of musical sound quality in a good hall.

Listening to the Competition: Oppo BPD-93

As you might expect, the Oppo BPD-93 did not prove to be to be a competitor. The Burmester provided more realistic musical detail, superior dynamic life and contrasts, more natural upper-octave air and detail, and a better sense of the soundstage. It was also clear that the Oppo BPD-93 was not an ideal unit for reproducing percussion detail, including the differences among given types of cymbals. The Burmester's margin of superiority was consistent and musically important. It made the music come far more alive.

At the same time, the Oppo still demonstrated that you can get really good performance from a really affordable unit. The Oppo BPD-93 did a good job with recordings up to the 24-bit/192kHz level. Unlike a number of more expensive units, it did not seem to tweak the sound of the upper midrange to emphasize detail. It is not "forgiving" in the sense that it loses upper-midrange energy or detail, and it produces a natural sound with good recordings of female voice, upper brass and woodwinds, violin, and flute. It may not be great, but it is still solid evidence that good high-end sound can be cheap.

Listening to the Competition: Oppo BPD-105D

The sound of the Oppo BPD-105, which costs all of \$1199, was a more significant improvement over the Oppo BPD-93 than I expected. The Burmester MC151 was still consistently better in all the same ways, but the Oppo BPD-105D was able to get better sound out of any decent recording than the Oppo BPD-93. It provided cleaner and more musical and natural upper-midrange and soundstage detail.

(Let me also note that my comparisons of the Burmester and Oppo apply to high-end stereo music. I use an Oppo BPD-105 in my hometheater system and for surround-music listening. I've not found any clear reason to opt for more expensive DACs for movie purposes, and I've only found a very limited number of surroundmusic recordings on SACD, DVD-A, Blu-ray, or PC recording by firms like AIX that really call for a major investment in surround sound.)

The Oppo BPD 105D is not an MC151, but it does a very good job with most multichannel SACDs, DVD-As, and movie soundtracks.

Listening to the Competition: PS Audio DirectStream DAC with the Bridge

PS Audio's new DirectStream DAC is far more competitive with the Burmester, particularly with its firmware upgrades. It does cost \$5999, but there are many more expensive units that don't sound as good—and there are solid reasons for paying for this quality of player.

I do prefer a *slightly* warmer acoustic in both recordings and concert halls than the Direct Stream provides. I'm a mid-hall listener when it comes to live music, I don't want the kind of a nearfield or immersive sound that I feel hardens the upper midrange of strings, brass, woodwinds, or voice.

The DirectStream DAC has, however, gotten steadily better in all of these areas with firmware upgrades. It now pushes the envelope in digital sound quality; it works as well with JRiver as JRiver permits; and it has both volume and balance controls, which means it can fully bypass a preamp—and even do a damn good job with phono if you hook the PS Audio NuWave Phono Converter up to its digital inputs.



I'd still pick the Burmester for bass detail and energy, and for the musical realism of strings, brass, woodwinds, and female voice on the best recordings. The margin, however, is not great. Both do very well with low-level musical information, and massed strings, choral music, soundstage detail.

Solloos Control 15 is a music control system and not a full player with a DAC. It is designed for use with a separate DAC or digital preamp, and is not cheap-\$7500-although pricing of this (and other Sooloos options) seems to be changing.

As I said earlier, I prefer some of its operating features to those of the Burmester because I like the ease in modifying musical titles, recording preferences, and loading downloads; and particularly the ease in queuing up recordings of the same song or movement, and bands of the same music on different recordings.

Digital tends to age in dog years, however, and digital music stored on the Sooloos does not provide quite the same level of natural musical detail, life, and air with really good recordings as the Burmester does. It is still very good in direct comparisons, but it may be beginning to show its age in spite of various upgrades.

labs: XUSI, Version / The EMM Labs XDS1 does remain my

top choice in DACs for CD and hi-res playback. It also has the advantage of providing SACD playback. But its sonic advantages over the Burmester are slim. The XDS1's bass was *slightly* more natural, deeper, and more dynamic. Musical detail and dynamics were slightly more realistic, and I slightly preferred its midrange timbre.

These differences in sound quality are very limited, however, when compared across a very wide range of recordings, and you would probably prefer the

Burmester if you like nearfield listening or enjoy sitting in the front of the concert hall-to be as close to the performance as possible.

There also are important trade-offs in features that you need to carefully consider. The EMM Labs XDS1 sells for \$25,000. It is only a DAC and SACD/CD player, and does not store music, allow downloading, or have any network features.

JUMMING Up Let's face it, no one really needs luxury, but virtually everyone wants and enjoys it. You can get many or most of the features and sound quality you get out of the Burmester from Sooloos-or even using JRiver, a computer, and a great DAC-albeit at the cost of using one of the most pointlessly annoying software setup routines I've ever encountered. You also can get very close to the same sound quality for less, although I'd listen very, very carefully to determine how much the difference is worth to you. This is, after all, The Absolute Sound. The Burmester is a superb-sounding digital player, and one where cost was never intended to be a key concern. The unfortunate thing is that luxury is often worth the price. tas

Spees & Prieing

Storage capacity: Two 2TB hard drives, RAID 1 DAC: Burmester Reference Converter with balanced conversion Sampling rate: Up to 192kHz/24-bit Formats supported: FLAC, WAV, mp3, AIFF, OGG, AAC, ALAC (m4a) Outputs: Unbalanced analog out on RCA, balanced analog out on XLR Digital outputs: RCA and TosLink (one each) Dimensions: 19" x 3.75" x 13.5" Weight: 18 lbs. Price: \$25,000

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