

**DR.
CHESKY'S**

ULTIMATE HEADPHONE DEMONSTRATION DISC



JD361

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There's no doubt about it; we're living in the Golden Age of Headphone Design. At every price category, headphones have never sounded better. I've heard more than a few \$10 in-ears that were pretty respectable, lots of mid-priced winners, and a couple of \$5,000 state of the art, full-size beauties that blew my mind. Today's best headphones are higher resolution devices than the finest \$100,000 speakers. You can hear superior detailing and clarity from headphones and typical room acoustic problems with speakers are completely eliminated. With the best headphones you hear what the microphones "heard," and nothing else.

Of course a stellar headphone can't make a poor quality recording sound great, so if you want to hear your headphones' full potential you have to listen to the best recordings. Now sure, sound quality is a matter of taste, but I prefer recordings that sound as much like the real thing as possible. In other words, recordings free of compression, peak limiting, equalization, digital reverberation, Auto-Tune, or any studio processing tricks. That describes the sound of every Chesky recording ever made. They're always pure and natural. We've included an assortment of the latest Chesky recordings to show off the best of what your headphones can do.

We've all gotten used to hearing music mixed and mastered to sound *consistently* loud, so a whisper quiet vocal is as loud as a scream. The uncompressed music tracks on this sampler retain their natural soft-to-loud dynamics, so you'll probably have to turn up the volume on your phone or amplifier a notch or two from your normal listening level to enjoy the music's full dynamic range.

Over the last few years Chesky Records has used a B&K 4100 D Binaural “head” that has microphones where the head’s “ears” would be. That one B&K is the *only* mic present at the sessions; no other mics are used to pick up individual instruments or voices. These Chesky Binaural+ recordings can also be enjoyed over stereo speakers.

In addition to the music tracks we have included a selection of tracks that can test your headphone’s dynamic range and imaging capabilities. Bear in mind that Binaural+’s 360 degree spatial cues will sound very different on in-ear, on-ear, and over-the-ear headphones. With the best headphones you will experience an “ear-witness” perspective; you hear what the binaural head heard at the session, exactly. There’s no after the fact mixing or alteration to the balance. There can’t be, as it’s a live to two-track recording. So if you own a bunch of headphones, check out how different they sound on the music and test tracks. You might be surprised by what you hear.

Soft-to-loud dynamic range compression is often cited as the #1 problem affecting sound quality on nearly all contemporary recordings, and I have to agree. Sadly, few music lovers have ever heard uncompressed recordings. Dynamic range compression is unrelated to *lossy* data compression formats like MP3 or Dolby Digital. No, I’m referring to *dynamic range compression*, the intentional squashing of the naturally occurring soft-to loud dynamics of voices and instruments. That’s why we’ve included a series of test tracks that demonstrate the musically disastrous effects of compression. For each group of dynamic range tests you’ll first hear the music in its natural, uncompressed state, followed by the very same track with a moderate amount of compression, and then one more time with a maximally compressed and peak limited sound mix. The differences are far from subtle; it’s a shame that few artists ever release their music in an uncompressed, or even only a mildly compressed version. Once the original sound has been compressed, it can never sound completely natural.

—Steve Guttenberg, February, 2014

PART 1: THE MUSIC

1. Depth (4:29)

“When the Saints Go Marching In” - Wycliffe Gordon

Dreams of New Orleans - JD354

Most modern recordings have one mic per instrument, so they're not true stereo recordings. You might even say they're just multiple mono recordings mixed together. Chesky Binaural+ recordings have just one pair of microphones in a B&K 4100 D “dummy head” that pick up the entire band *and* the room they're playing in. One big advantage of binaural recording is that it preserves the spatial relationships of the instruments' positions relative to the head. Here, with Wycliffe Gordon's traditional jazz band, you'll hear Binaural+ is a more natural and accurate approach. You get the actual depth and the three-dimensional presence of the players. There's no need to do an after the session mix; you hear what the B&K head heard, end of story.

2. Midrange Tonality #1 (2:11)

“Don't You” - Amber Rubarth

Sessions from the 17th Ward - JD356

We may not be intimately familiar with the sound of a grand piano or symphony orchestra, but we hear voices every day. Naturally recorded voices without processing are rare, but here with singer Amber Rubarth you have a perfectly natural sounding vocal, and the accompanying violin and cello should sound eminently realistic.

3. Midrange Tonality #2 (2:45)

“This Little Light of Mine” - The West New York Spiritual Choir

*Dr. Chesky's Sensational, Fantastic,
and Simply Amazing Binaural Sound Show! - JD355*

Midrange is such an important virtue I decided to include two Midrange Tonality tests. This one was recorded in a huge space, St. Paul's Church in New York. The tonal range of the Choir's male and female vocals are impressive. When the Choir starts clapping their hands, you should hear the fleshy sound of human hands clapping, which are surprisingly difficult to reproduce. Only the best headphones get handclaps right.

4. Presence (5:29)

“Three for All” - The Bucky Pizzarelli Trio

***Three for All* - JD362**

Here on “Three for All” you’ll experience Bucky and John Pizzarelli’s and Ed Laub’s guitars with a rare immediacy. John’s on the left, Bucky’s in the middle, and Ed is on the right. Each instrument is in its own “space,” but you should feel like you could reach out and touch their strings.

5. Texture (4:20)

“Las Perlas de Tu Boca” - Xiomara

***Cubania Total* - JD368**

With a great recording like this one from Xiomara, you should almost *feel* the textures of the instruments. The guitar, bass, hand percussion, and Xiomara’s vocal take on a palpable three-dimensional presence.

6. Treble (1:45)

“Ben’s Farm in Vermont” - David Chesky

***The Zephyrtine: A Ballet Story* - JD363**

**Performed by Fundação Orquestra Estúdio (Guimarães, Portugal),
Rui Massena (Conductor)**

Listen to the bells and celeste right at the beginning of “Ben’s Farm in Vermont”—the shimmering detail of the instruments should sound crystal clear. When high frequencies are well reproduced, their harmonics “float” above the rest of the instruments, and are liberated from the headphones.

7. Binaural Imaging (5:14)

“Jesu, Joy of Man’s Desiring” - David Hazeltine Trio

***Impromptu* - JD360**

Hazeltine’s piano is on the left, the stand up bass is in the center, and the drums are on the right. Each instrument is distinctly located, just as they would sound if your head was in the same place as the B&K 4100 D “head” at the session. As a Binaural+ recording, the head’s mics also picked up the sound of the trio filling the recording venue.

8. Space (4:31)

“Whip-poor-will” - Alexis Cole

***A Kiss in the Dark* - JD366**

The accurate portrayal of “space” really is the final frontier in headphones. Chesky Records has always made recordings in beautiful acoustic settings rather than sterile studios. Here with jazz singer Alexis Cole, her vocal is close up, but the rest of her band is set back from the B&K recording head’s microphones, so you really hear their sound filling the recording venue. The room’s walls, floor and ceiling reflections are part of the sound. Close your eyes, and with a great set of headphones, you should feel like you’re in the space.

9. Intensity (6:54)

“Ceremony: Evening” - David Liebman

***Ceremony* - JD367**

I find that some headphones handle high intensity music a lot better than others. Crank up “Ceremony: Evening” over a few different headphones and see how you feel about the music. Just make sure to play each set of headphones at approximately the same volume level.

10. Rhythm & Pulse (7:10)

“Transcendental Tripping” - David Chesky,

Billy Drummond, Javon Jackson, Jeremy Pelt, Peter Washington

***Jazz in the New Harmonic* - JD358**

There’s a lot going on here, but it’s the groove that drives the music. Some headphones can sound perfectly fine in most ways, but don’t communicate the energy, the forward motion of the music’s pulse. You should be moved, tapping your feet or bopping your head to the rhythm, but if you’re not, try listening to this track with different headphones, and see if that makes a difference.

11. Transient Response (7:52)

“Wa Wa Wa” - Candido Camero

***The Master* - JD365**

Cuban percussion master Candido and his band should sound remarkably clear and present, not bright or overemphasized. The “leading edge” transients of each strike of the percussion

instruments should be sharply defined, and the better the headphone, the more clearly outlined those transients will be. Transients also play a role in the sound of horns; they should not sound dull or rolled off.

12. Bass (5:46)

“War” - Jamey Haddad, Mark Sherman, Lenny White

Explorations in Space and Time - JD352

Listening to bass over headphones is very different than listening over speakers. With speakers you *feel* deep bass, it's a whole body experience, but good headphones can reproduce the very deepest bass frequencies. The huge tympani drum on the right channel goes nice and low, and it's cleanly defined. The tautness of the drum head isn't easy to reproduce; some headphones muddy the bass, and when the three master percussionists really get going, their sound will test the power of your iPod, phone or headphone amplifier. There's a lot going on in this track's bottom end. Can your headphones and amp handle it?

13. Visceral Impact (4:05)

“Rock and Roll” - CC Coletti

Bring It on Home - JD357

Turn this one up nice and loud, so you can feel each beat of the bass drum. With this sort of hard-hitting demanding material, the headphone's amplifier can make a huge difference, as a puny amp will constrict the music's power. While headphones can't deliver the gutsy slam you get from big tower speakers, the better full-size, over-the-ear headphones will deliver more oomph and impact than in-ear models.

PART 2: THE TESTS

14. Test Tracks Introduction (3:13)

SURROUND SPATIAL IMAGING TESTS

15. Four Surround Voices: Announcement (0:34)

To see if it's possible to locate sounds in front of *and* behind a binaural microphone, we start our spatial tests with four people. Each one is four feet from the B&K microphone head. The first voice is in front and to the left of the head; the second is in front and to the right; the third is four feet behind the mic to the left side; the fourth is four feet behind the mic to the right side. Each individual in sequence announces his location, and keeps the sound moving around the mic.

16. Four Surround Voices: Test (0:35)

17. Front/Rear Voices: Announcement (0:10)

This time there are just two voices; one in front, and one in back of the mic. Both are about five feet from the mic.

18. Front/Rear Voices: Test (0:19)

19. Drum and Bell - Walk around the Mic: Announcement (0:14)

Now you will hear a percussionist walk around the binaural head while pounding on a big drum and playing a bell. The drum and bell's tone should sound very different as he moves around the head.

20. Drum and Bell - Walk around the Mic: Test (1:09)

21. Shaker - Walk around the Mic: Announcement (0:19)

On this track, a percussionist walks around the mic while playing a shaker. He will announce his position when he's on the mic's left side, directly behind the mic, on the mic's right side, and then directly in front of the binaural head again. The sound of the shaker should be very different in each position.

22. Shaker - Walk around the Mic: Test (0:59)

HEIGHT TESTS

23. . Height - Center Shaker: Announcement (0:12)

This time the percussionist is three feet directly in front of the binaural head, and he'll start playing a shaker one foot from the floor and slowly rise vertically. He'll finish with the shaker about eight feet from the floor. Can you hear that?

24. Height - Center Shaker: Test (0:29)

25. Height - Left Channel Shaker: Announcement (0:12)

Now he is about three feet off the left side of the binaural head, and he'll start playing the shaker one foot from the floor and slowly rise again vertically.

26. Height - Left Channel Shaker: Test (0:23)

27. Height - Right Channel Shaker: Announcement (0:12)

Identical to the left channel height spacial imaging test, except reproduced on the right side. The shaker is three feet to the right; one foot off the floor and slowly rises.

28. Height - Right Channel Shaker: Test (0:26)

29. Height - Center Bell: Announcement (0:23)

These next tracks are similar to the shaker tests, but this time our percussionist will be playing a bell. He is directly in front of the mic, about three feet away, with the bell one foot off the floor. He will slowly rise to a height of eight feet with his arm raised. Can you hear that?

30. Height - Center Bell: Test (0:25)

31. Height - Left Channel Bell: Announcement (0:11)

He is about three feet from the left side of the binaural head, and will start playing the bell one foot from the floor and slowly rise.

32. Height - Left Channel Bell: Test (0:28)

33. Height - Right Channel Bell: Announcement (0:16)

Identical to the left channel height spacial imaging test, except reproduced on the right side.

With his arm raised, the percussionist's bell is eight feet from the floor.

34. Height - Right Channel Bell: Test (0:25)

COMPRESSION TESTS

35. Voice - Dynamic Range Uncompressed: Announcement (0:14)

A man whispers the word "one," and repeats the word a little louder each time. This track is uncompressed.

36. Voice - Dynamic Range Uncompressed: Test (0:14)

37. Voice - Dynamic Range Mildly Compressed: Announcement (0:10)

The previous take is repeated, but this time we've compressed the voice's dynamics, so the soft-to-loud contrasts are squashed. Just a bit.

38. Voice - Dynamic Range Mildly Compressed: Test (0:14)

39. Voice - Dynamic Range Heavily Compressed: Announcement (0:12)

The original take is repeated again, but this time the sound is radically compressed. The natural quality of the voice is lost.

40. Voice - Dynamic Range Heavily Compressed: Test (0:14)

41. Cymbal - Dynamic Range Uncompressed: Announcement (0:12)

Here, a single cymbal is played. The sound is completely uncompressed, and you can really hear the brassy, metallic quality of the cymbal.

42. Cymbal - Dynamic Range Uncompressed: Test (0:47)

43. Cymbal - Dynamic Range Mildly Compressed: Announcement (0:10)

The previous take is repeated, but this time the cymbal's dynamics are compressed, so the natural shimmer and sparkle are reduced.

44. Cymbal - Dynamic Range Mildly Compressed: Test (0:49)

45. Cymbal - Dynamic Range Heavily Compressed: Announcement (0:12)

The original take is repeated again, but this time the dynamics are radically compressed. It almost sounds like an electronically synthesized cymbal.

46. Cymbal - Dynamic Range Heavily Compressed: Test (0:51)

47. Drum Kit - Dynamic Range Uncompressed: Announcement (0:15)

A drummer whales away on his drums in this test. The sound is 100 percent uncompressed, and it sounds live. Play this one nice and loud to feel the full dynamics of his performance.

48. Drum Kit - Dynamic Range Uncompressed: Test (1:09)

49. Drum Kit - Dynamic Range Mildly Compressed: Announcement (0:08)

Adding mild compression to the same track flattens the dynamic contrast a bit, but it still sounds great.

50. Drum Kit - Dynamic Range Mildly Compressed: Test (1:09)

51. Drum Kit - Dynamic Range Heavily Compressed: Announcement (0:13)

Same drum kit, but with a ton of compression and peak limiting. Now the sound is a mere shadow of its former self. Heavy compression takes its toll.

52. Drum Kit - Dynamic Range Heavily Compressed: Test (1:10)

BASS TESTS

53. Heart Beat Tracks (1:10)

Want to see how low your headphones go? Here's 50 Hertz.

Let's go down a bit; here's 40 Hertz.

If those were too easy; here's 30 Hertz.

Finally, let's take it all the way down to 20 Hertz.

54. Shake, Rattle, and Roll: Announcement (0:23)

Here are a series of tones, with announcements along the way. They start at 300 Hertz and drop down to 20 Hertz. Some headphones will make odd noises and produce distortion as they play

the lowest frequencies; proceed with caution.

55. Shake, Rattle, and Roll: Test (2:28)

PINK NOISE TESTS

56. Pink Noise: Announcement (0:15)

Lastly, while preparing to record these tests we received requests to include pink noise, so here are mono, stereo, and mono + stereo pink noise tracks.

57. Pink Noise - Mono (1:03)

58. Pink Noise - Stereo (1:03)

59. Pink Noise - Mono + Stereo (1:00)

CREDITS

Produced by David Chesky & Steve Guttenberg

Liner Notes: Steve Guttenberg

Executive Producer: Norman Chesky

Recorded, edited, and mastered by Nicholas Prout

Graphic Design: Jeff Wong

Project Coordinator: Lisa Hershfield

Production Assistant: Greg Stankevich

All tracks were recorded at the Hirsch Center, Brooklyn, New York,

and St. Paul's Church, in New York, with a B&K Binaural head and Crystal microphone cable.

PUBLISHING

“When the Saints Go Marching In” - *Dreams of New Orleans*

Wycliffe Gordon

Folk Song

Public Domain

“Don’t You” - *Sessions from the 17th Ward*

Amber Rubarth

Written by Amber Rubarth

Inspired Music (ASCAP), Chesky Productions, Inc. (ASCAP)

“This Little Light of Mine” - *Dr. Chesky’s Sensational, Fantastic, and Simply Amazing Binaural Sound Show!*

Dr. Chesky

Performed by The West New York Spiritual Choir

Written by Harry Dixon Loes

Public Domain

“Three for All” - *Three for All*

The Bucky Pizzarelli Trio

Written by Bucky Pizzarelli, John Pizzarelli, Ed Laub

Harry Fox (ASCAP)

“Las Perlas de Tu Boca” - *Cubania Total*

Xiomara

Written by Axel Tosca Laugart

Chesky Productions, Inc. (ASCAP)

“Ben’s Farm in Vermont” - *The Zephyrtine: A Ballet Story*

David Chesky

Performed by Fundação Orquestra Estúdio (Guimarães, Portugal), Rui Massena (Conductor)

Written by David Chesky

Pamaluc Music (ASCAP)

“Jesu, Joy of Man’s Desiring” - *Impromptu*

The David Hazeltine Trio

Written by Johann Sebastian Bach

Public Domain

“Whip-poor-will” - *A Kiss in the Dark*

Alexis Cole

Written by Buddy DeSylva, Jerome Kern

Public Domain

“Ceremony: Evening” - *Ceremony*

David Liebman

Written by David Liebman

Liebstone Music

“Transcendental Tripping” - *Jazz in the New Harmonic*

David Chesky, Billy Drummond, Javon Jackson, Jeremy Pelt, Peter Washington

Written by David Chesky

Pamaluc Music (ASCAP)

“Wa Wa Wa” - *The Master*

Candido Camero

Written by Raymond Santos

Chesky Productions, Inc. (ASCAP)

“War” - *Explorations in Space and Time*

Jamey Haddad, Lenny White, Mark Sherman

Written by Lenny White, Jamey Haddad, Mark Sherman

Chesky Productions, Inc. (ASCAP)

“Rock and Roll” - *Bring It on Home*

CC Coletti

Written by James Patrick Page, R. A. Plant, John Bonham, John Baldwin

Superhype Publishing, Inc. (ASCAP)

All test tracks

Chesky Productions, Inc. (ASCAP)

